



Beyond GDP

**Measuring progress, true wealth,
and the well-being of nations**

19-20 November 2007

Conference Proceedings

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Conference Proceedings

Beyond **GDP**

**Measuring progress, true wealth,
and the well-being of nations**

19-20 November 2007

European Parliament, Brussels

organised by

European Commission, European Parliament,
Club of Rome, WWF and OECD

www.beyond-gdp.eu

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provides complete video archive, background papers, slides, speeches, press coverage,
contact details and recent developments

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Note to the reader

Many of the presentations and discussions have been transcribed from recordings of speakers or interpreters. Occasionally technical limitations made recordings incomplete or difficult to understand. This means that the texts might not always be entirely complete or accurate. In particular, we apologise if names and affiliations have not been perfectly transcribed. In some cases, the texts have been edited slightly for the sake of clarity. For published presentations please check against delivery.



Foreword

The Beyond GDP conference revealed a high degree of consensus on the need for change. The participants from industry, trade unions, NGOs, academia and government questioned not whether action is needed but on 'how' we complement or improve on GDP, and develop new indicators for the 21st Century. I am pleased that the conference led to concrete commitments for further action from all the partners involved.

In his opening speech President Barroso reminded us that GDP is an indicator of economic market activity and was not intended to be an accurate measure of well-being. It was developed for the world of the 1930s which is significantly different from today. Today, the link between economic growth and elements of well-being such as the sustainability of our society is much less clear and straightforward. This is why President Barroso stressed how important it was to go beyond GDP. I share that view.

The pressure to go beyond GDP is also mounting because we are increasingly faced with complex challenges such as climate change, competition for resources, social inclusion and security. These are issues where GDP performs poorly as an indicator. Let me just pick just two

examples that occurred since last year's conference. Firstly, hurricanes caused death and destruction in the Caribbean and the United States, but such natural disasters can actually lead to increases in GDP. Secondly, the price of oil and food skyrocketed, but again GDP failed to highlight the impact on the poorest and the resulting unrest in many parts of the world.

A move beyond GDP means several things for us at the European Commission. It means finding indicators that are more inclusive, timely and understandable to European citizens. It also means using these indicators to guide European and national policies towards sustainability, for example, by highlighting good practices. Doing this will require us to make better use of existing statistics but also to speed up the development and use of integrated economic, environmental and social accounting. I am glad to announce that the European Commission will present its roadmap for action in 2009.

But going beyond GDP requires action from all those involved. This is why we are publishing the proceedings of the Beyond GDP conference, to keep the debate alive and support the commitments made.

A handwritten signature in blue ink, appearing to read 'Stavros Dimas'.

Stavros Dimas
Member of the European Commission
Commissioner for the Environment



Summary notes from the Beyond GDP conference



Highlights from the presentations and the discussion



The Beyond GDP conference, organised by the European Commission, European Parliament, Club of Rome, OECD, and WWF, brought together over 650 delegates from more than 50 countries to explore how to improve the measurement of progress, true wealth and the well-being of nations. It fully supported the momentum to go beyond GDP.

European Commission President José Manuel Barroso, in his speech opening the conference, highlighted how GDP, since its birth in the 1930s, was rapidly adopted as the best-recognised measure of economic performance in the world. He added that *"GDP is an indicator of economic market activity. It was not intended to be an accurate measure of well-being. Even Simon Kuznets, ... one of the main originators of GDP, said: 'the welfare of a nation can scarcely be inferred from a measure of national income'".*

President Barroso also noted that despite being an invaluable tool for economic policy, GDP is unfit to reflect many of today's challenges, such as climate change, public health and the environment. *"We cannot face the challenges of the future with the tools of the past"*, he said.

According to President Barroso, we should aim for "the sort of breakthrough that we saw in the 1930s, a breakthrough that adapts GDP, or complements it with indicators that are better suited to our needs today, and the challenges we face today".

President Barroso concluded, "It's time to go beyond GDP".

President Barroso opening the Beyond GDP conference

SESSION 1

Measuring progress, true wealth, and well-being

Chaired by

David Grant Lawrence, Director,
European Commission, DG Environment

Joaquin Almunia, Commissioner for Economic and Monetary Affairs, also stressed the inadequacy of GDP to take into account sustainable consumption and production patterns – *“it cannot distinguish between activities that have a negative or a positive impact on well-being. In fact, war and even natural disasters may register as an increase in GDP.”* He noted that *“we need to find measures that will complement GDP and build a more nuanced and accurate understanding of economic and societal progress”* and suggested that in the short term key sets of indicators will be important to take into account social and environmental challenges, and composite indicators such as the Human Development Index (HDI) and Ecological Footprint (EF) are useful, notably to raise awareness. In the long term, he saw integrated environmental and economic accounting as likely to be the “strongest tool” for supporting the promotion of well-being and progress. He concluded by stating that the *“time is ripe to take the measure of well-being one step further.”*

Rui Baleiras, Secretary of State for Regional Development, Portugal, EU Presidency, noted the relevance of the Beyond GDP discussions for post 2013 EU Cohesion policy and the EU budget review. He observed that other dimensions need to be monitored in guiding these policies. He called for a set of a few high-level indicators to be used to capture different development issues, pointing out that *“it is more important to have a picture of the forest than of all the individual trees”*.

Bruno S. Frey, Professor of Economic Policy and Non-Market Economics, University of Zurich, argued that ‘life satisfaction’ and ‘happiness’ are acceptable and indeed appropriate objectives for government policy. However, he put a caveat, indicating that rather than aiming to maximise happiness, governments should focus on policies that enable people to pursue happiness.

Giulio Santagata, Minister for the Implementation of the Government Programme, Italy, focused on the role and responsibility of governments. He underlined the importance of government analysis of the impacts of its decisions and noted that additional analysis, such as on the impacts of decisions on social capital, can clarify new areas of public action and innovation in governance. He noted that governments should increasingly monitor the ‘quality’ of development including environmental sustainability and citizens’ satisfaction. He also noted that indicators provide the ‘memory’ of a government’s actions. He underlined that understanding and communicating the state of the nation is vital, and that the quality of democracy can profit from better information.

Hans Rosling, Professor of International Health, Karolinska Institute, Sweden, demonstrated innovative graphical software that reveals the links among various trends in the fields of economy, social issues and environment. He addressed the issues of communication tools and the potential for engaging a wider public. Public access to data, in the right and attractive forms, can help build on the innovative capacities of citizens and engage civil society. Effectively communicating data can help create an important public good.

Decision making beyond GDP: needs and a vision

Chaired by

Timo Mäkelä, Director,
European Commission, DG Environment

HE Chief Emeka Anyaoku, President of WWF, added a note of urgency and a call for responsibility. He noted *“if all lived as Europeans we would need 2.6 planets. The global overshoot is a liquidation of the assets on which human well-being depends. It is creating social tensions and conflict, and it is making our existence ever more fragile. It is also taking away the development rights of future generations.”* He noted that since 1970, there has been a 30% decline in (vertebrate) species, and that *“quite simply, species suffer when ecosystems cannot keep up with human consumption.”* He called for societies to stop the continued ecological deficit spending, commit to living within the planets resources, and improve our understanding of

Summary notes from the Beyond GDP conference

how ecosystems and their services support our economies and well-being.

Pervenche Berès, Chair, European Parliament Economic Committee, added to the call for a more nuanced understanding of what GDP does and where it is relevant, noting that GDP does not adequately deal with issues such as natural resources, the free-rider problem and distributional issues. She noted that fixing the market by integrating social and environmental externalities into prices, and hence into GDP, could contribute to the solution. She noted that we need a new measurement of public goods and the EU should lead the way on this.

Pier Carlo Padoan, Deputy Secretary General of the OECD, stated that *“we need to measure welfare not just production”* and that *“the needs to measure progress is part of the trend towards greater governmental accountability – It cannot be done without social participation as progress reflects different things for different people, depending on their cultural background, history and personal beliefs and also on the health of society, the environment and the economy.”* He argued that different indicators of progress are valuable and appropriate and to be encouraged. He noted that indicators capturing social cohesion, good governance and subjective well-being should be included among sets of key indicators. He also underlined the OECD's commitment in this area, with the ongoing 'Global Project' that builds on the Istanbul Conference in June 2007. *“By measuring progress we can achieve progress for all”* he said.



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Pervenche Berès at Session 1: Decision making beyond GDP – needs and a vision

SIDE EVENT

Expert Workshop

Chaired by

Anders Wijkman,
Member of the European Parliament

In the expert workshop preceding the conference, participants discussed ways of addressing key challenges in improving our measures of progress. It brought together more than 100 individuals from over 30 countries.

In the various workshop sessions, speakers and panelists discussed both policy and technical aspects, including: the evolving needs of decision makers and the general public and how to best meet them; the specific methodologies that go beyond GDP; and how we can improve the different approaches that complement GDP.

In group discussion, participants addressed three main questions:

- What are the key opportunities for going beyond GDP?
- What is feasible in the short to medium term and how can implementation be improved?
- How can policymakers, key institutions, business, media and the broader public be engaged on these issues?

A common criticism was that even though we live in an era of unprecedented data quality and quantity, in some key areas the issue of data quality and timeliness is not yet adequately addressed. One speaker raised the point that we need to improve our understanding of how people actually spend their time (including their involvement in non-market activities) and how these activities contribute to overall welfare.

The subjective nature of progress and well-being was also posed as a challenge to developing effective indicators and statistics; the discussion made clear that aspirations and needs have unique national and local circumstances.

Some speakers pointed to the current work on ecosystem accounting as an important contribution to improving policymaking vis-à-vis the environment.

It also became apparent through the discussion that the different stakeholders involved have differing capacities and strengths; for example, subjective

indicators such as happiness are not typically collected and reported as official government statistics by statistical agencies.

In his dinner speech to all conference participants, Anders Wijkman summarised key outcomes of the expert workshop:

Access to quality, timely data is important. GDP is presented every quarter, stock markets daily. For environmental and some social issues, data is often 2 years old. There are some exceptions, such as live online data for ground-level ozone concentrations. There is need for timelier data to help people in decisions (like ozone concentration levels in cities, useful in decisions such as whether to take the car or go jogging). Spatial differentiation of data (a point made by Jacqueline McGlade, Director of the EEA) can help make dry statistics accessible, relevant and engaging.

Continued commitment and more support are needed to develop integrated economic-environmental accounts to measure natural assets and help clarify the ecosystem services they provide.

Complementary indicators are needed. There was widespread agreement at the expert workshop that GDP is not sufficient as an indicator of well-being. The majority of the experts attending the workshop supported the idea of complementary indicators (as opposed to 'correcting' GDP).

Action should be undertaken at multiple levels. He noted several areas where information is lacking, frequently at multiple levels (local, national and global). Both statistical rigour and public participation are important: "We need to have accounting at different levels; . . . we need a top-down approach and a bottom-up approach, we cannot do one without the other."

Overcoming barriers is required. The barriers to going beyond GDP include attitudes and perceptions, finance, business models, education. These barriers must be addressed.

DAY 2

20 November 2007

Hans-Gert Pöttering, the President of the European Parliament, opened the second day asking *"what is it that we wish for our societies?"* and noted that *"well-being is not just growth; it is also health, environment, spirit, and culture."* He noted *"the debate today affects us all. It is more than just statistics. It is also a way of thinking and the goals we set."* He argued that quick action is important and that we have to have a vision that goes beyond a simple production vision. He noted that *"we need an understanding of the social developments of our times, of the changing environment. We need to be able to assess whether the European Union is in fact heading towards a long-term sustainable economy"*. He also noted that *"we crucially need new indicators to measure welfare - this is a basis for shaping our future."*



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President Pöttering from the European Parliament opening Day 2

SESSION 2

Insights from practice

Insights from recent practice in policy and business

Hazel Henderson, of the Club of Rome introduced and chaired the session. She noted that 'triple-bottom-line accounting', that deals with 'people, planet and profit', advanced the analysis of risks and helped businesses to integrate environmental and social issues into the balance sheet.



Leading figures from social, economic and environmental spheres participated in the panel discussion

Carole M. Laible, President Domini Social Investments, underlined that the pressure to meet short-term targets leads in some cases to failure to see the long-term impacts. She noted that *“the wealth of a corporation is more than the stock price”* and that to assess the true value of companies one needs to measure the externalities. She also stated her belief that companies will prosper if they enrich the ecosystems on which they rely, invest in staff and contribute to local communities.

Nicole Notat, President of the Vigeo Group, underlined the *“need to look beyond output indicators,”* and also look at *“management, coherence and results.”* The measurement and integration of social and environmental factors lead to innovation and reduce risks to reputation and costs. She also called for international standards and noted the current discussions as to whether to create an ISO norm on social sustainability.

Lothar Meinzer, Director of BASF, argued that business is already integrating environmental and social concerns into its management systems as part of its value-based management approach, which analyses future products and processes using not just financial costs and revenues, but also environmental and social indicators.

Stephen Pursey, Head of the Integration Department, ILO – on the work place dimension – noted that *“the work place is where the value of the market meets the value of society,”* and that an important objective needs to be the pursuit of ‘decent work’. He suggested that a useful ways

forward to measure and encourage progress is to use the existing vehicles of ‘country profiles’. He also noted that the ILO aspiration to decent work is now a global phenomenon and that statistical effort is needed to better capture reality, especially in developing countries.

CONTRIBUTIONS FROM THE FLOOR

Nic Marks of the New Economics Foundation (NEF) asked whether *“products really reflect what we need and what matters to us”* and stated that we need a *“reflection on whether or not consumption enriches people's life”*. He noted that this would amount to *“externalising the internality”* – expressing the real value of things.

Vittorio Prodi, Member of the European Parliament, underlined the importance of the ‘intangible goods and assets’ and the importance of dematerialising society. As regards indicators of progress, he noted that looking at energy intensity is not enough, as the shifting of industry to other countries is not reflected.

Caroline Lucas, MEP, said that the way forward is not only about more and better indicators and data; it is about action. She said that only gathering data means we risk *“going down in history as the first species [to monitor] its own extinction rather than taking active steps to avoid it”*.

The call for action comes not just from policy makers and experts, but also from the public. A survey (by GlobeScan) conducted in the context of the conference clearly showed that people want measures of progress that go beyond GDP: three-quarters of the people surveyed (in 10 countries including Australia, Brazil, Canada, France, Germany and Russia) wanted governments to *“look beyond economics and include health, social and environmental statistics in measuring national progress.”*

SESSION 3

New measures of progress - Obstacles and opportunities

Tony Long, Director of WWF's European Policy Office, introduced and chaired the session, which focussed primarily on measures already in use and government initiatives currently underway.

Pier Paolo Cento, State Secretary for Economic Affairs and Finance, Italy, noted that Italy is passing legislation that would require the use of environmental accounting at national, regional and local levels. This is part of a broader reflection on the necessary rationalisation of public expenditure and would make the environment also a responsibility of the Ministry of the Economy and Finance.

Kristalina Georgieva, Director at the World Bank, highlighted how focus on short term income generation can lead to collapse of whole economies, as testified by the Mauritanian fisheries collapse in 1987. She underlined the importance of natural capital and 'intangible capital' (human and social capital) in the wealth of nations, noting that investments in human capital and stronger institutions have the highest return. She also stressed the importance of strengthening resource management, especially in developing countries. According to World Bank estimates, environmental degradation represents a cost up to 6% of China's GDP – underlining an example of one of several factors that need to be taken into account when trying to understand the true wealth of nations.

Patrick Viveret of the Cour des Comptes, France, noted the French government is looking into new indicators and approaches for 'wealth'. The current system of valuing wealth (e.g. company accounts) can provide the wrong incentives. The reflection on the veracity of accounts may be easy for firms but less so for the state (e.g. the share of GDP for the education and health systems hardly equate to their value to society). He underlined that the ecological challenge – the question of ecological limits – cannot be addressed by proposing limits without a positive perspective. The opportunity for well-being constitutes that positive perspective. Making a historical observation, he stated that GDP's success after the Second World War reflected the political and societal decision to modernise the industrial fabric. Indicators such as GDP



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Over 650 participants from more than 50 countries attended

were chosen to valorise this choice of direction. Changing the GDP implies a more fundamental reflection on the unit value (money). Increasing attention needs to be given to the 'gift economy', the part of the economy made of informal non-priced exchanges.

CONTRIBUTIONS FROM THE FLOOR

Rita Trattnigg, Sustainable Development Coordinator, Austria pointed to the notion of social capital as being an important emerging concept in understanding factors contributing to human well-being.

Isabelle Cassiers, Professor at the Université Catholique de Louvain pointed to the ecological dangers that export-led growth puts on developing nations, citing the example of the severe overfishing in Mauritania.

A number of participants underlined the close relationship that exists between the choice of indicators and prevailing social values and aspirations.

Others noted that a common value for all people is time and that an indicator on time spent could add to the useful information available.

SESSION 4

The way forward

Enrico Giovannini, Chief Statistician, OECD, chaired this session and underlined the challenge and context for the use of indicators. Governments, statisticians, business, citizens all use statistics and we have to find away of addressing each. He noted that *"we cannot reduce the complexity of the world to a single number"*. To him, extending economic national accounts is a very promising though costly way forward that offers good promise for the long term and needs to be accelerated. It is important to invest in the public good, which is 'common knowledge'. He also noted that we should measure the resilience of the ecology (e.g. biodiversity and life-support functions) as well as the resilience of the economy (to what degree it is 'future proof').

Walter Radermacher, President, Federal Statistical Office, Germany, raised a tone of realism from the national statistics perspective, saying that in 1989 his predecessor promised to come up with an enhanced GDP in two years, integrating calculations of natural and social capital. This challenge is still not met 17 years later, underlining the complexity of the task. He underlined that now we have too many indicators and the challenge is to make something simple that is theoretically consistent, politically relevant and empirically measurable. He noted that the UN 2011 milestone of standard environmental accounts is a key one to focus on.

Ashok Khosla, Co-President of the Club of Rome, noted that *"we are living in a world that has completely lost its bearings,"* and *"that we have an economic system that does not work for many people"* that is *"not able to handle the depreciation of natural capital"*. He observed that *"we talk of 'decoupling' but unfortunately what is decoupled is livelihood, well-being and jobs"*. As regards the way forward, he suggested that indicators should be defined by the last and the poorest and not those that dominate the decision-making system.

Miloslav Ransdorf, Vice-Chair European Parliament Industry Committee, noted that more effort is needed to test the assumptions underlying economics; models have proven unable to forecast major events correctly, missing critical breakdowns in economies over the past (Mexico, Russia). Environmental and social issues need greater consideration and aiming at higher GDP is not necessarily the solution.

Jérôme Vignon, Director, European Commission, DG for Employment, Social Affairs and Equal Opportunities, talked of the risk and intensity of poverty, and underlined the importance of social cohesion. He presented benchmarks of national performance, including employment, unemployment and poverty, noting the available data and the value of the country benchmarking approach to encourage progress. He also highlighted the importance of health indicators.

CONTRIBUTIONS FROM THE FLOOR

Giulietto Chiesa, representing the World Political Forum (WPF), noted that *"the mindset of GDP is celebrated every day"*. He noted that mass media needs to make changes, as it is still working within this GDP mindset. He also argued that we need a new institutional world architecture.

A participant noted that we need more information on the state of health and education in countries. Others argued that intangible assets such as human rights, dignity, respect, and tolerance are important aspects of well-being, and that social capital needs greater integration in policies.

Mike Salvaris of RMIT University, Australia noted that the concept of progress has not been defined democratically in society and that this needs to be addressed. He mentioned that civil society and governments in Australia are increasingly building indicators to address this, and that a recent law has led to local governments including social and environmental indicators into their 5-year plans, with public consultation part of the indicator selection process.

John Hontelez of the EEB, argued that a new Commission will come in 2010 and that this is an opportunity for a new Lisbon agenda – one that can usefully be a new Sustainable Development Strategy. Within this, GDP can be *"just one indicator"*.

WWF, UK raised the question of how to frame the whole debate and argued that a *"fair, one-planet vision"* would be helpful.

SESSION 5

Next steps & conclusions

Stavros Dimas, Commissioner for Environment, who initiated the Beyond GDP conference, closed the conference noting that *“the main achievement of this conference has been to clearly demonstrate the political consensus on the need to go beyond GDP”*. He summarised the main points from the Beyond GDP conference:

There is a need for action to go beyond GDP to measure progress, true wealth and well-being of nations.

There is an urgency for action. We are living beyond the resources of our one planet and destroying the resources upon which we depend. Critical social challenges include social cohesion, employment, education, happiness, migration and poverty issues.

We need to have a better understanding of the **value of stocks of natural resources** and of the **vital services provided by ecosystem services**.

Access to quality, timely data is important. Commission Dimas noted, *“We have stock market information every minute of the day. We have quarterly reports of GDP. But information on environmental and social trends is often years old by the time it reaches policy makers.”*

The way forward requires progress on various measurement tools at the same time. There is a role for composite indicators such as the Ecological Footprint and Human Development Index that are easily understandable, easy to communicate and raise awareness in the public. There is a role for headline indicators. And there is an important role for accounting frameworks for both environmental and social topics.



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Commissioner Dimas delivering the closing address

There is political consensus on the need to go beyond GDP. Europe is committed to taking a leading role and working in partnership. Commissioner Dimas emphasised that *“It is essential that the momentum is not lost and I look to Europe taking a lead role – working together with other organisations including the UN, the OECD and the World Bank. It is also essential to work closely with business, NGOs and other stakeholders who in many ways are the real leaders in this field”*.

Road map for action. Commissioner Dimas said there must be an acceleration in the development of integrated accounting in the social and environmental spheres and called for the further development of headline and composite indicators. He pointed to the promise of improving the communication of Europe’s progress on sustainable development through the creation of a sustainability scorecard. He also announced that in 2008, the Commission will present a road map for action on these issues.



Conference Programme



Conference Programme

Day 1: November 19

14:00 Registration and welcome coffee at the Indicator Exhibition

OPENING Chair: David Grant Lawrence (Director, European Commission, DG Environment).

15:00 **Opening Speech: The challenges of modern societies**

Environmental sustainability, new social risks, migration and security are key concerns for the 21st century and raise new challenges for societies and policy makers. The challenges increase the need for consensus on indicators that measure progress towards well-being and can complement economic indicators such as GDP.

Speaker: José Manuel Barroso (President of the European Commission).

SESSION 1: Measuring progress, true wealth and well-being

15:15 **Measuring progress, true wealth and well-being**

While GDP is well recognised as the headline measure of economic performance, it is less obvious how to measure the other dimensions of societal progress. Indicators to capture those dimensions would greatly contribute to better policy making, to guide regional development and help address the new challenges.

Speakers: Joaquín Almunia (Commissioner for Economic and Monetary Affairs);
Rui Baleiras (Secretary of State for Regional Development, Portugal, EU Presidency);
Bruno S. Frey (University of Zurich).

16:10 **Communicating content: New communication tools for new measures**

Solid indicators and statistics can play a key role in policy making, press coverage and public debate, but often fail to get the attention they deserve. The public see only some of the facts and often fail to be engaged by the facts they see. There is a need for better communication – new tools can play an important role in informing and engaging the public.

Speaker: Hans Rosling (Karolinska Institute, Sweden).

16:30 Coffee break

17:00 **Decision making beyond GDP: needs and a vision**

Although GDP growth is a key policy target, its relationship to well-being and quality of life is neither straightforward nor sufficient for decision making. Policy decisions need to better integrate economic, social and environmental dimensions. There is a need for a vision and practice that includes a more comprehensive measuring of progress that moves beyond GDP.

Chair: Timo Mäkelä (Director, European Commission, DG Environment).

Speakers: HE Chief Emeka Anyaoku (President, WWF);
Pervenche Berès (Chair of the EP Economic and Monetary Affairs Committee);
Pier Carlo Padoan (Deputy Secretary-General, OECD);
Giulio Santagata (Minister for the Implementation of the Government Programme, Italy).

18:30 Cocktail reception

Conference dinner for all conference participants

19:30 The conference dinner is hosted by the European Parliament.

Speaker: Anders Wijkman (MEP, Environment, Public Health and Food Safety Committee).
Welcome and highlights from the experts workshop.

Day 2: November 20

08:30 Welcome coffee at the Indicator Exhibition

ADDRESS

09:00 **Speaker:** Hans-Gert Pöttering (President of the European Parliament)
Major negative effects of globalisation such as climate change pose new risks not only to our eco-system but to our entire economies and eventually our societies as a whole. This is why new indicators of wealth are needed and the European Parliament can play a key role in helping to shape the required broad democratic consensus.

SESSION 2: Insights from practice

09:15 **Insights from recent practice in policy and business**
Concrete examples suggest that there are opportunities and tools to improve our capacity of making decisions based on more refined measurement of progress, wealth and well-being. For example, policies for sustainable development are increasingly common and popular, while many leading companies and investors are incorporating social responsibility and environmental considerations into their business models and information tools.
Chair: Hazel Henderson (Club of Rome)
Panelists: Carole M. Laible (President, Domini Social Investments); Nicole Notat (President, Vigeo Group); Lothar Meinzer (Director, Sustainability Centre, BASF); Stephen Pursey (Head of the ILO Integration Department, International Labour Organization).
10:45 Coffee break

SESSION 3: New measures of progress – Obstacles and opportunities

11:15 **What do the measures say and where can they be useful?**
A range of measures (sets of sustainable development indicators, integrated accounting, human development index, ecological footprint, genuine savings, genuine progress indicator) is already produced and in use at local, national and international levels. The full potential of these decision-support tools needs to be further explored in a dialog among the indicators' producers and users, including policy makers, civil society representatives and the media.
Chair: Tony Long (Director European Policy Office, WWF)
Panelists: Kristalina Georgieva (World Bank); Patrick Viveret (Cour des Comptes, France); Pier Paolo Cento (State Secretary for Economic Affairs and Finance, Italy).
12:30 Lunch

SESSION 4: The way forward

14:30 To move to a more balanced set of metrics, we need clearer policy commitments, improved measurement methods, changed decision making, and improved communication. This change requires the use of integrated economic, social and environmental statistical and analytical tools, a clearer communication to the public about key figures, the use of quantifiable policy commitments and the development of a culture of ex-ante and ex-post policy evaluation.
Chair: Enrico Giovannini (Chief Statistician, OECD).
Panelists: Walter Radermacher (President, Federal Statistical Office, Germany); Ashok Khosla (Co-President, Club of Rome); Miloslav Ransdorf (Vice-Chair of the EP Industry, Research and Energy Committee), Jérôme Vignon (Director, European Commission, DG for Employment, Social Affairs and Equal Opportunities).
16:00 Coffee break

SESSION 5: Next steps & conclusions

16:30 **The European contribution to a global effort: next steps in measuring progress**
What are the concrete steps that Europe can undertake to improve the measurement of progress, co-ordinate with similar initiatives worldwide, and integrate these improved measures into decision-making?
Speaker: Stavros Dimas (Commissioner for Environment).
17:00 Closure of the day



Opening Speech

The challenges of modern societies





José Manuel Barroso

President of the European Commission



Opening speech: The challenges of modern societies

Ladies and gentlemen,

It gives me great pleasure to welcome you today to this high level conference. I would like to thank the co-organisers, the European Parliament, the OECD, the Club of Rome and the WWF for all the efforts and contributions made for this conference to take place.

For many years now, there has been a growing consensus that Gross Domestic Product is not, on its own, sufficient to guide high quality, policy and business decisions.

The European Union is facing today a whole series of global and new challenges, in order to safeguard our prosperity and well-being. And Europe is making today a valuable contribution to meet these challenges; we are leaders on many of these: climate change, energy security, health development, to mention but a few. These are the great challenges of our time – often new, always shared challenges that transcend national borders and demand a common response.

This is also reflected in the political issues that I discuss with my peers around the world: energy, climate change, fair trade, migration, development, terrorism; in the context of EU bilateral discussions, in the context of the G-8, in the context of the United Nations.

The conference today should help us to consider how to pick up these issues; to consider if GDP per capita is the appropriate indicator.

Because when we are assessing policy options to tackle these challenges, what GDP sometimes tells us is sometimes not adequate – or, at least, not sufficient.

Let me give you an example. A decision is made to ban all trade in certain types of precious hardwood to preserve an ecologically important forest. The

policy is a great success. The forest is preserved for future generations. The ecosystem, and all the life it supports, is protected. Tourism too is safeguarded. In other words, well-being goes up.

But what will be the evaluation of this decision if only measured by GDP?

It is difficult, and I'm sure that everyone will agree, to make tough decisions that promote long-term well-being if the short-term consequence is a drop in GDP.

So in this rapidly changing, globalising world of the 21st century, we find ourselves with a sea of data, but, in some cases, lacking the tools we need to take swift, well-informed and effective decisions that promote the well-being of individuals, of societies, of the planet itself.

That is not to say GDP is a poor indicator. Quite the opposite. Since its birth in the 1930s, it was rapidly adopted as the best-recognised measure of economic performance in the world. It can be used in economic forecasting. It allows comparisons of countries and of developments over time. It is also – very important this! – objective and not subject to interpretations.

Without it, in the words of Nobel Laureate Paul Samuelson, policymakers would be adrift in a sea of unorganised data.

But GDP is an indicator of economic market activity. It was not intended to be an accurate measure of well-being. Even Simon Kuznets, another Nobel Laureate and one of the main originators of GDP, said: 'the welfare of a nation can scarcely be inferred from a measure of national income'.

Nevertheless, as long as there was at least a correlation between GDP and well-being, this didn't

really matter. After all, there has always been an implicit link between economic growth and aspects of well-being – like having a job, and levels of consumption.

That is why I consider that this conference should not be a dry, academic discussion of the merits of various indicators. It should lead us to the sort of breakthrough that we saw in the 1930s, a breakthrough that adapts GDP, or complements it with indicators that are better suited to our needs today, and the challenges we face today.

You are building on strong foundations. Many international organisations have already started looking at ways of going beyond GDP. More recent generations of economists like Nobel Laureate Amartya Sen have been grappling with the challenge of measuring the somewhat abstract, and multi-dimensional, concept of well-being. The EU's own statistical office, Eurostat, has already published sustainable development

indicators for the last six years, and statistics on some sub-categories for even longer.

But while all this is positive, there has been no progress yet in reaching a consensus on well-being indicators. Today is when we start to fix that.

It is not enough for us to talk about the different global challenges, as energy, climate change, health, security and the environment. We need widely accepted communication tools that show progress in these fields. And that progress can only be measured with suitable indicators.

So it's time to go beyond the tools developed for the very different world of the 1930s. It's time to go beyond today's situation with important amount of not well structured data.

It's time to go beyond GDP.

Thank you.



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Session 1

Measuring progress, true wealth and well-being





Joaquín Almunia

Member of the European Commission,
Commissioner for Economic and Monetary Affairs



Ladies and Gentlemen,

Let me start by expressing my gratitude for the opportunity to speak this morning. The range of partners involved in today's conference and the participants that have joined us from all over the world are proof of the importance we now place on finding accurate measurements of societal progress and well-being.

Having the right indicators is essential at every stage of policy making. Statistics describe a phenomenon at hand, analyse the related issues and help select policy proposals. They facilitate the implementation and then the monitoring of those policies and they communicate the outcome to the general public. Adequate statistics are therefore indispensable.

In my comments this morning I will consider the importance and the limitations of the Gross Domestic Product as a statistical measure and I will explore what other indices would be appropriate to measure progress.

Let me start by clarifying what GDP does and does not do.

As President Barroso has indicated, GDP was introduced following the Great Depression, in order to help politicians steer the economy towards key economic objectives and provide a solid basis for sound economic policy decisions. Based on a whole set of data – the National Accounts – GDP is the sum of the value added of all goods and services sold on the market in a given period. Today it has become the foremost measure of economic activity.

As a universally recognised and accepted system, it allows us to compare the economic performance of different countries worldwide and to track economic developments over an extended period of time.

In Europe, GDP underpins the instruments and criteria we use to make vital economic policy decisions. For example, whether or not a country meets the Maastricht Criteria to adopt the euro or whether it has met the agreed targets for inflation and interest rates and budgetary debt and deficit are all judged using a reference value based on GDP.

GDP was never intended to be anything but an indicator of economic performance. It cannot distinguish between activities that have a negative or a positive impact on well-being. In fact, war and even natural disasters may register as an increase in GDP.

Also, GDP does not take into account the non-economic factors that add to well-being. And many policies that contribute to well-being may not be adequately reflected in GDP growth. For example, GDP does not take into account the sustainability of production and consumption patterns. For instance, while investing in low carbon energy solutions may be essential for the environment and long term sustainability, it may not be the policy option preferred for short term economic growth, as measured by GDP.

These limitations do not undermine the intrinsic value of GDP per se. But it should not be considered as a benchmark of the overall progress of a society as is sometimes the case. Of course, economic growth can bring about an improvement in quality of life, but only up to a point. Indeed, many studies of affluent countries do not register an increase in happiness in line with wealth. Even Adam Smith in the 18th Century recognised that well-being comprised many aspects of human life.

Thus there is a clear need to find measures that go beyond GDP. Today more than ever before, faced as we are with major environmental and demographic challenges and rapid changes in our societies.

To address these challenges, we need to gain a better understanding of what is happening in

society at large and the impact these transformations are having on citizens and on the broader environment.

We need to find measures that will complement GDP and build a more nuanced and accurate understanding of economic and societal progress.

This is not an easy task as there is no universally accepted measure of well-being, not least because there are many definitions of what this model actually entails.

However, consensus has been building on the need for a more comprehensive measure of well-being for some time and a certain amount of progress has already been made on this front.

On its side, the EU has been working on extending its use of statistics beyond GDP.

A striking example of this has been the development of a set of indicators to monitor, assess and review the EU's Sustainable Development Strategy, our approach to reconciling economic development, social cohesion and protection of the environment.

In this context, we have developed approximately 150 indicators organised along 10 themes that look at economic development in parallel with issues such as climate change, management of natural resources, public health, social inclusion, demographic change and global poverty.

Despite the progress up to now, time is ripe to take the measurement of well-being one step further. [Indicator sets such as those used in the Sustainable Development Strategy are very focused in their approach and provide information on specific issues.]

With this in mind, some argue that a better approach would be via so called aggregate or composite indicators. This involves combining indicators to produce a bottom line – a summary statistic that can encapsulate complex or multi-dimensional issues, giving a sense of the bigger picture. The advantage of this type of measure is that it is very effective at attracting public interest and focusing debate. An example is the ecological footprint, which was

developed in the early 90s and is now widely used around the globe as an indicator of environmental sustainability.

But composite indicators are also controversial. This is largely because the compilation of these indices implies making a judgement on the weight of each individual variable. Thus, composite indicators are criticised for lacking neutrality and transparency. In the worst case scenario, they could send misleading messages and thus invite politicians to draw overly simplistic conclusions.

Despite this there are useful examples of effective composite indicators such as the Human Development Index or the Ecological Footprint and improved techniques in the construction of composite indicators could go a long way to overcome their limitations.

That is why I believe that composite indicators have a valuable role to play, especially raising awareness of specific developments and challenges.

But I also consider it necessary to build a more overarching framework where environmental and social issues are integrated altogether with economic ones. Today the abundance of official statistics comprises a wealth of information. However, the lack of integration of these statistics means that developments that are inter-related can only be studied in isolation.

This is why we promote setting-up satellite accounts like the System of Integrated Environmental and Economic Accounting aiming to overcome this very problem in the field of environmental issues. It builds on the European System of National Accounts – which has evolved to become a robust and highly credible statistical system – and links the economic data in the national accounts to non-economic environmental data.

Integrated Economic and Environmental Accounts are a very effective tool to analyse the connections between the environment and the economy. As a complement to environment statistics, environmental accounts allow for a more in depth examination of environmental concerns as the different modules are broken down by other, non environmental variables, such as industry. Because of its integrated nature, this

system allows a wide range of relevant indicators to be extracted.

These environmental accounts will allow us to answer urgent political questions. For example, they will help ascertain whether economic growth is having less impact on the environment. They will also help establish whether we are respecting the Kyoto targets in terms of greenhouse gas emissions or are simply exporting the emissions following delocalisation of production.

Eurostat is leading efforts both at EU and international level to develop environmental accounts and progress thus far has been encouraging. Already, 24 EU Member States have developed Air emission accounts, while two more are planning to do so in the near future. A total of 23 countries are involved in compiling economy wide material flow accounts or are planning to do so while 21 countries are collecting data on environmental expenditures.

However, we need to further intensify our efforts. Gaps remain in terms of data availability among Member States and in different areas of environmental accounts. For the forthcoming years, a key priority will be to identify where data is missing and assist member states in their efforts to fill these gaps.

Eurostat will also work alongside Member States to develop comparable accounts for air emissions, economy wide material flows and environmental

expenditure. A second set of priorities will be to achieve good coverage for the accounts on waste, water and environmental taxes.

Conclusion

Ladies and gentlemen, let me conclude.

Gross Domestic Product is an indispensable measure of economic activity that has successfully steered our economies through the post-war period, underpinning the prosperity we enjoy today.

However, new challenges of the 21st century require new statistical instruments. Only this way can we both build our understanding of the shifts in our societies and develop our capacity to respond effectively.

In the short term, key sets of indicators and composite indicators can play a valuable role both informing and raising public debate on social and environmental challenges. However, in the long term, Integrated Accounting proves to be the strongest tool for developing policy relevant statistics and for supporting a comprehensive approach to the promotion of well-being and progress. In the environmental sphere, our best option for accomplishing this goal is through the System of Integrated Economic and Environmental Accounts.



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Rui Baleiras

Secretary of State for Regional Development, Portugal, and EU Presidency

This conference, Ladies and Gentlemen, deals with one of the major challenges of our age – how to measure progress, true wealth and well-being more broadly and more reliably than GDP allows for. We have reached a point where we need to think of our goals as a society and to reflect on the traditional concepts of economic growth and welfare.

The European Union pioneered the consideration of sustainable development and is strongly committed to the environment and social welfare. Therefore, rather than reassessing the priorities, we need to reach a consensus on what the concepts of sustainable development and well-being mean for the EU and for the international community. This is a crucial step in order to define the new tools that are needed to support and guide the decision-making that best fits the priorities.

I would much like to highlight the work done in this field by the United Nations, the EU, the OECD, the World Wildlife Fund and the Club of Rome, not only for placing the measurement problem on the international agenda, but also for working on the development of concrete tools that go beyond GDP. In fact, new tools have a double role. On the one hand, they help the decision-making process but, on the other hand – at an earlier stage – they help policy-makers and society at large to become aware of the new economic, environmental and social challenges.

Let me remind you as well of the importance of the Istanbul Declaration to this debate. Last June in Istanbul several hundred people from all over the world – representatives of the European Commission, the OECD, the Organisation of the Islamic Conference, the United Nations, UNICEF and the World Bank – debated ways of measuring progress and came up with some interesting points to feed into this international debate.

What is the European political framework for this debate?

I think this is a good starting point. The adoption of the renewed Lisbon Strategy is the development

paradigm of the European Union – it states clearly that for the Union, progress means economic performance in a global world, together with social cohesion and environmental sustainability.

For Europe the crucial question of the moment is not what progress means, but rather whether we have the best ways of measuring progress throughout the entire policy cycle – from diagnosis and policy formulation to monitoring and assessment.

If we focus on what is probably the broadest European policy – cohesion policy – the previous question becomes clearer. This European policy, anchored on the principle of solidarity, was fully aligned on the European Union's development paradigm – the renewed Lisbon Strategy. But is our system of indicators totally coherent with the goals of cohesion policy? Or are we too focused on measuring GDP?

So we need the strongest and broadest commitment from policy-makers, researchers and statisticians, to improve our system of indicators so as to measure progress on several territorial levels in a totally comparable way.

The 'beyond GDP' debate is even more relevant, given the current European political timetable. We have just started the debate on post-2013 Cohesion Policy and I recall the Cohesion Forum we had in Brussels, in late September, and the Informal Ministerial Meeting that will take place in the Azores, at the end of this week. And we are also approaching the budgetary review debate which is scheduled for next year.

What does GDP include and what does it exclude?

GDP, as we all know, gives us the Total Market Value of all final goods and services produced within a defined territory over a given time period. This outcome indicator is very appealing because it gives us a simple and clear message about the current economic activity of a country or a region and about the relative performance of several economic spaces. But, if nowadays we do get this

clear message, it is only because the methodology of measurement is well-defined, allowing for inter-territorial comparisons. This great advantage of GDP makes it one of the main decision-making support indicators in many areas. As such, international comparability and multi-territorial scales are desirable characteristics for alternative or complementary indicators of progress.

However, GDP tells us very little about how market transactions help to increase or decrease well-being, and virtually nothing about non-market activities. GDP does not encompass a wide set of crucial items that are relevant for society's well-being. Just to give you a few examples, I could mention environmental issues, such as resource depletion, emissions of carbon and other pollutants, water quality and biodiversity; on the social front I could mention poverty, inequality of income distribution, educational attainment and health-care access; for non-market goods and services I could mention ecosystem services, volunteer work and the value of leisure. These are all activities that certainly influence the level of well-being, but are not covered by mainstream economic indicators.

This does not mean that GDP is a wrong indicator. Not at all. The key point is that we should not be tempted to use it to assess achievement in areas about which GDP cannot tell us much. GDP is a measure of current economic activity. It does not measure well-being or happiness. Although there may have been a positive correlation over time, they are not the same and they do not necessarily tell us the same story.

We have to recognise that, for decades, there have been misleading interpretations of GDP, an indicator that cannot in fact be used to infer directly anything about sustainability or well-being. As Mr Barroso said, Simon Kuznets, one of the fathers of the National Accounting System, was in fact the first to recognise that GDP is not a measure of well-being and that GDP does not take into account the costs or benefits – short-term or long-term – of current economic activity.

So how can we move forward?

There are huge differences between concepts such as current economic activity, economic sustainability, sustainable development, well-being and quality of life or happiness.

Clearly it is not possible to measure all these relevant dimensions using just one indicator. And it is

probably not desirable to do so since these are such diverse issues. For example, economic activity and well-being are problems of a very different nature. The former can be measured in a quite objective and monetised way and allows for aggregation, while the latter is essentially subjective and poses difficult problems of aggregation and territorial comparability. Therefore we need a limited set of indicators that can complement information reported by GDP. We need them to enable us to have a quick and yet reliable picture of the various development issues that I mentioned.

Even if it were theoretically possible to devise a single indicator that could give a message as clear as the one given by GDP, the construction of such an indicator would be almost impossible in practice, since to aggregate so many diverse items would be completely meaningless.

Yet, there is a very important point to make. For the purposes of making policy, especially international policy like the EU does, we must restrict the quantity of high level indicators. It is more important to see the wood than all the individual trees. Otherwise we cannot have a clear picture of how countries and regions are performing in either absolute or relative terms. This is because too much information becomes difficult to interpret; decision-making becomes more difficult the more indicators we have, especially if they are moving in opposite directions. If we do not focus on a very restricted number of high-level indicators, we risk having to keep going back to GDP because highly dispersed information is very difficult to deal with and very difficult to interpret.

Before and after actual policy decisions are made, during diagnosis and evaluation, the high level indicators must be complemented by comprehensive and detailed measurements, in order to zoom in on certain questions.

Ladies and Gentlemen, to sum up, measurement of progress is, and must be, the outcome of a virtuous cycle. First of all, policy-makers must define what progress means based on diagnosis and research – a job mainly for the scientists. Secondly, the researchers and statisticians need to develop ways of measuring this progress. Thirdly, statisticians will need to produce and present indicators of this progress. Finally – and this brings us back to the starting point – policy-makers must then evaluate the progress made and then refine the concept of progress based on the indicators, thus triggering a new round in the progress measurement cycle.

And as a society we need to keep feeding the progress measurement cycle with our thoughts and reflections. In Europe and in the world, we need to continuously refine our ideas about what progress means and how to measure it. Unless there is wide participation in order to build a sound consensus, the new indicators, and even some of the current ones, will not allow for international and inter-regional comparisons, which could jeopardize their usefulness.

Ladies and Gentlemen, there is an urgent need for the world to adopt effective sustainable development policies. I hope this conference will send an important and clear message to underline urgency on the international agenda. It is our responsibility to secure the well-being of future generations. And it is our responsibility to ask institutions all over the world to work together and to combine their efforts to get the right answers to meet today's requirements.



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Bruno S. Frey

Professor for Economic Policy and Non-market Economics
University of Zurich

Happiness - Possibilities and Pitfalls

We are in the midst of a revolution. We are turning away from material things towards well-being. And I will be arguing that the way to measure well-being is happiness. Happiness is the factor we need to consider.

I would like to make two propositions.

- Firstly, although National Income and Social Indicators (including the Human Development Index) are good indicators, happiness, or life satisfaction, are much better;
- Secondly, we must be very careful not to do the wrong thing. Although government should make it possible for people to be happy they should not try to maximise happiness. For example, the European Commission should not proclaim “We are now maximising happiness.” This would be disastrous.

So my first proposition is that we should move towards happiness indicators – and here I have some good news. Most people are happy. It's simply not true – as some philosophers tell us – that we live in a terrible world and should lament all the time. It is exactly the opposite. Statistically, based on very sound data, we know that most people are very happy.

Consider the following question: “*All things considered, how satisfied are you with the life you lead?*” Let me repeat the question. “*All things considered, how satisfied are you with the life you lead?*” Just think a moment of what you would answer, on a scale from 1 – totally unhappy – to 10 – totally happy.

I am quite convinced that almost nobody would say ‘1: very, very unhappy.’ or even 2, 3, or 4. There may be some 5s, but most of you would say, ‘I am something like 6, 7 or 8, and even 9 out of 10.’ And I think that's a wonderful thing, so let's be content with the nice world we live in.

I asked President Barroso where he would put himself – and he agreed to let me pass on his answer. He said “8.5”. Isn't that encouraging?

I can assure you that the life satisfaction indicators we have today are quite valid. When we ask people, “How satisfied are you with your life?” they don't just tell you some nonsense; they tell you what they really think. It's surprising, but it's true. They tend to tell you how satisfied with their life they really are, and this is confirmed by the fact that people who are satisfied with their life laugh more than other people. They smile, and are more sociable. Very importantly they sleep well and they are healthier than others. Happiness leads to better health, and of course the happier people are, the fewer suicides there are. So these indicators of happiness or life satisfaction are really quite good.

And I can confirm that happiness can be measured. If you had asked me seven or eight years ago “Is it possible to measure happiness?” I would have said, “Of course not! You cannot measure such a personal thing as happiness.” Today I think totally differently. I think that we can measure happiness. I would claim that it is easier to measure happiness than Gross National Product. We have a lot of ways of measuring happiness – although of course we must apply them appropriately.

The most important are certainly surveys, the question I just asked you. Here the Eurobarometer, and perhaps more importantly, the World Value Survey are very prominent. Then there is Experience Sampling. This is when you are asked randomly how happy you feel just at this moment, and then this is aggregated up. Then even more scientifically one can do brain scanning. All these methods of measurement are quite reliable.

I won't go into a critique of National Income because Commissioner Almunia and State Secretary Baleiras have already talked about that. I just want to mention one thing which was not pointed out by these

two gentlemen, namely that today, roughly 50 percent of National Income – and even 60 percent in many countries – is attributed to government activity. How is government activity measured? By input, in the form of materials and work. You can immediately see that has nothing to do with welfare. So GNP is great as a business cycle indicator; it measures productive capacity but not for well-being.

But I would argue that Human Development Indices and other social indicators are not very good either. Take for instance life-expectancy. Of course it is great to live a long time, but what if your last ten or fifteen years are unhappy? Then it doesn't help to get older and older. School enrolment is often used as a Social Indicator, but of course it is not an output. We know from PISA¹ and other studies that there are many countries where a lot of input is made into schools, a lot of children go to school, but they don't learn much and they are not very satisfied.

Per capita income is also sometimes used as a Social Indicator. This is even worse, as I would like to show in the case of Germany. By the way, this can be done for every country I know of. I have the statistics for the United States, for Japan, for France and for many other countries.

On this graph, you see two lines:

- the green line is going up – that is the Development of Real GNP; 'real' means that you can buy more and more material goods, such as cars, houses, good food or whatever. So the material component is increasing;

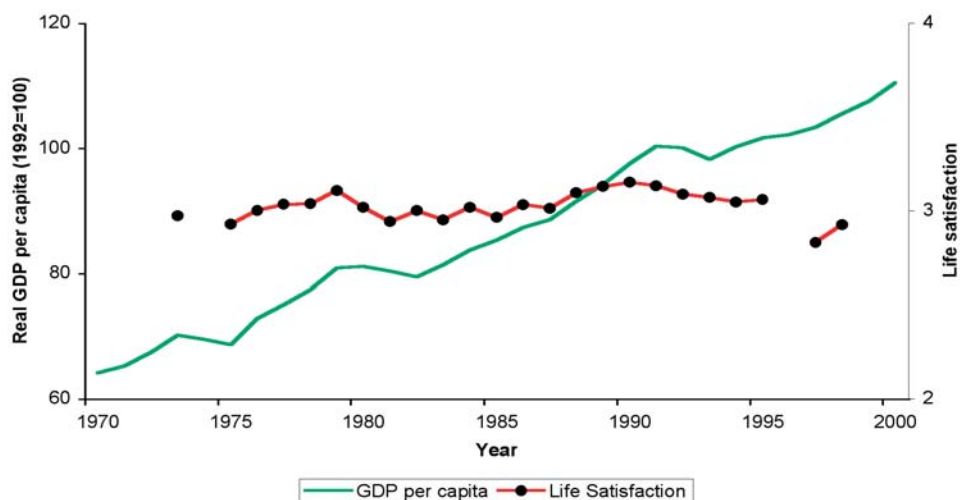
- the second one is the red line – which indicates satisfaction with life – and you see that it isn't going up, it remains constant.

So to take National Income per capita as an indicator of well-being is wrong, because you can see that they don't go together.

I would now like to consider a second point. *"Assuming that we can measure happiness in a satisfactory way, what do we do with this information at the political level?"*

Let me first say what I think should absolutely NOT be done. Governments should not now jump to the conclusion that "We have to maximise happiness". The EU Commission should not say, "Now we need to maximise the happiness of all European member countries." This is wrong because once the happiness indicator is seen as important it will be manipulated by governments. We have to accept this – we should not be naive. We saw that when the euro was introduced. We know that some countries manipulated their deficits considerably, and everybody knew it! This would be the case if happiness were a government goal; governments would manipulate it and respondents would no longer tell the truth.

Another reason why governments should not try to maximise happiness is that happiness is not the only thing which should matter for politics. There are other things. Things like justice, responsibility and solidarity are important too. Happiness should not be the only goal – we must remember that.



Income and Life Satisfaction in Germany, 1973 – 1999, Stutzer and Frey (2004) based on a survey on Eurobarometer

¹ Programme for International Student Assessment (PISA)

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What governments need to do, and this includes the EU Commission, is to make it possible for people, for individuals, to develop a life which makes them happy. I have not yet mentioned the 'environment', not because I forgot, but because I think it is perfectly obvious that the environment is so important and that a good environment enables people to be happy. I have mentioned 'education'. We know from economic happiness research that better educated people are happier, because they have more opportunities and can relate to more things. That is the great thing about education. It not only increases our human production capital but makes people more satisfied with their lives.

It may seem somewhat trivial, but economic conditions are terribly important for happiness, not so much income, but employment. Unemployment is the worst thing for happiness. People who are employed and are then thrown out of their job lose contact with society and feel useless. This is a terrible situation and makes them really unhappy.

What the government can also do is to create the right political conditions. One which I think is very important in the twenty-first century is to increase citizens' rights in terms of political participation. There is now strong econometric evidence that citizens who get involved in politics at various levels are more satisfied with their lives. I think that the European Union could move a little bit more in this direction. Everybody speaks about the "democratic deficit" of the EU and a lot of European politicians have understood that. We now have evidence from happiness research that this really is important for people's well-being. Another thing that improves public satisfaction is political decentralisation. People are more at ease with political decisions taken at the local level with which they are familiar.

So my conclusion is: Happiness is a wonderful concept and can be used to make better policies, but it should be used by governments to enable people to achieve their own personal happiness in their own way.



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Hans Rosling

Professor in Public Health Science,
Karolinska Institute, Sweden

Communicating content: New communication tools for new measures

Editor's note: Professor Rosling's presentation used extensive visual aids in the form of statistical software and slides. To see archived video of the presentation, visit the Beyond GDP website at <http://www.beyond-gdp.eu>.

I am going to talk about how we can put ambition high – really high – when using data. Let's unveil the beauty of statistics! Those who like to analyse a lot manage to understand statistics, but it is difficult to communicate this understanding. Look at this – how beautiful it is! It is *Chopin's Nocturne* – but very few of you can see the beauty of the music just by looking at the notes. There may be one or two who can see it. Yes, there is someone over there who can see the beauty, ... you are like the composer who can see the beauty, but most of us need an instrument and someone to play it. Only then can we see the beauty of the notes. But here is some good news. There are small electronic instruments that your kids can use at home, quite cheaply, and they will play the notes. Let's take this allegory a little further and see if we can apply it to statistics. Let me play some statistics for you.

Let's start with this one. Here every 'bubble' is a country and the size of the bubble is the size of the population. Up here we have the United Kingdom, and Germany; in fact those brown ones are European countries, not just the European Union but the Europe we learned at school. Those are the Americas and what have I shown on the axes? I have shown the size of the family on one axis and life expectancy on the other axis. This is 1950 when the world was as my students said "us and them". These were the industrialized countries and these were the developing countries.

What has happened since then? To show how much of the world has changed we can use animation. See how as the years pass by the former developing countries improve their life expectancy. And now look at the red bubble showing Chinese family planning: they move to smaller families very fast! Now off come all the

American countries – and the Arab countries in green now move ahead with family planning into a completely new world which we are not really prepared for. And here we are today!

These animations are aimed at two major target groups: children below twelve and Heads of State! Analysts and economists devised this animation. It is not designed to replace any other econometrics or statistical software; it is just intended to add something to it.

I could show you another thing, which you may find surprising. It is an important message for Europe. Europe is not so special any longer! A large part of Asia and a large part of the Middle East have the same family size and the same life expectancy. But there is something where Europe is special. We see fertility rates on this axis, but I now have population aged sixty-five years and above on this other axis. In 1961 you had Europe up there – old people, small families – and the developing countries were down there. They had large families and not very many old people. Now let's look again. See how Europe is now getting older and older and in America and Japan see the 'green' and 'red' bubbles. The rest of the world is changing to small families, but they are not following Europe in terms of old age. This is what makes Europe special: our life expectancy! The size of the family is no longer special but we have double the proportion of the population around sixty-five. This is not the same in the United States but it is the same in Japan. I used to say that these are the countries suffering from immigration deficiency. They have developed very rapidly but they don't have immigration, so they have a very old population. Interestingly enough, if you track Germany for instance and



you go backwards in time, and then compare it with China for instance, you will see that China moves towards a very small family with a very low proportion of old people. So very rapidly you can see a lot of the statistics.

Let me show you GDP down here. On this axis you have the child survival rate, the number of children dying. The low numbers are up here, so at the top you have the healthy ones and at the bottom those with high numbers of children die at an early age. This is the world today; high infant mortality in Africa (the blue countries down here) and the very favourable situation in Europe.

GDP – I would agree with the President – is a very good measuring stick. As a Public Health Professor, I like it because it explains 80 percent of health in the world. I agree that happiness in high-income countries is not correlated with GDP, but in the rest of world it is, because unemployment and economic hardship is an everyday concern, as it used to be in Europe back in the 1800s. Then Europe developed and got healthier and wealthier. Let's freeze the world where it is today and I'll pick out Portugal. Now we can explore this one country very easily, going backwards like this. This is where Portugal was in 1945, exactly where we have Chad or Angola today... This is Portugal's development. It is interesting to see that something appears to have happened in Portugal in 1974. Isn't it nice how very fast you can see it? You can see that the democratization which came about abruptly brought a social dimension to development in Portugal and it then became the country we know today. It is not the best economy in Europe, but its child survival rate is much better than in the United States of America. That is where Portugal is today.

Let me show you a PowerPoint presentation too. Let me give you a conceptual model. What are we doing when we are collecting data? We have the world and we have the statisticians who are very good at collecting and generating data. So we have all the data up there. How do we get it down here? Well, normally we have microdata in the form of individual information, or individual environmental measurement. And then we have indicators, which are more useful. The normal procedure is to send data to the government and the government manages the world. Now Enrico Giovannini of the OECD has suggested that the very word 'statistic' is wrong because statistic doesn't mean 'static' it means 'the state' and we need '*societal-tistics*'. I don't know the pronunciation and I know Enrico is struggling with this. It means data for society. Who else uses this data? Well researchers use it and

they produce results for government and for the commercial sector, and they feed it down and we get functioning markets. They request the data. We have data that goes to the media, and research goes to the media, and then it feeds down into the civil society. That's how things were fifteen years ago. Then the Worldwide Web came and the statistical agencies started their web pages and made information available directly to civil society. Unfortunately, we lost ten years with the old concept of selling data. But we now have free data in the European Union and we are moving in that direction. Civil society is doing something new and that, I think, is part of why we are here today. It is not only because of the new environmental statistics; it is also because civil society is asking for data today. People want data about global development, about their own nation, and about their local community – so we really need to have a very broad arrow that goes down like this. This is what it is all about. Can we devise tools, or new ways of allowing all that valuable data to flow around the world and be used in so many different ways – not to replace any of the other uses, but to reinforce them? We can add to the use of data which is already being produced with such a lot of professional skill and such a lot of investments.

Let me show what you could do with environmental data for instance. I will tell you a nice story that will make you feel good about how we can handle the environment. Sulphur emissions per person: how much sulphur have we emitted into the environment in relation to GDP? We start back in 1851 when the United Kingdom was in the midst of the industrial revolution and was the most terrible polluter the world had ever known – but worse was to come. Look what happens when we move forward here, I can move forward and other countries follow the United Kingdom. First the United Kingdom is leading and then – see the large mass of green – the United States overtakes as the main polluter. We move on into the new century and see pollutions sky-rocketing up. We reach the highest level here and start to realise that something has to be done about it. The United Kingdom by then is up there and they are overtaken and then this happens. So isn't this an effective measuring tool?

What you see is this transaction where the United Kingdom went up like this and then came down again and eventually in the year 2000, when we are over there, we come all the way

down. That was the case with sulphur oxide. But it is an easy one, because it was linked to one specific pollutant. And it is simpler than the one we are facing today – carbon dioxide. I could for instance go to the GDP measurements. I could de-select here and change this variable up here. Instead of categories I could take indicators. Now I am looking at Eric Swanson's "World Development Indicators", the best compiled data set of Development Indicators. I can now easily look at the environment and see emissions, and I have five hundred variables immediately available here. I can choose carbon dioxide emissions per capita. There is no data from the countries in the North here but when I go backwards here we have a carbon dioxide emission. The red ones emit a lot. China and India are still low ... and here we can see child health.

The sad thing is that all improvements in the economy and in child health have been connected to higher emissions of carbon dioxide. It is really the big challenge we have. That's why GDP doesn't work because it is absolutely contradictory to the main environmental concern we have.

If I then put carbon dioxide on this axis instead and put GDP here, we can see that in 1975 the United States was there. China was not much of a concern. No one was thinking about carbon dioxide, we were all concerned about sulphur. This is what has been happening. Can you see? Really what appeared there was the data from the Russian Federation after the split of the Soviet Union when started getting emissions statistics from there too. None of them are falling... they just stop increasing. This is a real challenge to be able to follow this year by year. And what I have noticed when I lecture about this is how the big investors, and governments, are being influenced by their children. Make environmental statistics freely available on the internet for children to see and they will talk with their parents. This is a very important message.

So, how can we achieve that big arrow on the right? Let me move it over like this and I will show you what we can do. Of course, the WebPages of the statistical agencies must continue to improve and a lot of good work is being done on that, but if we really want innovation, and let's take that as our message, why is a fifty-nine year old Professor of Public Health standing here talking about IT technology? This is a job for a child. It is my son and his wife who dropped out of

University seven years ago who shut themselves away and wrote this code! This is how it happens. It is the same story for all inventions: someone gets an idea and they see that they can get IT technology from there, and statistics from somewhere else, and then put it together in a new form. But what we also need is a unified format.

The single most common request we get is that we should put measurements of happiness together with other data. We want environmental data – both the statistics collected publicly and those from research and civil society – and we want to see them in the same format. A unified format is the number one requirement. It was only when we started to write music with the same notes that it could be widely played. It is very important to have a unified format. We need a search function; it took us half a year to make a prototype where you can search databases. It was given to the United Nations statistics department and is now being quietly launched as UN data: free access to search a lot of databases. It has only been accessible in the last few months.

When we came up with these designs – and what I showed you in the bubble is just one of them - we made several types. We need interactivity and we need story-telling. But in the end it is not WebPages that spread information. It is how it is used by the people who tell stories and initiate innovation. We know how we get innovation; I have studied documents from the World Bank, the European Union and the OECD. We need lots of ideas, we need new technology, we need investment and in this particular case we need access to data. For our study over the last seven years, the single most difficult thing was not ideas, technology nor even money; it was being allowed access to data. That is why we are not getting. I must emphasise that. I see the problems in making databases available. I have become aware of them, because innovation is now taking place only within agencies or groups where this is happening. We need an access licence, not only in order to pick one little series of data,

but to get the whole dataset. But licences cannot just be given out willy nilly. This is a legal issue, not a technological issue.

When we started discussions with Google (and Google actually acquired our software half a year ago and intend to scale it up for free use in the public sector) the first question was, "How many statistics are there?" "There is a lot of microdata" I said. "No, no, not microdata but the indicators, all the indicators in the world. How much is that?"

I didn't know, so I made an estimate and it was about five terabytes; that's all the historical statistics, everything from local communities to nations. And their reaction was: "Five terabytes, that's no problem whatsoever, it's less than 'the Lord of the Rings'!" In one night a kid can download the entire database of public statistics! 'here are no technological limitations but there is a legal one, and a credibility issue. "If you use our data you need to give the source, you need to show our logo, you need to make a link to our Webpage. You cannot revise the data which we have published and claim that it is still ours. You have free access but if you make an income we share it with statistical agencies." We have to settle this, if it can be done by proper governance, because today these good innovative statistical units don't have clear governance from above. That's why they cannot link out of the corporate sector and into the innovative sector in the best way.

We need to combat this disease. It is the worst disease we are facing today in terms of data access. We could call it Database Hugging Disorder!!! But it is not a congenital disease; it's a disease transmitted by poor management, haphazard budgeting and unclear legal relations. If we can eradicate it we can get data out, and not only in the bubbles that I have just show you. You have a lot of innovative young people and innovation out there. We must let the corporate sector and small start-up enterprises contribute without losing the credibility of the good professional statistical agencies.



H.E. Chief Emeka Anyaoku

International President of WWF



Beyond GDP: Measurement tools for a Living Planet

Dear Commissioners, Members of the European Parliament, distinguished guests,

I am delighted to be here representing my organization, WWF, as one of the joint originators and sponsors of this conference. Twelve years ago we co-hosted a similar gathering, also held here in the European Parliament and also co-sponsored with the European Commission and Club of Rome. It was called "Taking Nature into Account."

We argued then for a whole new range of measurement tools to help our policy-makers and political leaders to chart a path to sustainability. We likened it to a dashboard in a car. We argued that society needs a vast new array of dials and instruments next to the steering wheel to be able to measure how fast the planet is travelling. We need to know how much fuel we have in our tanks, the engine work rate and temperature, the oil pressure, the water levels, tyre pressures and so on. The call is the same now as it was 12 years ago – only more urgent. We need to move beyond our reliance on limited, though well-known, dashboard indicators like Gross Domestic Product. We need in other words to move beyond conventional economic accounting. We are calling for new ways to measure and record progress so that we can take the necessary corrective measures to set a more wise development path.

Societies cannot continue to operate as if the planet was a business in liquidation. We cannot continue to turn our backs on pollution and call it someone else's problem. We cannot continue to call income what in reality is resource depletion. We cannot claim economic success for development patterns that leave hundreds of millions of people marginalised and which stoke the fears of resentment and conflict.

The WWF mission is to build a future in which humans live in harmony with nature. Obviously we have a great deal of work to do to meet that

challenge. Our way of living is not only threatening the health and diversity of our planet's species, but has become a huge threat to human survival as well.

WWF has been publishing the Living Planet Report biennially over the last decade. In these reports we have been calling attention to the fact that we are now in what we call **ecological overshoot**. In plain terms, this means we are using more resources and emitting more waste than our planet can handle. Reversing these trends is WWF's goal.

To better understand the distance to our goal, we are using two measures.

The first is the Living Planet Index, now being further refined jointly with The Zoological Society of London. The Living Planet Index is a kind of "Dow Jones" index of nature. It measures the health of our planet's biological diversity. It summarizes population trends of more than 1300 vertebrate species around the world: in the sea, on the land and in freshwater ecosystems. It documents a 30 per cent decline in the average population size of vertebrates since 1970. Quite simply, biodiversity suffers when our planet's ecosystems cannot keep up with human rates of consumption and waste generation. This is now happening at a rate *unprecedented* in human history.

The second, complementary measure tracks human demands on the planet. For this we use the Global Footprint Network's Ecological Footprint, a resource accounting system that measures how much nature we have and how much nature we use. This allows us to compare human demand against nature's available supply.

Nature's supply is comparatively easy to quantify – we have one planet Earth. Human demand has grown rapidly. In 1961 humanity used half of our

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planet's ecological capacity. According to the most recent data, just over 40 years later, humanity's demand now equals 1.3 planet Earths.

These calculations apply to nations and regions as well. For example, Europeans use 2.6 times more than Europe's ecosystems can provide. If everybody in the world consumes resources and expends wastes at the same rate as Europeans, we would need close to three planet Earths to sustain these lifestyles. If everybody lived like the average American, we would need more than five Earths.

Such ecological deficits are possible because nations import resources from other countries and deplete ecological assets. Without any other planets – (at least for the moment) – to trade with, Planet Earth's

ecological deficit, our global overshoot, is entirely dependent on depleting our planet's resource stocks and accumulating yet more waste. Technological breakthroughs may slow the trend but are nothing like enough currently to reverse them.

This global overshoot is liquidating the assets on which human well-being depends. It is creating social tensions and conflict, and it is making our existence ever more fragile. It is also taking away the development rights of future generations.

WWF, UNEP, and the World Conservation Union define Sustainable Development as a commitment to "improving the quality of human life while living within the carrying capacity of the supporting ecosystems". As this definition implies, ecological



©Photo European Parliament

indicators alone do not determine sustainable development. We must also be able to measure the quality of life.

Most recently, WWF has been working with others to see if it might be possible to combine the Ecological Footprint with the United Nation's Human Development Index. The challenge with this combination approach is to see if it is possible to live well, which the UN defines as a minimum Human Development Index of 0.8, and live within the means of one planet, which means an Ecological Footprint of 1.8 hectares or less per person. This would mean we could fit within one planet and have a satisfactory quality of life.

Living and thinking within the box defined by these two indicators is the single greatest challenge of the 21st century. But nearly all countries in the world are missing this target. In fact, moderate United Nations projections, with slow, steady growth of economies and populations, indicate that humanity will be living as if we had two planets to support us by 2050. At this level of ecological overshoot, exhaustion of resources and large-scale ecosystem collapse become increasingly likely.

In our new Global Programme Framework, WWF has committed to stop biodiversity loss and help humanity reduce its Footprint to the size of one planet Earth by 2050. The scale of this challenge is absolutely enormous – nothing short of a revolution in our economies, societies, energy choices and lifestyles. We need to move not only beyond GDP, but also far beyond WWF. The reason is obvious: we cannot do this alone.

We see this conference as an important step in building support for a broader range of scientific

sustainability tools so they can become robust measures for public policy formulation, evaluation and eventually better decision-making.

It is enormously important and gratifying that the statistical experts from Eurostat, the Organisation for Economic Cooperation and Development (OECD), United Nations institutions and numerous national statistical agencies are here to help us to chart this path. It is important too that the European Union institutions and Member State governments represented so strongly here are putting their progressive environmental policy positions to the test. We simply will not know if carbon dioxide reductions, energy efficiency gains, renewable energy targets, the operation of a carbon market and halting biodiversity goals will be reached or not if we don't measure them – and place the results firmly in front of the leaders setting these ambitions.

In conclusion, it is almost certainly the case that those countries and regions with surplus ecological reserves, – and not the ones relying on continued ecological deficit spending, – which will emerge as the robust and sustainable economies and societies of the future. If this is the case, then it is also true that the GDP indicator does not capture this vital information. Of course, measuring the performance of our economies is important. But economies are a means, not an end. The decision leaders in governments and industries of today, never mind tomorrow, need to know how our ecological and social assets are performing just as much as our economic ones. I trust that this conference will give us this guidance.

Thank you.



Pervenche Berès

Chairwoman of the Committee on Economic and Monetary Affairs of the European Parliament



Economic policy making – beyond maximising GDP

1. Introduction

Thank you for the invitation to speak at this very timely conference in the European Parliament.

This discussion at the international level has been going on for some time. But now, we can have the dream that with this Conference the Commission is completely committed to the idea that time has come for action. We need it for us if we want to be coherent with the Lisbon Strategy but I also have the conviction that the EU could take the lead in moving ahead at the global level.

I think it is important to underline that the purpose of Gross Domestic Product – GDP – is normally simply to measure economic output and economic growth. GDP is also used to project a country's potential economic growth. Moreover, GDP can be compared across countries with a minimum of methodological difficulties.

GDP was not created to be a measure for societal well-being, but I recognise that it is often used as an indicator for that. I suppose that GDP has been used and is being used as an indicator for well-being because it is up to now the best available measure. It has served well for a good number of years, but I think that all policy makers realise that GDP cannot be the only basis when deciding and devising an economic policy in today's society.

2. Limitations in using GDP as a measure

Let me underline that economic growth is necessary to ensure poverty can be fought and social inclusion guaranteed. This all implies: a need for more jobs. We have to realise that even activities that are not strictly speaking really adding something to society in an economic sense, still provide people with a job and therefore with an income. You may think of activities like repairing a lock after a burglary, or cleaning a beach after

an oil tanker was shipwrecked. Economic growth is also necessary to meet the challenges of the ageing society we are facing.

Economic policy should therefore focus on an indicator measuring economic growth. GDP as a measure still has future in giving an indication of the realised economic output and also in giving an indication of the potential economic growth. As with all economic data, it is not the precise level as such that is most important, but the trend and the relative position, in this case to other regions.

I can only observe, that GDP as a measurement has proven to be a reliable proxy for economic activity in that sense. However, using GDP as a measure has limitations. For instance: GDP does not take into consideration depletion of non-renewable resources. GDP also does not take into account the free-rider-problem. Seen from a modern policy maker's point of view this limitation must be overcome if we are to address the problems we are facing with climate change and other environmental issues.

Another limitation of GDP is that it does not give any indication of the income distribution. From a policy makers point of view a huge deficiency that must be overcome in our fight for a more fair distribution of wealth in today's society.

Not does GDP measure a population's well-being or "quality of life". Understanding what defines "well-being" and "quality of life" is crucial, but subjective at the same time. It is not least crucial for policy makers from very rich parts of the world, where most material needs of the population have been or at least can be met.

Moreover, GDP measures are normally limited to countries. This is not always practical in a world where not only financial markets but all markets are becoming global.

One can conclude from this that modern policy makers cannot rely on GDP solely when designing policies. Policy must take into account what could be called social progress. Therefore GDP must be supplemented, not replaced, by other measures and perhaps more qualitative information.

3. Beyond GDP

Our Western societies have developed so much that the ordinary citizen nowadays expects politicians not only to just deliver long term economic growth; growth should also be sustainable, including state of the art health services, social security, environmental protection et cetera. This is a just and big challenge in an ever more globalised world.

For some issues like environmental resources we could simply set a price. This would mean integrating some externalities into GDP. It sounds easy and it is necessary, but in reality it is extremely difficult – both politically and methodologically.

Think about the current discussion about emission trading. All of a sudden there is no more free-riding. It costs to pollute and of course industry reacts. This is in many ways a classical political fight between industry interest and “green” concerns.

Let me allay all doubts: I recognise that intellectual challenges and methodological issues need to be considered such as: What is the right price? How should the price be fixed? Will pricing of free goods benefit rich companies and rich societies? Even for what intuitively seems to be the simplest way of improving GDP as a measure there are many issues to consider.

The methodological issues do not get fewer when considering various indexes on “well-being” or

“quality-of-life”. Moreover, there are also many political issues to be considered. First of all what index is the best! And can any index be used in any country of the world?

Second, even if a country scores high on a “well-being” or “quality-of-life” index, can policy makers be sure that it is the result of a given policy-mix. And can policy makers in other countries simply copy the policy mix and be sure that their population will become happier? Or can a high “well-being” or “quality-of-life” score be explained simpler e.g. that some people are just more positive than others? As you can understand this involves quite a lot of very subjective elements in what used to be a fairly objective and straightforward measure.

Many other issues such as globalisation of markets and the time-lag in policy effects could also be addressed.

4. Conclusion

I have made clear that moving beyond GDP is not as easy as it sounds. I have also made it clear that it might be difficult for a politician to get reliable answers from any type of index or GDP. Nonetheless, GDP, with all its inherent difficulties, might remain a useful measurement of economic output for some time but time has come for us to reflect on better measurement that would better take into account issues of public goods.

To me – whether relying on GDP or measures beyond – politics is about conviction. One can be inspired by all kinds of indexes and experiences but any politician will have to make up his or her own mind on how he or she considers society to develop and then fight for it to become a reality.



Pier Carlo Padoan

Deputy Secretary-General of OECD



Ladies and Gentlemen,

It is a great pleasure to be at this important event.

The OECD is well known worldwide for the quality of its statistics and has, since its inception, worked to provide the figures needed to explain and understand our social economic processes and improve our public policies. We have a wealth of expertise based on the experiences of our 30 members and nearly 70 other countries. We are also a well recognised source of publications and information delivery.

Based on this statistical supply and know-how, measuring whether and how life is getting better is one of the most important roles this Organisation can take on. And to do this properly we need to look beyond GDP. As Angel Gurría, the OECD's Secretary General said this year "We have to move towards measuring welfare not just output".

Some call it well-being, and some the wealth of nations. We call it progress of societies. But whatever words you use, many now agree that it is time to call for a global effort to find measurements that go beyond GDP.

"Progress" is a complex concept, because it means different things to different people, depending on their cultural background, history and personal beliefs; but also depending on the health of society, the environment and the economy. But if we agree that progress encompasses many elements, we therefore also have to agree that its measurement cannot be reduced to "growth in GDP per capita". And this is true both for developed countries, as well as for emerging countries, who do not want to simply follow the development path followed in the past by OECD countries.

Developing measures of progress is not a purely statistical/technical exercise: it touches on two very sensitive areas for all societies: governmental accountability and social participation. Measuring progress with reliable information is a key ingredient of the democratic process. On the one hand, it

makes governments more accountable and trustworthy, and on the other, it encourages people to participate more actively in the definition of policy goals.

We are already witnessing an explosion of initiatives to measure progress around the world. Statisticians, policy makers and civil society are discussing what progress really means and how it can be measured. The second OECD World Forum held in Istanbul in June 2007 and the preparatory meetings organised in all continents made clear that there is a "world movement" engaged in this effort. But the magnitude and implications of this movement have not been fully recognised. What is remarkable that it is happening across the world and it isn't just being led by the public sector. Civil society is increasingly taking a lead in several countries.

Why are all these people and institutions spending so much time and resources on this? Why has this captured the general interest? Have societies seen this as a way to tackle a common challenge? The OECD recognises the importance of this work on several fronts.

One of the main ingredients of a successful democracy is access to quality information. Reliable facts and figures help governments improve their policies by comparing them and measuring their impact. When societies can trust social and economic indicators, they can better assess a government's performance and put forward better proposals. In turn, governments can enjoy stronger consensus for their policies.

Globalisation has made our national realities more complex, as well as more sensitive to external actors and factors. The Information Age has made our daily lives more dynamic, more plural and more complicated. The amount of available information makes it much more difficult to understand public affairs and develop a participative democratic culture. We must provide our societies with new, clear and reliable tools to form their opinions, to make

their assessment of the effectiveness of their democracies in fostering social progress.

In many countries, we see distrust in public figures, in political parties, political communication and, ultimately elections. This scepticism affects the whole democratic process because it undermines accountability.

So, to reiterate the point, the OECD believes better information is an essential support to democratic governance.

So, yes, the OECD thinks it is time to look beyond GDP to provide better and more useful information. And that is why we have launched a Global Project on “Measuring the Progress of Societies” and I would like to tell you about our work.

In June 2007, three years after our first World Forum on “Statistics, Knowledge and Policy” held in Italy, the OECD, in collaboration with the United Nations, the World Bank, the European Commission and the Organisation of the Islamic Conference, organised the second World Forum in Istanbul on “Measuring and Fostering the Progress of Societies”. Some 1200 people, from over 130 countries attended. Presidents and ministers rubbed shoulders with the leaders of civil society. Captains of industry met the heads of charitable foundations and leading academics.

They shared a common interest in wanting to develop better measures of how the world is progressing. They shared the view that the world needs leadership in this area and that the Global Project on Measuring the Progress of Societies can provide it.

The conference led to the Istanbul Declaration which the OECD, the European Commission and our other partners signed. It calls for action to identify what “progress” means in the 21st century and to stimulate international debate, based on solid statistical data and indicators, on both global issues of societal progress and how societies compare. The World Forum gave the OECD a clear mandate to begin a Global Project in collaboration with others. Our aims are many but in short we will follow three main streams of work:

First, we will **advocate** globally encouraging societies to develop their own measures of progress;

Second, we will **assist** those who want to measure progress by sharing and developing best practice and providing support (recognising that different societies have different views about what progress means);

And third, we will **achieve** results by promoting the use of these measures: by working with the media and the ICT industry. We want to produce a set of statistics that are trusted, understood and used by as many people as possible.

What steps are we taking?

I believe that we should encourage each nation or region to design its own sets of progress measures, taking into account good practices developed around the world. We do not believe in the idea of replacing GDP with another single indicator. We have to take into accounts the complexity of our societies. Therefore we think that the development of a set of “key” indicators, is the most promising avenue.

At the same time we should work to achieve the highest degree of comparability of indicators between societies through internationally agreed statistical standards. Of course, this is not easy, but the balance needs to be struck. New initiatives are being launched and we are working with countries and experts to advise and assist their work. We will promote research on some of the new and complex areas that are clearly relevant for progress, like social cohesion, subjective well-being, good governance and others.

Early next year we will publish a handbook on Measuring Progress in Practice. It will bring together the world’s best practices and provide a tool-kit for those wishing to embark on a project. A training course to accompany the book will be developed.

We also need to be more effective in bringing indicators to the public. We have started projects with leading ICT companies to develop the tools that will engage citizens. Indicators of progress can tell some fascinating stories; they increase accountability; build knowledge, change behaviour and underpin democratic governance. To achieve this they need to be known and, above all understood.

And we are working with others to build a website – using the interactive philosophy of Web 2.0 – that will allow people to undertake and share their own

analyses of progress with the rest of the world. A “Wikipedia” for progress, where people interested in knowing whether their country, region, city is progressing or not can find appropriate data and metadata and interact with figures.

We are fostering the creation of regional groups so that those working on this issue can interact with others in their region: groups in Latin America, Africa, and Middle East are being created, as well as for OECD member countries. Such exchanges will not only enrich the knowledge of the respective region but will also flow – via the Global Project – to benefit the whole world. Inclusiveness is the name of the game.

We have already established a group for Africa, where the African Development Bank and other agencies will run a biennial forum on the Progress of Africa. The Inter American Development Bank have agreed to run a group for Latin America. And the United Nations will take the lead in running a group for the Arab Region. While the OECD will run a group for the OECD members. Other groups will follow and we hope that a similar initiative for Europe will be taken after this conference.

Let me reiterate that we are not trying to enforce one single view of progress. We should celebrate the differences in history and culture that give rise to our different notions of progress. But after listening to the debate here and hearing about the discussions at Istanbul, I am struck by the overwhelming similarity in what we all consider as progress, from Bhutan to the United States, from Nigeria to New Zealand. Indeed this process could turn out to be an invaluable point of reference in the run up to 2015, when the existing set of Millennium Development Goals will be reviewed.

Ladies and Gentlemen,

If we want to improve the quality of public debate, the contribution of civil society to public policy, the transparency of governments and therefore the level of trust in democracy, we need to provide credible points of reference and reliable solid data. A set of progress indicators, supported by the joint expertise of international organisations, can provide this new reference.

In the 19th century, our societies established a new institution – the national central bank – to better manage our economies and help protect society from crises. In the 20th century, we introduced antitrust and audit institutions to improve the efficiency of markets and protect consumers and investors. In the 21st century, it is time to build new schemes and institutions to empower our citizens to assess the quality of their governments and policies, but also to measure their own progress in a modern society.

What if we could build, in each and every country, an institution for assessing progress? An institution where different parts of society (government, opposition, trade unions, business associations, NGOs, academia, media, statisticians and others) could discuss what progress means to them and the key indicators to measure it. An institution whose progress indicators are seen as having authority and legitimacy. Would this significantly improve the quality of our political and social debates – the quality of our democracy?

I believe so. As I said before, better indicators of progress alone are not enough. They need to be trusted – to be seen as accurate and impartial. They need to be used and understood and become shared knowledge among citizens. It was Socrates who said “The only good is knowledge and the only evil is ignorance”.

It is vitally important for all our societies to develop a broader understanding of progress so that we can measure it. It is a unique opportunity to improve the ways in which our policies are made and it can breathe new life into democratic processes. These are worthy, ambitious goals but they are achievable, so long as all of you – each and everyone one of you – participate.

So, I am delighted that so many people are here to discuss this exciting, far reaching endeavour to move Beyond GDP and to assess the well-being, true wealth and progress of nations. Because by measuring progress we can achieve progress for all.

Thank you.



Giulio Santagata

Minister for the Implementation
of the Government Programme, Italy

First of all I would like to thank the President of the European Commission, José Manuel Barroso, and all the organisers for the invitation sent to me to participate in this conference today.

I would like to thank them for having put on the agenda of an in-depth debate on a topic which is extremely relevant for our democracies: the quality of statistical information, its significance, spatial and time comparability and transparency, and its accountability to citizens and public opinion.

What is important is that the path we set out in 2004 in Palermo and this year in Istanbul is followed in greater depth, looking at important aspects and bringing the individual governments to participate more thoroughly.

The questions that this conference is addressing to the policymakers involved in implementing governmental programmes are diverse and complex: What is the universe of information, data and indicators which are important for defining and implementing governmental programmes? What innovations are needed for the statistical and information system to make the management and control of public policies more effective? What balance should be struck between the continuous increase in the data available and the optimal use of this data by the public authorities?

Here I can bear witness as the Minister responsible for the implementation of the government programme in Italy. On the basis of my experience, albeit brief, I would suggest to you various points with respect to our new information needs and with the need for more linear and transparent links between government action and communication to the public.

During a year and a half of the Prodi government, the monitoring and assessment of public policies was tackled on various fronts:

1. The definition of government goals, hierarchically defined, on the basis of the political

programme proposed to the voters before the election, which was accepted by the parties belonging to the Governmental coalition.

2. The transmission of these goals to the competent authorities, who are responsible for updating and specifying the goals, and for designing specific implementation measures.

3. The definition of a closer link between the objectives of the programme and the definition of the public budget. This will also make it possible to make budget management more active, reducing inertia and getting closer to a zero-base budget. This is very important for a country which is strongly committed to budgetary readjustment.

4. The establishment of a system to monitor how government policies are achieving their objectives. This aspect is particularly important for an institutional universe as complex as the Italian one; it is complex in terms of decision-making procedures, complex when it comes to the division of tasks between various institutional levels, and complex as regards the use of a new type of accountability that is still recent and not fully implemented by every single authority.

5. The ongoing monitoring of measures approved by the Government and by Parliament thus concerns the phases of administrative implementation, financial measures, effective implementation through concrete acts and, lastly, monitoring the impact of such measures on specific subjects, with comparative evaluation of the objectives set.

6. The greater emphasis on, and sometimes total renewal of, assessment systems which will allow us progressively to set up a sort of "memory" of governmental actions and of their impact on citizens, on firms and on the environment.

Institutional renewal of this type means by its very nature that we need solid information that is more detailed than we currently have.

The actions to be undertaken are of at least three types:

- First, the individual authorities responsible for management of the programme should be able to generate the data and the information which are necessary for monitoring their own actions; for such task there is a need for continuous advice and supervision from the official statistical offices. I would like to stress the agreement between governmental structures involved in the implementation of Governmental programme and our National Statistical Institute, in order to associate new measurement criteria to the single *policy* actions.
- Secondly, authorities have to be able to supply prime factors which go beyond mere performance indicators, for more complex assessments of the impact of these provisions.
- And thirdly, thanks to what's going on here and what a lot of international and national institutions are doing as well, we can progressively enrich the list of available knowledge sources and indicators in order to monitor the implementation of the programme.

As you can see a whole series of actions have to go "beyond GDP".

We've got to go beyond the horizons which for decades have been established and anchored in the traditional national accounting systems. I think this is significant from at least two points of view.

The first point relates to the indicators and aggregate measurements of what the government is doing. Here the monitoring and implementation of the Government programme are obviously **obliged**, if you like, to use a whole series of measurements and assessments based on the state of our environment, which could prompt more general reactions closer to the concepts of satisfaction and happiness. And in fact it is becoming more and more essential that measurements and evaluations relate more to the quality of development and the quality of choices made by policymakers.

I don't think that it is worth looking just at a simple substitution of GDP with other criteria to assess the progress of our democracies. Nevertheless, we will always need sectorally and territorially accurate measurements of the **intensity** of economic development. I believe, for instance, that changes in the interest rate obviously have to be linked to the economic cycle. But at the same time it is

quite true that our choices, basically in any area of public activity, should be based on information enriched with other elements of knowledge on environmental sustainability, and on the satisfaction and well-being of our citizens.

My second point concerns, at the other end of the scale, the level of detail of indicators related to the implementation of public policies. These indicators should include the elements which are recognisable when it comes to measuring environmental impact, population impact, and generally the way the nation's capital is used.

On this last point I would like to recall that some of the most innovative analysis of the causes of territorial differences in my country are based on the concept of "social capital"; I refer in particular to the contributions by Robert Putnam. The possibility of having a better assessment of social capital is something which allows you not only to improve existing information but to open up new roads of analysis, and new possibilities of interpretation and finally to look at innovative and more effective areas of public action.

Before concluding I would like to underline a problem which is relevant, namely the selection and choice of the indicators we use. I'm not really saying anything new if I remind you in this audience that while looking at the trends in our economies and at the impact of government action we are supported by an ever-increasing volume of data and indicators – and more and more information just keeps coming in. We are increasingly enriched by this and open to it, but sometimes our decision making process can be swamped by too many different indicators and statistics.

What I would say here is that we need to be selective – but rigorous – in using indicators. In fact we need to be very strict and fair when choosing the indicators we use and keep monitoring, in relation to the task we have to carry out.

This is particularly important when you look at how you report to the public on the state of our nations. I believe that our citizens need to be informed simply, directly, regularly and understandably, using indicators which should perhaps be commonly agreed by the people involved in governance, including the government majority and the political opposition who expect to be the Government of the future.

This is why I very much believe in events like the one today and in the role of international cooperation.

Cooperation on a daily basis, even if only technical, can help choose the most significant set of indicators to communicate to our citizens.

Italy would like to continue the journey started in Palermo and Istanbul, which continues here in Brussels today. I am convinced of this, both as a matter of principle and also because the two-coalition system that we are trying with difficulty to build in my country should be based on solid

and shared institutional infrastructure – including high quality statistical information – which needs to be reinforced. If that happened, the quality of policy making would improve, since it would benefit from more effective internationally comparable measurement of what each government is doing. That would also improve communication between the government, parliament and public opinion. And I think the quality of our democracies cannot but profit from that.



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- **Timo Mäkelä**

Director, European Commission,
DG Environment, Chairman of Session 1

Your Excellencies, Ladies and Gentlemen,

My name is Timo Mäkelä and I work in the European Commission on issues related to sustainable development.

After some stimulating opening addresses and keynote speeches including the impressive presentation by Professor Rosling, we will now open our first panel of this conference. We have been hearing a lot about hardcore economics and how to measure happiness as part of the sustainable development process. All kinds of issues have been raised so I hope that our panellists are not confused by what they have heard so far. We have here a very impressive group of panellists who are at the heart of attempts to use indicator statistics and develop them into a decision-making tool.

The theme of the panel is “Decision-making beyond GDP: needs and a vision”.

Our panellists are:

- HE Chief Emeka Anyaoku, President of the WWF,
- Madame Pervenche Berès who comes from the centre of the European economic decision-making body, and is currently Chair of the Economic and Monetary Affairs Committee of the European Parliament,
- Dr Pier Carlo Padoan, the present Deputy Secretary-General of the OECD – organisation with headquarters in Paris,
- Mr Santagata, who is a member of the Italian Government; in his present position as Minister for the Implementation of the Government Programme, he needs to see how to make practical use of statistics indicators.

For speech by HE Chief Emeka Anyaoku see page 41.

For speech by Pervenche Berès see page 44.

For speech by Pier Carlo Padoan see page 46.

For speech by Giulio Santagata see page 49.

- **Marcello Palazzi**

Progressio Foundation, Netherlands
and Tällberg Foundation in Sweden

I would like to put a question. Many cities, businesses and financial institutions have acquired experience by pioneering some of these new ways of measuring their progress over the last 20 years. Just this Friday I was in Paris, where there were 450 financial institutions all working on triple bottom line reporting, and they had all pioneered new ways of measuring their progress. So my question is this: GDP is first and foremost an aggregate measure. How do we start (at enterprise or city level) and bring it up to the aggregate dimension?

And in a way why don't we have one of the governments that are represented here create an alliance platform of businesses and cities, and just experiment and see what happens? Because I think the time is right to do that. So I call on you to look at what enterprises and cities are doing and think how a government could pioneer some kind of alliance in their own country to do that together?

- **N.N.**

My question is: Don't you think that in the context of the knowledge economy or information age, and the Lisbon Strategy of the EU, there is good news? Progress is becoming qualitative because there is too much information. Quantity of information is not the issue; the issue is about quality of knowledge. And so are we not shifting the very notion of progress and going in the right sustainable direction?

- **Pervenche Berès**

Member of the European Parliament

There should be no doubt that we need to take account of all the good experiences that are going on around Europe. Obviously we must. But your proposal was to try going from the local to the global and here I think we need to have a two-way strategy, because we need to see both views. I'm quite clear about this because one plus one doesn't always make two; sometimes it makes three, sometimes just one. So let's make sure we take account of all degrees of experience.

Thank you to the other speaker who mentioned the Lisbon Strategy because I forgot to say something about that in my speech. For me, one good reason for Europe to move on this subject is the

Lisbon Strategy, because if we're only going to use GDP as it's designed today to evaluate the outcome of the Lisbon Strategy, it will turn out all wrong because it will not serve as a good measurement of the sustainability of our growth. It will not take into account the added value of the knowledge society and so on. And I would even say this need has been increased by the decision rightly taken by the head of states and governments last March under Chancellor Angela Merkel, when it was decided that the EU would take an initiative in terms of energy and environment. If we want to be coherent with this strategy, then it is certain that we cannot measure the results of this strategy if we have a GDP that does not completely take into account the externalities of some spending. And we need a good tool that reflects the results and progress we make in terms of the environment, but also how we deal with public goods – and here fair distribution of wealth and the social aspects are very important.

- **HE Chief Emeka Anyaoku**

WWF

In all the discussions we've been holding today it's clear that we are talking about Europe and the developed world. Because some of the theses put forward here can be easily challenged in the context of the developing world. However, I do not want to go into all that; I just want to say that we should be aware of the fact that the focus for our discussion is Europe and the developed world. But be that as it may, may I comment briefly on what the gentleman there said about the quality of information, the quality of the knowledge that we get. I think that in trying to measure progress and well-being, there should be careful selection of the information and knowledge on which such measurements are based, because we do now have a surfeit of information and knowledge – some of it relevant and some of it irrelevant. I'd just like to underscore that point.

- **Pier Carlo Padoan**

OECD

These are two very important points. I certainly share the view that there are several very important places where information is produced: from the business sector and from society. So from that point of view we have to go from local to global and vice versa, but we also have to go from macro to micro and vice versa. After all it's not just beyond GDP but also below GDP that we need to look. And that is an enormous task for the reasons I gave earlier. We need to trust that data just as we need to find comparable ways of producing new data. This is a daunting task, but it is necessary. I hope international organisations can help with their expertise.

From the Lisbon Strategy we have finally understood that knowledge is a powerful driver of growth – even GDP growth, let's admit it. The point is how we use this wealth of information. We need to adjust that information, and we need ways of scrutinising it and translating it into policy action. From that point of view I fully share the sentiment of your remarks.



Opening Speech of Day 2





Hans-Gert Pöttering

President of the European Parliament



Opening of Day 2

Ladies and gentlemen,

I am delighted to be able to welcome you here at the European Parliament today as one of the organisers of this “Beyond GDP” Conference.

For this conference – which has been organised jointly with the European Commission, the OECD, a number of civil-society partners, the Club of Rome and the WWF – there could, in my view, hardly be a more appropriate venue than the European Parliament, where the citizens’ directly elected representatives take responsibility for our common future.

Although this conference will focus mainly on technical and scientific questions, as President of the European Parliament I would nevertheless like to look at what the theme of the conference means for the lives of all of us. After all, how we are to measure progress and prosperity is much more than just an issue for economic experts to examine.

I agree that we must leave the actual definition of the measurement instruments to the experts – but the questions about the effects of, and the need for, new indicators go quite a lot further.

Let us take a current example: just last Saturday in Valencia the United Nations Intergovernmental Panel on Climate Change (IPCC) presented the last part of its climate change report. The report is a severe warning about the worldwide effects of global warming. More clearly than ever before, the report identifies human beings as the cause of global warming.

This incontestable fact shows us that economic growth is after all in part also linked to irrevocable negative effects on our environment. Production, which has been rising for decades and which we have always sought to increase, is not a sign of equally continuous progress.

Economic growth alone is not synonymous with prosperity and citizens’ well-being. Prosperity cannot be measured only on the basis of purely economic indicators, other factors must also be taken into account. Prosperity and how we define it is a truly multidisciplinary matter, and that is why it is so important that today so many representatives of civil society, and of economic, social and environment-policy interests are taking part in this discussion.

The current debate is crucial for the long term and concerns us all. Much more than just statistics is at stake, because the indicators which we select and apply to accomplish our daily work also reflect our way of thinking and our objectives.

We therefore need more than just growth indicators; we need indicators and bases for measurement which fully reflect economic reality, the situation of our environment and the social reality of our society, and which can therefore be taken into account in shaping policy.

The English philosopher Jeremy Bentham (1748-1832) once said something which seems particularly apt today: *“The greatest happiness of the greatest number is the foundation of morals and legislation”*.

In the same vein, does seeking a consensus on the correct prosperity indicators not at the same time also mean establishing a consensus on our political and social goals?

The key issue must be what we wish to achieve for our society, what we would like to attain for our future and for that of our grandchildren.

In common with the whole world, the European Union faces major challenges: globalisation, a lack of social cohesion, the impact of immigration

on social balance, environmental pollution and climate change. All of these significantly affect our citizens' well-being in demographic, social, migration-policy and environmental respects.

I am convinced that it is globalisation that offers major opportunities for the European Union, if we shape it actively and sustainably. But it clearly also has side effects which we cannot just ignore.

As politicians and those bearing responsibility in society, it is our duty to face up to this challenge and to systematically incorporate it into our legislative work.

From the outset it is therefore important to be aware of the underlying assumptions of the current debate – i.e. beyond GDP.

We must start by realising that for too long we have equated merely increasing GDP with prosperity. Concentrating for decades on this one economic indicator has to a certain extent been misleading.

Prosperity is after all not just growth. Rather, it is an overall sense of well-being which encompasses mental and physical health as well as environmental and economic factors.

And prosperity is also brought about by reconciling human beings with their natural heritage, with a clean environment which is managed sustainably and socially, and with their cultural wealth.

We are not alone in having to change our entire way of thinking: the group of the world's leading industrial nations, G8, originally met to discuss purely economic matters but now deals with issues such as climate change and the effects of migration.

While noting that worldwide growth has been continually increasing since the 1950s, we must also note that we have not been taking into account pollution and hence the destruction of our own living and working environment.

With more people than ever before suffering from asthma or allergies as a result of urban pollution, can we seriously say that our prosperity has increased just because the economy is growing?

With climate change accelerating and millions of people facing the threat of violent storms

and floods, we are now already beginning to pay a high price for polluting and damaging our environment. And the longer we wait, the higher that price will be and the more our health and safety will be at risk.

And so we really must think beyond GDP, and find new and additional guidelines for our policy work.

It is not a question of production itself, but of how we produce and what effects that has on the human race and the environment.

The title of your conference also reminds us that in the European Union we must shape policy on the basis of our common values – with human beings at the centre.

I am unshakably of the opinion that the European Union is far more than an economic joint venture. We bear extensive responsibility for the balance and well-being of European society.

A central component of this idea is that the European Union is a community of shared values. Those values include the right to a clean and healthy environment, protection of creation as handed down to us and people's overall well-being.

Over recent years the public has indeed become noticeably more aware of the consequences of irresponsible and ruthless growth. Almost 90% of European citizens are worried about the effects of climate change.

But by undertaking reforms to create an eco-social market economy based on environmental protection, social cohesion and market economics as the cornerstones of a strategic triangle, the European Union has embarked on a course with a future in terms of ensuring sustainable development.

This future survival model requires support for sustainable production and consumption patterns in order to effectively separate economic growth from environmental damage. It is in every respect a strategy through which everyone involved can win and which also corresponds closely to the European model of society which, in addition to the free market, is mindful of the social and ecological dimension. The EU Reform Treaty has also made prosperity in the comprehensive sense an explicit objective of the European Union:

Conference

Above all, the EU strategy for sustainable development aims to continually improve the quality of life and well-being of the present and future generations on this earth.

The European Union has made a good start to implementing the principles of sustainable development; for example, the new orientation of the Lisbon Strategy for growth and development marks a specific policy implementation of the above-mentioned strategic triangle of the eco-social market economy.

Under the renewed Lisbon process, important initiatives have also been taken in the social sphere and on environmental protection; thus the European Union is endeavouring to support all three components equally.

In the resolution which it adopted in 2006 on the strategy for sustainable development, the European Parliament also took the view that when measuring progress in society the importance attributed to GDP should be balanced by taking equal account of qualitative aspects of progress – i.e. quality of life,

health, education and culture as well as integration and environmental quality as basic prerequisites for sustainable development.

We also have a moral obligation vis-à-vis future generations to carry out an honest and comprehensive assessment of the effects of our human actions. And let me repeat the key principle: we must look beyond pure production. We must not close our eyes to the long-term effects of our actions and thereby commit subsequent generations to paying the price for them.

I therefore welcome and fully support this conference's initiative of working out a consensus on what prosperity means and how it can be measured. As legislators we need these guidelines, this set of indicators, in order to be able to base our policy work on appropriate information.

If we succeed in adapting our definition of progress and prosperity to the altered framework conditions, it will then be easier for us to take the next step and make our production methods more sustainable.



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But to undertake this work by fumbling around in the dark would not be in keeping with the responsibility which we bear as politicians for our society and above all for its future.

Now we at the European Parliament are not all scientists, although fortunately we do have in our midst a number of engineers and excellent specialists from a wide variety of scientific fields. But as politicians we have to take decisions which affect all areas of society.

A consensus on future indicators therefore has to be reached quickly. Precise and reliable data are essential, and in order to be able to fully meet their purpose they should cover all aspects of human life. We need as accurate as possible an overview of the social developments of our time and of rapidly changing environmental phenomena. We must be able specifically to ascertain whether the European Union really is moving towards an economy which is sustainable in the long term.

At the beginning of my speech I referred to the huge challenge of climate change for the whole of humanity and mentioned the fourth and final part of the United Nations Intergovernmental Panel on Climate Change (IPCC) report, which has just been adopted in Valencia.

The report provides us with confirmation that global warming is clearly taking place and that human action could result in abrupt and irreversible changes on earth.

We need to act quickly. Our next and best opportunity for doing so is the forthcoming UN climate conference in Bali. On behalf of the European Parliament I call upon all Member States of the United Nations to do everything they can to prevent the Bali climate conference from failing.

We must face up to the challenge of climate change and resolutely combat this problem.

As the European Union, we must point out ways of moving away from the production methods which up to now have damaged the environment. But that does not mean having to forgo

growth and prosperity. We must prove to our partners around the world that it is possible to sever the link between economic growth and higher CO₂ emissions.

The forthcoming UN conference now provides an opportunity for the global community of states to formulate a comprehensive and binding response to the challenges of climate change.

The European Union must show strength of leadership in Bali. Above all, we must succeed in bringing the United States, China and India to the negotiating table. In this connection I was struck and encouraged by the fact that the United States also welcomed the last part of the IPCC climate change report.

For its part, the European Parliament last week presented a comprehensive proposal for the UN conference in Bali, based on the report by its non-standing climate committee. The report indicates practical ways of limiting the global temperature increase to 2° Celsius.

But the report also calls for a negotiating mandate with a precise timetable. In Bali we must not miss the opportunity of taking a decisive step towards a successor to the Kyoto Protocol.

You are assembled here to devise something which we all urgently need: new indicators for measuring and assessing how we live, our prosperity and well-being. This is about much more than numbers and dry statistics. It is about the foundations for shaping our future correctly. Policy can shape things in the right way for the future only if the foundations are present in the form of meaningful and comprehensive data.

Climate change is only one example – albeit one of the most compelling – of how we need more data than just measurement of pure economic growth. New indicators are indispensable if we want to think about and shape the future.

Accordingly, I wish you all and this conference much success and fruitful further work.

Thank you for your attention.



Session 2

Insights from practice





Carole M. Laible

President and Chief Operating Officer,
Domini Social Investments

The Power of Money

Thank you for the opportunity to speak with you today. I would like to take a few moments of your time to discuss the impact of corporations on well-being.

Let me begin with a story from the early 1980s. A pharmaceutical company knowingly distributes HIV-tainted blood to hemophiliac patients. The short-term benefit is that they do not have to destroy inventory they have already paid for. The long-term effect is that they sicken thousands of patients, create huge medical expenses and to date, costs hundreds of these patients their lives. The resulting litigation drains the corporation of time, money and focus for years on end.

How did this happen? What drove this company to knowingly distribute tainted blood? The pressure to meet short-term numbers induced senior managers to externalize the cost of the bad blood, selling it to unknowing patients, rather than bite into their bottom line. This action helped them meet the short-term "success" demanded by the financial markets, but failed to recognize the long-term impact on the company and society.

For many decades, those of us in the socially responsible and sustainable investing communities have recognized that the wealth corporations create is more than stock price. We have known that it is not enough to simply accept the stock price that is provided every minute of every day, so easily and conveniently. If we are to understand the true value of these corporations we must hold them accountable to the negative externalities they produce and reward them for the intangible wealth they create. But, analysis depends on data. What is disclosed is measured and what is measured is monitored. Gathering the data necessary to measure and evaluate these positives and negatives is no easy task and has required tremendous efforts. It is my hope that the insights we've gained from our years of looking at and understanding companies and their businesses will be useful as you go about your important work.

At Domini, we have created a process to evaluate potential investments using information not currently considered by the financial markets. In order to provide transparency in this process, we have created and published our global investment standards. We believe that companies will succeed and prosper in the long run when they do the following, among other things:

- Produce high-quality, safe and useful products
- Enrich the ecosystems on which they depend
- Invest in the health and development of their employees
- Treat their investors and lenders openly and transparently
- Strengthen the capabilities of their suppliers
- Contribute to the local communities in which they are located

To complete our evaluation, we begin with third-party social and environmental research; we then begin our proprietary research process which includes continuous in-depth media searches, review of publicly available company documents including regulatory filings and sustainability reports, communication and dialogue with the companies and their key stakeholders, such as labor unions, community groups, and non-governmental organizations. This process helps to build the demand for data on corporate social and environmental performance and to communicate our expectations to corporations and other investors.

We then create partnership and join powerful coalitions, such as the Carbon Disclosure Project, which is a group of investors with cumulative assets of \$41 trillion, to collect and distribute information on the business risks and opportunities presented by climate change and greenhouse gas emissions data from the world's largest companies. This year, to complement the effort of this organization, my firm wrote to nearly 200 companies around the world that failed to respond to the Project's annual survey. We received 19 responses, with

six respondents committing to completing to the survey next year. We consider it a success that six very large companies are willing to provide this valuable data understanding that it is important to us as investors.

On labor issues, our firm approached Gap to request a public report that would quantify the progress they are making to improve labor conditions in their global supply chain; they told us it was impossible. We were able to convince them otherwise. The resulting report not only set a new standard of transparency for the apparel sector, it has served as a model for companies in other industries. This report was then followed by work at the Global Reporting Initiative to include a sector supplement on global supply chain labor standards.

Responsible investors have achieved what others have not. We have measured the intangibles of the corporations in which we invest, created portfolios of companies which create wealth beyond stock price, and enjoyed competitive returns.

We've made real progress. But, let's not exaggerate our accomplishments. Change at a macro level is critical because ESG factors are generally long-term. They frequently focus on issues where risk and reward are best measured in

years and decades, rather than months and quarters. In a world where institutional money managers and investors are forced to rely on stock price, a shift to long-term thinking is difficult. And since it seems that the world follows the investing style of institutions that manage money on a full-time basis, systemic change becomes impossible. Incorporation of different measurements on a macro-level, will force institutional managers away from stock price, and by default, reduce the short-term, shallow analysis which is commonplace today. Then, companies will begin to seek ways to add value rather than detract value recognizing that these practices will be rewarded by the financial markets.

Without macro-economic measures of long-term value creation, ESG-based evaluations will remain boutique. To be truly mainstreamed, macro-economic criteria need to be adjusted to 1. measure the impact of positive intangibles and negative externalities to society, 2. incorporate these into current GDP, and 3. ensure that the public understands these new metrics

ESG-based evaluations have started the process. Let us follow the path to building a financial services system that supports the creation of universal human dignity, ecological sustainability and financial wealth.



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Nicole Notat

President Vigeo Group

I'm going to talk to you about my company's business, namely the exercise of measuring tangibility and effectiveness in the action programmes and strategies of companies with the aim of incorporating social, environmental and societal factors into their activities and their traditional business relations.

Before speaking to you more precisely about this activity, I should clarify the philosophy which presided over the construction of the objectives benchmark and also the method of analysis.

Our analysis is exactly the same as what I have just heard, namely that companies today are being called upon more and more to think about their creation of wealth and values in the long term. They are also increasingly being forced to internalise objectives that in the past they perhaps externalised more to other companies and territories, to those parties concerned by their activities and decisions.

We therefore consider that it is definitely a challenge to provide investors and asset managers with information and useful analysis for their investment choices, but also behind this analysis is the idea that, by incorporating these social and environmental factors in their own performance factors, companies will open up new opportunities for themselves in innovation, creation, growth and potential new activities, and that, conversely, in neglecting these factors they are taking risks for themselves: risks of reputation and attractiveness, and legal risks. Consequently companies too have every interest in joining this movement.

Whoever says measuring a company's performance in social, environmental or societal terms means clarification of the objectives benchmark used to analyse companies and the choice of a method of analysis that is as robust and indisputable as possible. It is important for the objectives benchmark, for companies currently carrying out most of their activities at world level, to be based on objectives that are universal in scope and valid wherever the company is operating in the world.

But we know today that there are still not enough standards guiding and illuminating companies as to the nature of the objectives that they are to pursue and as to the nature of the indicators and the reporting that they must carry out.

We therefore made the choice of gathering together what exists today at international level that is more comparable, and more accepted by everyone, such as the principles of action, the recommendations, the standards laid down by the International Labour Organisation, the UN and the OECD in its recommendations to companies. From that, we have a set of principles of action at social and environmental level on market relations with suppliers and subcontractors, on territories, which make it possible to identify objectives on the basis of which to analyse and position the company.

Once this analysis and objectives benchmark has been established, it must of course be sectorised. All criteria and principles of action are of value only in terms of their relevance and their sensitivity to the professional sector in which the company operates. And for us the method of analysis – it is a choice – aims to measure effectiveness beyond the indicators of results, which are indicators that we produce, and also to measure the efficiency of the company's managerial system, i.e. to have indicators of the relevance of the objectives pursued by the company at social, environmental and societal level, to have indicators of the coherence of their deployment within the whole managerial chain and on the company's entire range of activities and, finally, to have indicators of the quantitative or qualitative results of all these objectives.

You will understand that in order to carry out this work our fuel, our raw material, is information. And with the challenge of the reporting which companies are more or less capable of performing on all these objectives today, the question arises in time, I think, of a standard or a benchmark to facilitate the objectives on the basis of which to perform this reporting.

As things stand, we collect information from companies themselves, from what they have available, on which we can also question the company. But we also collect the information produced by all the parties involved in the company, either directly or indirectly, which allows us to compare different kinds of information and thus fine-tune analyses for the investors and managers interested.

In conclusion, I would say that today these data, and this information, contribute to the construction of indicators which report the relevance, effectiveness and tangibility of the company's action and its results on these social, environmental and societal factors.

You will be aware that, through a forum organised by ISO and the international standardisation bodies, there is discussion at international level about whether a standard should be constructed for the social responsibility and sustainability of companies. This work now exists and has been going on for three years already, although it is still far from being finalised. As you can imagine, this objective is very difficult to finalise. Incidentally, I mention this because it reflects the feeling today that it is necessary to move towards normative benchmarks in this field and towards indicators that are both relevant and comparable and can therefore guide the companies that are reporting on these points.

Thank you.



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Lothar Meinzer

Director Sustainability Centre BASF

Good morning, Ladies and Gentlemen,

From a company's perspective if we think of environmental responsibility, social cohesion, what comes to mind is the term CSR (Corporate Social Responsibility), which explicitly means mainstreaming environmental and social concerns into business activities to create added value.

If you look at companies, and you will see hundreds and thousands of them, they have integrated these environmental and social concerns via their Corporate Social Responsibility policies into their decision-making processes, into their management systems and into their reporting systems. So basically every company has integrated this concept into risk management in order not only to ensure that laws are respected but also to minimise material risk and to reduce '*reputational*' risk.

We have integrated CSR to enhance our business, to strengthen our brand image, to optimally leverage our resources and to generate beneficial business environments. And we also see that we can create new businesses by CSR, by accessing new target groups and markets, by new business models, by increasing our market differentiation by CSR and also by increasing our customer retention rates.

So there are hundreds and thousands of single and company specific experiences integrating non-financial performance indicators. Therefore we welcome the initiative of the Commission to initiate a so-called European CSR-Alliance which aims to draw on these individual experiences and try to bring them to a higher more comprehensive level. We are doing this by entering so-called laboratories where companies that have specific experiences in specific fields like demographic change, innovation, supply chain, etc. meet together with their stakeholders to move these issues onto a higher level.

I'm happy that there is one specific CSR laboratory which is run under the leadership of Lloyds TSB and Telecom Italia together with other companies and stakeholders. It deals with the issue of market valuation of financial performance and non-financial

performance. The objective is to identify core areas of non-financial performance that are important to both companies and investors. They want to identify broad metrics for each of these core areas that are applicable to companies across markets and sectors. They want to establish the linkages between the measurement of non-financial performance and financial performance. They will explore strategies for managing and communicating this performance in the core areas as well as include the linkages to widely used management models. So the European CSR movement and the European CSR Alliance is the key actor to bring forward these issues that are being discussed here today.

Let me, in the second part of my presentation look at a few examples in a single company, namely BASF, and look at how we integrate non-financial considerations into measuring, into decision-making and into reporting.

Let me first tell you that we are really not short of indicators. This applies at company level, community level, and national level; the indicators are there.

For companies for example we look at global reporting initiative indicators, the so-called G3 guidelines at the moment, which give a balanced picture of economic, environmental and social indicators. We report on these indicators, and we measure these indicators, as you see on the left side of this chart. We give an extract of these indicators in our annual report on a very prominent first page as BASF key data. So there's no problem about indicators.

The question is how you use these indicators, and I want to give you two or three examples of that.

The first example is what we at BASF call 'value-based management' or abbreviated VBM! It is our company's steering principle and our tool to implement the strategic guideline "We earn a premium on our cost of capital". VBM is focused on our key financial indicator, the EBIT after Capital

Cost. It is derived from the cost of capital concept. To implement this focus on value into the organization, we use the value drive concept, which provides a methodology to create awareness for key drivers of value for BASF. It recognises the fact that there are other indicators, that there are various value drivers that in the end drive the value of the whole company. And by integrating these so-called value drivers into our value-based management, we try to integrate financial, non-financial, environmental and social indicators into that chain. These two concepts, the value-driver concept and the cost of capital concept, are supplemented by a third key VBM element, the link between the strategically aligned value drivers and the target agreement process. The last element makes sure that VBM is anchored concretely in the organization. So this is a management system that relies upon financial and non-financial indicators and the measurement of these indicators.

The second example is a tool. Based on indicators you have to develop tools to measure things. BASF for example has developed what we call the 'eco-efficiency analysis tool'. This tool is a key tool for our internal decision-making processes when it's about decisions on the future products and processes we use. And with this eco-efficiency analysis tool we are able over the whole lifecycle to assess both the total cost and the total environmental burden of a product or a chemical process in this case. And we are able to compare different solutions in order to be able to decide upon which is the most 'eco-efficient' solution for a specific challenge. This is on the left side of the chart where you see the classical eco-efficiency analysis based on cost and environmental burden. We have developed this instrument further into what we now call SEEBalance tool. This tool also includes social indicators to give us a complete picture based on the environmental effects, on the finan-

Beyond GDP – Insights from practice



Corporate Social Responsibility means mainstreaming environmental and social concerns into business activities to create added value

Sustainability areas of action



Contribution to a company's success

- Access new target groups and markets
- Increase market-differentiation
- Increase customer retention
- Strengthen brand image
- Optimally leverage resources
- Generate beneficial business environment
- Ensure that laws are respected
- Minimize material risk
- Reduce reputational risk

European CSR-Alliance Partnership to enhance CSR in Europe



Launched in March 2006 by the European Commission the Alliance is based on two commitments



- That the European Commission and Member States strengthen a business friendly environment in which enterprises can flourish and grow
- That - through a CSR voluntary approach - more enterprises in Europe and internationally will further learn and innovate with regards to their governance, management, stakeholder dialogue and product development.

→ „Laboratory Meetings“ have been established in order to work on defined challenges (e.g. demographic change, innovation, supply chain)

European CSR-Alliance Laboratory “Market valuation of FP and NFP”



Objectives

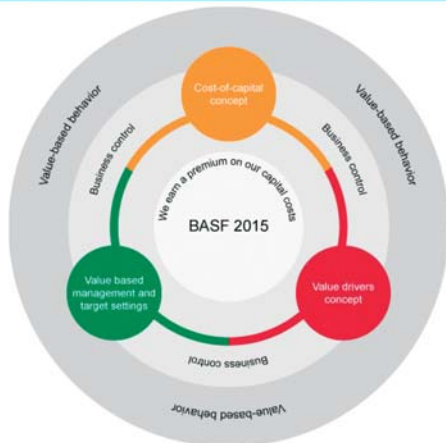
- Identify **4 or 5 core areas of NFP** that are important to both companies and investors through research with these entities and analysis of current literature and developments
- Identify **broad metrics** for each core area that are applicable to companies across markets and sectors
- Establish the **linkages** between these measures of NFP with FP
- Explore strategies for **managing and communicating performance** in the core areas, including linkages to widely used management models

Deliverables

- A **comprehensive review** of critical areas of non-financial performance and the contribution to financial performance, a **management framework** and a **declaration of principles and recommendations**



Value-based management at BASF

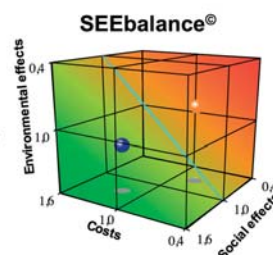
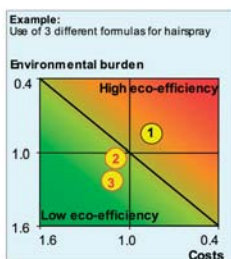


cial effects and on the social effects of a product or a process and therefore it is our key decision-making tool in strategic planning.

And the third and last example is what we depict in our annual report as BASF's 'value-added statement'. And this value-added statement is based on a classical financial balance sheet but it looks at how we spend the value we have created. Who are the stakeholders that benefit from this value we have created? You see it's about value created for employees, for the state in the form of taxes, for the shareholders, and for the creditors.

So let me conclude by saying: the indicators, the measuring tools, and the management systems are there. Now it's all about integrating. This goes at company level and I am happy and proud to say that from next year BASF will integrate its financial, environmental and social reporting into one company report. This demand for integration should also apply at the level of states. If I look at the European Lisbon Growth Strategy, if I look at the European Sustainable Development Strategy, if I look at the European CSR Strategy, I see that there too the missing link is integration.

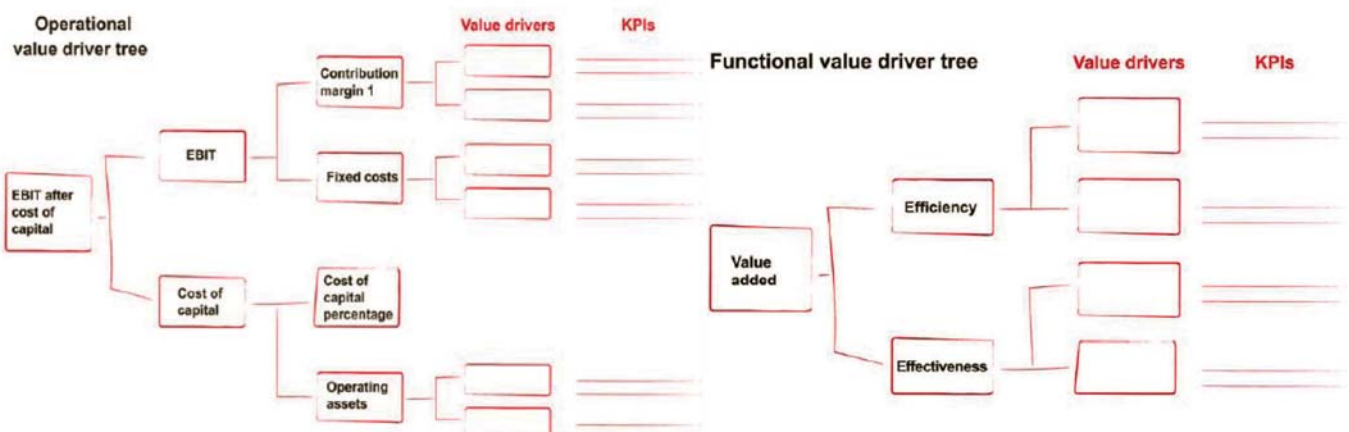
Measuring non-financial aspects From eco-efficiency to socio-eco-efficiency



- Strategic instrument for internal decisions.
- Economic and ecological advantages and disadvantages of products and processes are jointly considered and compared.
- Entire lifecycle taken into account.

- Integration of the Social Dimension into the Eco-Efficiency Analysis
- Integrated assessment of economic, ecological and social aspects of products and processes

The Value Driver Tree Concept



Non-financial aspects in BASF's reporting

Key Data/GRI



Key Data BASF Group

Economic data

	2009	2008	Change in %
Sales	52,610	42,745	23.1
Sales by region (location of customer)			
- Europe	29,029	23,795	24.2
- North America (NAFTA)	11,062	8,865	24.8
- Asia Pacific	11,522	9,479	21.6
- South America, Africa, Middle East	8,102	6,500	24.6
Income from operations before depreciation and amortization (EBITDA)	3,467	3,011	14.8
Income from operations (EBIT) before special items	9,723	8,233	18.1
Income from operations (EBIT)	7,267	6,138	18.2
Income before taxes and minority interests	6,790	5,880	15.5
Net income	6,527	5,926	10.1
Earnings per share	3,215	3,007	6.9
Dividend per share	6.37	5.73	11.2
Equity ratio	3.00	2.00	50.0
Return on assets	41.0	49.1	-
Return on equity	17.5	17.7	-
Research and development expenses	1,277	1,084	20.0

Environment, safety and product stewardship^a

	2009	2008	Change in %
Operating costs for environmental protection facilities	627	623	0.5
Investments in environmental protection	116	76	48.7
Emissions of greenhouse gases (CO ₂ equivalent) ^b	25	24.8	0.8
Emissions to air (air pollution) ^b	49.1	50.9	-3.5
Emissions to water ^b c1. - Organic substances	32.8	44.2	-25.8
- Nitrogen	6	9.8	-37.8
- Heavy metals	35	45	-22.2
Transportation accidents	0.45	0.47	-4.3
Number of environmental and safety audits	90	83	8.4

Social responsibility

	2009	2008	Change in %
Employees as of December 31	95,247	90,345	11.7
Turnover as of December 31	2,280	2,230	2.2
Research costs	6,270	5,274	11.4
Donations and sponsoring	67.2	56.8	18.3
Annual bonus	73.5	75	-2.0
Lost time accidents ^c	1.67	1.78	-6.2
Occupational diseases	0.3	0.4	-25.0
Number of occupational medicine and health protection audits	28	31	-9.7

^a Including companies acquired in 2008.

^b Including emissions from oil and gas production



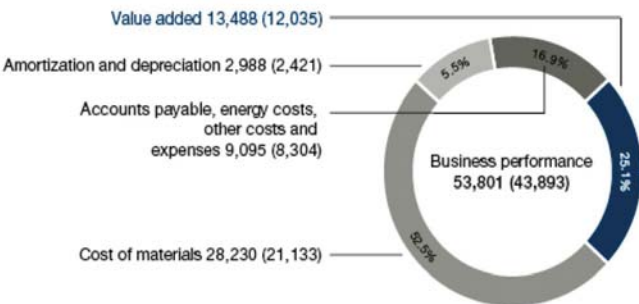
GRI Index	Indicator
GRI Reference	
General	
1.1	Sustainability vision and strategy
1.2	Chief executive statement
Profile	
2.1, 2.2-2.8, 2.9, 2.10	Organizational profile
2.11, 2.12, 2.13, 2.14-2.16	Report scope
2.17, 2.18, 2.19, 2.20, 2.21, 2.22	Report profile
Governance structures and management systems	
3.1, 3.2-3.5, 3.6-3.7, 3.8	Structure and governance
3.10-3.12	Stakeholder engagement
3.13, 3.14-3.16, 3.18, 3.19, 3.20	Policies and management systems
Economic performance indicators	
EC1, EC2	Customers
EC3	Employees
EC6-EC7	Providers of capital
EC8, EC10	Public sector
Environmental performance indicators	
EN3, EN 17	Energy
EN5	Water
EN6-EN7	Biodiversity
Emissions, effluents and waste	
EN8-EN10	Greenhouse gases, ozone-depleting substances, air
EN11	Total amount of waste
EN12	Water
EN13	Significant spills
Products and services	
EN14	Products and services
EN16	Compliance
EN35	Total environmental expenditures
Social performance indicators	
Labor practices and labor quality	
LA1, LA12	Employment
LA3, LA4, LA 13	Labor/management relations
LA5-LA6, LA7	Health and safety
LA9, LA16	Training and education
LA10-LA11	Diversity and opportunity
Human rights	
HR4	Non-discrimination
HR6, HR7	Child labor, forced labor and compulsory labor
Society	
SO1, SO4	Community
SO2	Bribery and corruption
SO3	Political contributions
SO6, SO7	Competition and pricing
Product responsibility	
PR1, PR6	Consumer health and safety

BASF's value-added statement in Annual Report

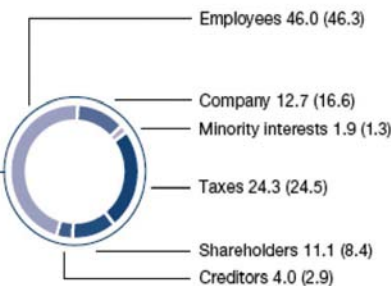


BASF
The Chemical Company

Creation of value added
(Million €, previous year's figures in brackets)



Use of value added
(%, previous year's figures in brackets)





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Stephen Pursey

Head of the ILO Integration Department,
International Labour Organization

Thank you to the organisers of this very stimulating conference for the chance to discuss the challenge of measuring decent work.

Employment figures prominently in the classical measurement of GDP – and as Professor Frey say yesterday, it is also a major determinant in people's assessment of their overall happiness. It's a vital input to production and central to our sense of identity, self-esteem and social relations.

Workplaces are – if you like – where the values of the market meet those of society. Furthermore, progress in making work less physically demanding and more materially rewarding has been closely linked to the replacement of human effort by machines, and thus the use of natural resources. So the quantity of work available and its quality is thus very high on political barometers of what people expect from their leaders. And these are global phenomena; the aspiration for decent work is universal.

Now progress towards decent work first depends on the freedom of women and men to express their concerns, to organise, to defend their rights and to participate in the decisions that affect their lives.

Second, it requires opportunities for work that is productive and delivers a fair income, and that in turn must be built upon entrepreneurship and enterprise, and an enabling environment for investment.

Third, it calls for action to promote security in the workplace, decent conditions of work and social protection for families.

And fourth, social dialogue – or labour management relations as they say in the United States – between representatives of governments, trade unions and employers' organisations is both an aim in its own right and a means to achieve the overall goal.

Now this approach to decent work, as well as being the mission of the ILO, has also been endorsed

by the UN Summit in 2005 as a global goal, central to the shaping of a fair globalisation, and by numerous other regional meetings including the European Union and last summer the G8. It's also part of the millennium development goals as a key driver of poverty reduction.

Measuring decent work thus requires indicators that capture both the more easily quantified dimensions and for example the quality of governance systems. I'd like to draw your attention to five major challenges:

The first is that unlike Europe and most members of the OECD countries, many developing countries have much weaker data, particularly on the more qualitative dimensions of decent work. Support for the collection and analysis of labour statistics has not been part of the development assistance portfolio of European countries, but I hope that some of the ground-breaking work we're doing with the support of the European Commission means that it will be in the future.

Second, some of the classical labour market indicators were developed mainly by already industrialised countries and have less value to many developing countries. For example, in countries with no unemployment benefit system, women and men have to find some sort of work. The over-supply of labour leads to a large number of people working unproductively for very low earnings. However, the strict definition of unemployment includes the stipulation that a person worked for more than one hour in the previous week. So we need a broader measure of labour underutilisation that includes not only being completely without work, but also the situation of casual labourers who may wait for days at the crossroads before picking up a few hours work, or street traders who may sit with their wares all day and make only a couple of sales. We do not have an adequate picture of the size of decent work deficits, either globally or nationally. And this means that inadequate attention is given in poverty reduction strategies to improving the quality of employment.

My third point is that more and more developed countries are supplementing their quantitative data on employment with surveys of perceptions. In Europe we have data on the percentage of employed people who *think* it is very likely or quite likely that they will lose their job in the next six months. This perception of insecurity is an important determinant of well-being and likely affects behaviour. Incidentally in 2003, nine percent of respondents answered 'yes' to that question in the EU25. Few developing countries have such types of vital information. ILO could help to disseminate best EU practice on such opinion surveys.

My fourth point is that a strategy for improved global information on progress towards decent work must focus on equipping national policy-makers with the information they need to determine and assess policies. These considerations suggest that the way forward is to develop a methodology for country profiles on progress using a comprehensive global template of the dimensions of decent work. Not all countries will have data for all dimensions but they may be able to gradually build up these information sources. Furthermore, numerical data will usually need an accompanying narrative to provide a context for assessing progress.

My fifth and final point is that if we are to undertake the considerable restructuring of produc-

tion and consumption needed to adapt to and mitigate climate change, there will also be a need for a major transformation in the world of work: job losses as well as job gains. Intelligence strategies will need much more information about what constitutes sustainable employment in the environmental sense and economically and socially. Now the ILO Governing Body last week endorsed proposals for a green jobs initiative to support workers and employers, and governments through this transformation. Again, industrial countries will need to support the developing world in this approach and Europe is well placed to take the lead.

To sum up, decent work embraces the multiple dimensions of what makes work valuable to individuals, communities, companies and countries. The ILO has the responsibility within the UN system for labour statistics and we need your support in addressing the challenges of finding new ways to measure decent work and expanding collection of the basic necessary statistics. The decent work concept bridges the economic, social and environmental pillars of sustainable development. Partnerships are thus vital in broadening the measures we have to assess progress and ensure that we can connect them in ways that enable policymakers not only to balance the trade-offs but perhaps more importantly to spot and exploit the trade-ins. Thank you very much.



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• Hazel Henderson

Club of Rome,
Chairwoman of Session 2

Good morning. The panel this morning will pick up from a question that came up at the end of the session last night, namely about what is business doing and about finance. I have been involved in this area for many years and so what we want to talk about is just to give you an idea of all the businesses and the financial institutions, as well as organisations like the ILO, that are already incorporating social and environmental indicators into the way they manage assets.

So we have a wonderful panel this morning and we'll get into it in one moment. There was one gentleman from Ghana who was unable to join us and we are sorry about that. But what we are going to do is basically look at some of the examples from the financial sector and the business sector where these companies already do what we call 'triple bottom line' investing. These are just examples of some of these companies. Now many of them have come together in organisations, and pension funds representing many trillions of dollars and now using what we call enhanced analytics for risk management. So since the micro-economists and the accountants have been doing this already at the level of the firm for nearly 20 years, is there really any reason why we cannot accelerate the process of incorporating this triple bottom line analytics into GDP?

So basically, why do we do this kind of analytics? Because they avoid risk, and whenever you internalise social and environmental costs into your balance sheet you are protected from unavoidable risks. The new book 'The Black Swan' is really about this so that's why we do it in management.

Personally I have been concerned about this issue for 30 years so I am very delighted to be here. I think that what we are talking about here is that the information age has now become the age of truth and all NGOs now can see when companies don't perform for the environment and for social purposes, and so we have a lot of new ways of keeping companies accountable. Now we are moving on to changing GDP at government level.



Ms Hazel Henderson



Beyond GDP

Examples of Financial Firms Using Enhanced Accounting and Risk Analysis

- Global Reporting Initiative, Amsterdam, NL
- Innovest Strategic Value Advisors, International, Toronto
- Domini Social Investments, USA
- Vigeo, France
- Sustainable Asset Management, Zurich
- Calvert Group, USA
- Swiss Reinsurance, Zurich
- Generation Investment Management, UK
- EcoSecurities, Brasil & UK
- ASRIA, Hong Kong
- Friends Provident, London
- Triodos Bank, NL and UK
- Rabobank, International, NL



Beyond GDP

Finance Groups Promoting Enhanced Environmental, Social, Ethical Reporting

- UN Global Compact – 3000 companies worldwide
- UN Principles of Responsible Investment – \$10 trillion in assets
- Carbon Disclosure Project – \$41 trillion in assets, UK
- CERES – \$3.7 trillion in assets, USA
- The Equator Principles – used by banks worldwide
- Social Investment Forum – \$2.3 trillion in assets with over 500 member practitioners and institutions, USA
- ChinaCSR.com – reporting on corporate social responsibility
- Instituto Ethos – member companies total 37% Brasil's economy
- Environmental Markets Association, UK
- Enhanced Analytics Initiative – \$2.5 trillion in assets, UK

Beyond GDP

Enhanced Analytics Avoid Risk

- Internalizes social and environmental costs and risks in company accounts and financing data
- Reduces "Black Swan" risks: "externalities blindness" see Nassim Taleb, *The Black Swan* (2007)
- Improves management foresight
- Improves overall corporate performance
- Enhances company brands and reputation
- Shifts production and technologies toward sustainability

• **Hazel Henderson**
Chairwoman

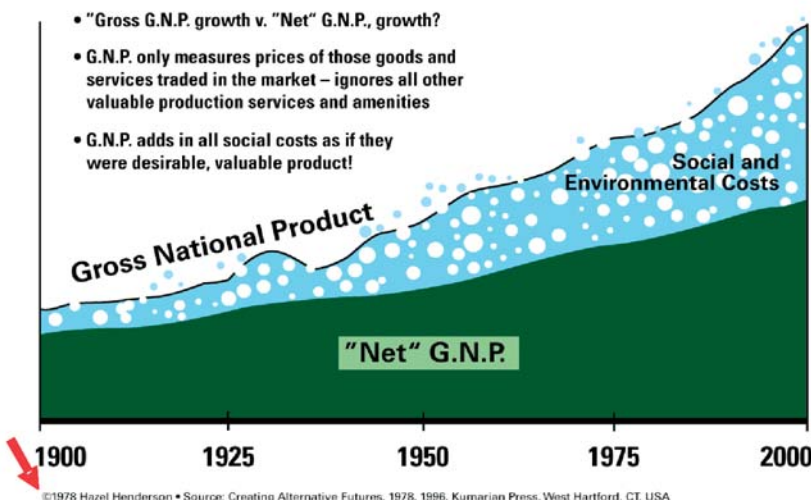
I would like to start by introducing my friend, Carole Laible, who is the President of the Domini Social Investment Group in Boston, and you will probably all have heard about the Domini Social 400 Index. So Carole, the floor is yours.

For speech by Carole M. Laible, see page 62.

For speech by Nicole Notat, see page 64.

For speech by Lothar Meinzer, see page 66.

Gross National Product Problems



• **Hazel Henderson**
Chairwoman

I'm very happy to introduce our friend from the ILO, which has been a leader in all of this kind of reporting initiatives. Mr Stephen Pursey the floor is yours.

• **Stephen Pursey**
International Labour Organization

Thank you Hazel and thank you also for all the support you've given to the ILO's goal of decent work and also for your own pioneering efforts in including employment in your quality of life indicators. I know that you're frustrated that public authorities are lagging somewhat behind the leaders in the business world.

For speech by Stephen Pursey, see page 72.

• **Hazel Henderson**
Chairwoman

So we would like to have a lot of discussion. I hope that we get lots of questions. And this green jobs initiative is I believe extremely important. In the United States most of the socially responsible companies that I work with and many of the pen-

Beyond GDP

The Information Age has become the Age of Truth

- Corporations have expanded their accounting to the "triple bottom line" of People, Planet and Profit.
- Now it is time for national accounts to conform by also internalizing social and environmental costs.
- Expanding national accounts can steer countries toward sustainability.
- Beyond GDP — Quality of Life
- Globescan Survey – 70% majorities in 10 countries agree

sion funds have joined in the green jobs initiative. My passion is growing the green economy and I think that it really comes out of this kind of new analysis. Once we internalise all those social and environmental costs at both the micro level of companies and at the macro level, then we have a way of steering our economies toward building this entire new sector.

- **Nick Marks**

New Economics Foundation

I really applaud the panel for talking about how we internalise the externalities but I think the challenge of well-being is to externalise the internalities. Products are often actually dependent on a cycle of dissatisfaction in that marketing tends to create needs and wants in people so that they don't actually have to try and sell more products. And if we're going to move towards a sustainable green economy then we need to actually think about the products that companies sell and whether those products are actually enriching people's experience of life. If they're not enriching people's experience of life and actually creating a sense of well-being in the way they live their lives, then however eco-efficient they are they're still not delivering public good for people.

I'm wondering whether in your investment decisions you look at the product and you look at what that product actually is. Do you look at the marketing of that product and whether it's creating false desires particularly in children? Are they being products that they don't need, that are not healthy for them?

- **Carole M. Laible**

Domini Social Investments

The short answer is 'yes we do'. We look at consumerism, marketing and advertisers and within industries we identify key concerns in terms of companies and marketing to children, and any issues of that sort. We do, and at industry level we determine what the key issues are.

- **Anders Wijkman**

Member of the European Parliament

One question is directed primarily at the financial community. The point was made by Carole that change at macro level is important otherwise responsible investment behaviour will not be the rule but the exception. And then I also think that Nicole Notat said that we lack global standards and frameworks. Now of course the private sector is not homogeneous, but heterogeneous. We have quite a number of voices from industry who are not really interested in reforms like this, and the whole debate on social responsibility has been very much at the European level – something of a voluntary nature, no mandatory rules, no mandatory frameworks, etc. Now apparently in this particular area when we talk about indicators and internalisation etc., we need things to happen at the macro level. Can you explain how you are dialoguing with ministers of finance, ministers of industry etc. because there you very often find resistance, because they know what they do and they don't know what new would be, so that's the question.

The other questions is: the architecture of business models today is by and large such that you earn revenue only by selling more volume; there are exceptions but most companies are rewarded that way. Walter R. Stahel has written a fascinating book called 'The Performance Economy' where he turns the whole thing around and says, if industries and companies offer services more than products you could move away from only looking at volume and look at quality, performance, etc. To what extent is that being factored into your deliberations?

- **Nicole Notat**

Vigeo Group

At this stage it's clear that, in terms of standards for sustainable development and corporate social responsibility for companies, as things stand there aren't really any standards for companies to judge their performance by and the same goes for investors. And maybe that's the responsibility of the market authorities; they could react to that – or alternatively the public authorities. At European level and internationally this is a whole area where I think more could be done. And I was involved in the environmental panel in France and there it was a pressing issue trying to establish standards and, trying to establish indicators. But it's true that as things stand we haven't yet managed to find a solution to this problem.

- **Vittorio Prodi**

Member of the European Parliament

I'm very interested in this conference because it is of vital importance for our future. So I have to say that I appreciate the idea of underlining the importance of intangible assets within companies. This is just the first step though; if we want to have really sustainable development we have to have a different kind of development that values intangible goods, rather than just intangible assets so that companies keep selling hard and material goods. So the Lisbon Agenda, the Lisbon Strategy, is important because we can create a different society that is more appreciative of immaterial goods. This is the change we have to make. That is, acknowledge that this kind of development, which is to some extent represented by GDP, is unsustainable. And so we have to find a consensus on a different way, on a different kind of development. That is why we need a change in culture because it has to be consensual. This is where we should be moving and this is what we need indicators for. But indicators mostly on immaterial development; to dematerialise our society and somehow a corporation is not enough. We need something much more profound, and I feel that in this sense Europe has the culture, and the spirit within this Parliament to lead this movement, this change. But I would say we need indicators of dematerialisation in our societies. Energy intensity is not enough. It could even be misleading because, by delocalisation, we might have pushed away energy intensive industries, perhaps toward less advanced countries causing much more environmental damage. We have to have indicators that incorporate this system of values and to measure the way toward this different development that would bring a higher civilisation than the present one.

- **Caroline Lucas**

Member of the European Parliament

I thank the previous speakers, and I have to say that I've been enjoying the conference. However, I must confess to a certain degree of mounting frustration. We keep talking about evermore important bits of data, like this very last most important bit of information about indicators. But it does strike me that we really do risk going down in history as the species that spent all its time monitoring its extinction rather than taking active steps to avoid it.

I think that my question is really about what are the obstacles to actually putting these debates about indicators into operation? What stops us actually implementing these ideas? Because in spite of all the very nice words I've heard from the businesses on the platform as a member of this political house, I have never ever once been bothered by a business who was asking me to improve standards, to be more ambitious in legislation. The message of a policymaker is always about diluting timetables, diluting targets, diminishing ambition.

And if I might offer an answer to my own question I think it is because in spite of the fact that we are still taking about supplements and complements to GDP, we are not really taking the bull by the horns. We are not saying: Is GDP in any case, in its own terms, actually telling us anything useful about people's increased well-being? Because there's so much evidence out there now that once a certain level of needs are met increasing GDP doesn't actually improve our life experience. And in fact beyond a certain level more and more GDP actually leads to more breakdown, more problems and so forth. And so in a sense I think that if we could finally understand that GDP isn't actually telling us anything very useful and that people's well-being is far more dependent on relative income than absolute income, we could start putting an important element of equity back into this debate and we could start making the policy space we really need to talk about, namely what companies really need to do to ensure that sustainability and equity are at the heart of the policymaking process.

- **Hazel Henderson**

Chairwoman

One of the new indicators for investors now is looking at whether companies lobby for higher standards or whether they lobby for lower standards. And so this is becoming an important investment criterion. Do companies really walk the talk, or do the lobbyists say something different about lowering the standards where publicly they talk about the good standards. I feel I ought to ask how do you see this at BASF?

- **Lothar Meinzer**

BASF

Just a brief addition or a comment to the previous speaker over here who said that most of the business models of today are based on selling more volume, which is not the experience that I have at least.

I just want to give you one example. BASF is in the B2B business and the aim is not selling more volume but creating more value for us and our customers. For example we are a big supplier of the automotive industry, e.g. plastics or coatings. But instead of selling a ton of coating, we are paid for the amount of coated cars, and within that business model, we are striving to use the minimum volume with the highest efficiency.

Regarding another aspect which has been raised before on a national level, I just want to point you to the German Sustainable Development National Strategy, which was released five years ago. It is based on measurable indicators of targets in four areas. I think this is a great example of going beyond GDP and these four categories are: inter-generational equity, quality of life, social cohesion and global responsibility, and these are determined by 21 measurable indicators. This is a good way to have another point of view on the wealth of the nation.

- **Francois Schneider**

Research and De-growth

What would be the decision if it turned out that an increase in ecological or social indicators, or societal indicators implied a reduction in economic activity? We were going to have a conference on this in April in Paris.

- **Stephen Pursey**

International Labour Organization

I think it's important to realise that statistical measures and indicators are tools for people to discuss and change things. So from an ILO perspective, the value of indicators is not necessarily that we get nearer to some higher truth; it's that people can actually use them to talk about ways to change what's going on.

I would say that the number one thing to do, if you have indicators which mean a company calls into question its economic sustainability or its

environmental sustainability, is to start talking about it preferably with the trade unions and get some agreement as to how to change things. You might either have to change to a different business model that can survive or to work for an appropriate solution. That will be at the level of the company, but I would suggest that the sort of things that we're aiming for would also enable you to have that sort of discussion at the level of a country about a development strategy. For example there seems to be quite a lot of evidence that insulating buildings is one of the most effective ways to reduce fuel use, by improving the conservation of energy. It also happens to be reasonably labour intensive, and most likely will require an upgrading of skills. So there's a clear win/win situation to be achieved by putting out these indicators and talking about what to do with them.

- **Marcello Palazzi**

Progressio Foundation

In a way the transition we are going through also touches upon what we used to call the digital economy in industries like the software industries. This is an area where Europe has tried with the Lisbon Council, and the Lisbon Agenda, to be more competitive. I think they should pay some attention to how we can become much better in Europe by developing the real digital economy. As you know, in the US after all a lot of the success in the last few years has been through Google and other such digital companies. That, I think, would also fit very well with the Lisbon Strategy and the Lisbon Agenda.

The second point which I made briefly yesterday is that this question of indicators has also a local dimension. Again in Europe for ten years or more there have been campaigns to make cities more sustainable, since cities and regions are very important in determining how corporations and other economic actors actually work. So how do we link up with the local framework? Cities like Freiburg and Basel have done enormous work in making their economies more sustainable, so that is important too.

- **Mike Salvaris**

RMIT University Melbourne

My question is directed to Stephen Pursey. It is about the 'mismeasurement' of employment. The most common international measurement of unemployment used in most countries is effectively working for one hour a week. It is an extremely crude measure, and very misleading. In my own country patterns of work have changed dramatically over the last ten years, so that long-term unemployment is growing, there is involuntary unemployment of different kinds, there is much more part-time work, much longer hours, and quite a lot of work stress. In my view, the continued use of this measurement of unemployment by politicians especially is almost as gross a mismanagement as GDP might be considered of well-being. What we need, I think, is some sort of decent work index, which takes into account not only the true measurement of actual work but also the conditions of work, to answer your question about where we might be heading with new employment measures.

- **Stephen Pursey**

International Labour Organization

Very quickly, I agree. One of the problems with changing statistical systems on this is that a very large number of countries are geared up to doing it that way. Changing it is really like turning an oil tanker around. I think the logical way forward is to actually have more varied definitions of what constitutes work.

I think we are always going to find it very difficult to capture it in one indicator, and that would be my caveat about the idea of an index, i.e. that for the moment I cannot quite see how to weight for example fundamental principles of rights at work, which I think have to be part of your concept of decent work, with the total numbers in employment in proportion to working age population.

I think they are two quite different things, and trying to work out the weighting of the one or the other is beyond me and I think beyond most people. So I would suggest we need a range of indicators so that people can actually see the various dimensions of decent work and use the appropriate one for the issue that they are addressing.

- **Catarina Roseta-Palma**

Lisbon University Institute – ISCTE

I would like to make a comment, in the form of a question specifically for BASF.

The concept of the triple bottom line – although it is very user-friendly because what it means is very clear for everyone – is in a way slightly misleading, or even very much misleading, because it is misleading to think you can have a bottom line for people or for the planet, in the same way as you have a bottom line for profit, which is monetary (you sum it up and you know how much it is, there is a number).

I was wondering how BASF calculates the environmental burden, and how you proposed to calculate the social composite indicator, because you showed the graphical view of one specific point. The costs are the costs. You sum them up and you know how much they are. I was wondering what weightings you use for the environmental burden indicator and also for the social burden indicator, because I think it is really important, if companies are going to start using and reporting information, that they do not all use different weightings and different aggregation methods, which they sort of choose for themselves. We can assume that they choose them for the best reasons, because they really think they are the most important weightings, but they may also manipulate them to have the best indicators with the basic company information.

A second comment: if we do not even have an agreement on what the macroeconomic indicator weightings should be, and if we do not even have an agreement on where we want to aggregate macroeconomic indicators, I do not think it is really useful for legislators to think that they should oblige companies to report information in a specific way, the composite indicator way. I think we should not be talking only about macroeconomic indicators, I think people have different opinions; it is not clear that weighing everything and putting everything as a simple indicator is useful, so maybe for companies it might not be that useful either.

- **Jan Juffermans**

De Kleine Aarde

My name is Jan Juffermans from 'De Kleine Aarde' in Holland, an NGO working with global footprints for 9 years already. I think what is lacking is a discussion about a level playing field. I would expect this from the [business] sector, because in agriculture for example we see that for 20-30 years already organic farmers have been suffering because the playing field is not level. So there is no fair competition. Although we have all the indicators for this, and there is a 1989 report in Holland that shows that if polluters paid in Europe, organic produce would be cheaper on the market. But there is no sign of politicians reviving the "polluter pays" principle and bringing it back to life again.

- **Hazel Henderson**

Chairwoman

Good point. Yes. This is what we are all talking about: how do we internalise all those costs in the price of the product?

- **Laszlo Pinter,**

International Institute
for Sustainable Development

My name is Laszlo Pinter. I am with the International Institute for Sustainable Development in Canada. My question is: How do you calibrate the indicators that companies are using? I think it could be a general question. Basically, the question is: How much progress is enough? And this question is related to what a previous speaker brought up: How do we link measuring corporate level performance and benchmarking it to a public at a higher level, whether at either community or regional level or up to the global outcomes that we know we have to achieve.

- **Carole M. Laible**

Domini Social Investments

I think that some of it depends on the activity. There are certain industries and practices which we consider unsustainable and won't invest in at all, and then there are other issues and concerns where we weigh performance relative to performance in a peer group. So we really take both a top down and bottom up approach.

- **Hazel Henderson**

Chairwoman

I do not know whether any of the members of this panel would like to address the point made by our friend from the Netherlands concerning subsidies to unsustainable activities. This is such a big issue; we are dealing with this in the United States right now, with the energy bill. There are enormous subsidies to coal, oil, nuclear, and then they expect solar and renewables to try to compete.

Does anyone have a comment on how we deal with these perverse subsidies from governments?

- **Andreas Siegel**

Council of Europe

I have two questions.

First: Can we really say today that companies are interested in the long term rather than the short term? Because if you listen to what speakers said at the beginning and if you look at the way the financial system works through the stock exchanges where the short-term profit is the most important thing, I am sure there are some companies that are interested in the long term but aren't they just a drop in the ocean? Shouldn't we be looking into overhauling the financing mechanisms which encourage people to think in the short term?

Second: On indicators in companies, because we have been talking about progress and well-being indicators, if we want well-being indicators, don't we have to ask people who work for those companies as well as their customers, the different stakeholders, what they consider well-being to be? We surely we have to take that into account in order to have better indicators.

- **Hazel Henderson**

Chairwoman

Yes, on this issue of financial reform – reforming what I call the global casino – we are beginning to see the necessity of doing this and the issue that you point out is so crucial. How do we go from the short term to the long term, when we have all the Wall Street analysts forcing companies to raise their earnings every quarter? Does anyone on the panel want to address this issue, short term versus long term?

- **Lothar Meinzer**

BASF

Just a quick remark. First on the question regarding the eco-efficiency analysis. I am very happy to pass on the details to you. This method is not a secret method. It is published, there have been critical reviews by independent institutions and the indicators we use are also published. So for example in the environmental field, there are the classical indicators like land use, toxicity potential, ozone depleting potential, global warming potential, etc. All these indicators, as I said, are published.

Short term versus long term. Of course that is the discussion. We as a company have to combine the two. Our investment cycles are 20, 30 or 40 years, so for example if we are building a steam cracker – that is the heart of a chemical plant – it will be running for more than 30 or 40 years. At the same time, we have to publish our quarterly reports, and what they reflect is the outcome of our long-term strategy and our sustainable success. We are not interested in trying to achieve improvements for just a few quarters.

- **Patrick ten Brink**

Institute Of European Environmental Policy

I am Patrick ten Brink from the Institute of European Environmental Policy. I just want to ask business about your recommendations for government. Because GDP does not measure liabilities, its assets or risks, and you were talking about the importance of measuring one's risks and liabilities, and the asset base, what sort of recommendations would you have for governments in terms of them dealing with climate risk or biodiversity loss risk? What sort of assessments are needed and what sort of additional evaluations are needed?

- **Hazel Henderson**

Chairwoman

This is a very important issue for all of us. This is the reason why we are here talking about the need to go beyond GDP. Because until governments internalise their own external environmental and social cost into their score card, whether we call it enhanced GDP or whatever, then companies like ours are always going to be swimming upstream against government performance. So it is very important.

- **N.N.**

Just one comment or question. Wouldn't it be easy to convert the short-term measurement into longer-term measurement that includes social and ecological issues by demanding that corporate boards convert the bonus structure for CEOs, etc. so they receive a bonus at the end of their two-year, three-year contract, rather than each quarter. Wouldn't that be easy?



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Session 3

New measures of progress – Obstacles and opportunities





Pier Paolo Cento

State Secretary for Economic Affairs and Finance, Italy

I am very pleased to be here this morning so that I can tell you about the contribution that the Italian parliament and the Italian government are attempting to provide in terms of ensuring that not only do we have theoretical thinking but actually tangible progress so that we do in fact manage to move beyond GDP. Because GDP should not be the only economic, social and environmental indicator that we have and that we use.

We are convinced that the moment has come for us to move on from theoretical rhetoric, from academic reflection – no matter how important that may be – to actually trying to identify instruments, standards and rules which will ensure that we have binding national legislation on scientific research into indicators that can be used alongside GDP. Increasing international attention is being paid to issues linked to environmental sustainability, which shows that we do need an integrated reform of our approach to the major economic indicators and public finance instruments. We can then measure the effectiveness of national and regional policies in a timely fashion, and actually assess the cost and effectiveness of implementing international agreements on sustainable development and moving towards more sustainable development.

We do need a legislative framework which will ensure that environmental indicators are effective and which will ensure that environmental indicators stand side by side with economic and financial indicators so that we are no longer as partial as we have been in the past.

And the approach from the past has done nothing good for the environment or indeed the economies of nation states. There is now a wide ranging debate amongst the scientific community too, which puts the subject of the limited use of resources, the limited existence of resources, and the limited availability of resources right at the centre of the agenda. And that is another reason why economic growth, and economic development cannot continue to be a dogma, taking no account of the fact that natural resources are limited. Part of the scientific and economic community has started to

introduce into the debates the question of economic “ungrowth.” Not as a return to the past but instead as a way of actually facing up to the limits of development that burns up more resources than are actually available to humanity. This becomes even clearer when you look at the phases for implementing the Kyoto protocol and the agreements on the European Directive on Emissions Trading. It has ended up by becoming clearly necessary, even in the national field, to measure the effectiveness of policies and to reconcile economic growth with the limited nature of natural resources and the vital need to ensure sustainability.

In Rio, the Earth Summit adopted Agenda 21, which recommended that all of the signatory nations should reconcile the environment and development, both into their national policies and into their planning and implementation. It also recommended that countries should try and ensure that they had integrated economic and environmental accounting schemes. Research has subsequently been done along these lines by the UN, by the European Union, by the World Bank, by the OECD, and by many other international bodies across the planet. But experimental models have also been run on a more limited basis in provinces and communes and have proved that we do need to have new instruments developed, and that we need to develop instruments and indicators that can measure environmental variables which are often decisive for economic growth. But until recently they have not been counted and have not been included in the normal models for assessing policy effectiveness. This shortcoming is going to exacerbate the margin for error in policy assessment and will reduce the effectiveness of financial and economic policies as we have seen up until now. If we manage to overcome this situation, then that would make it possible for us to protect the environment more rationally and we would also be able to carry out more complete cost/benefit analysis of sustainable development.

It is in this context that the Ministry of Finance and Economics in Italy has decided on the encouragement of Minister Tommaso Padoa-Schioppa

to set up a committee, which has been called upon to look at the main problems linked to introducing an environmental accounting system into the State, into the regions and then into local bodies. That committee will also be monitoring similar experiences that have been carried out at national level in the community and internationally and that committee has also been called upon to come up with draft legislation for introducing environmental accounting, and also to identify rationalisation measures in terms of public expenditure for correct implementation of environmental accounting. And of particular importance for the work and the studies being carried out by this committee in drawing up this draft decree law has been all of the experiments that have been carried out by local bodies and organisations in our country. These have been possible partly thanks to contributions from the European Union financing LIFE projects, which have made it possible for us to assess on the ground the concrete results of principles of the environmental accounting being applied.

This draft decree law was approved last week by the Council of Ministers and therefore will be transmitted to the European Parliament once the budget has been adopted, so that will be as of January of next year.

The content of the law is very simple, but it does cover the main elements for applying environmental accounting. First of all there is the general approach, the presentation and introduction of a system that can integrate the economic and financial planning and budgeting of the State and of local level authorities with the full environmental assessment of these measures. In that system we are also recognising the fact that citizens have a fundamental right to comprehensive environmental information and as such we are also going to be identifying objec-

tives for political activity, taking into account the principles of sustainable development and ecological and social repercussions. For the first time, once this position has been adopted, the whole question of the environment will be put at the centre of the agenda. The Environment Ministry has been fully involved in drawing up this draft law and the environment will also henceforth be the responsibility of the Ministry of Finance and Economics. This is not just a bureaucratic change which will be important to public administration, but it will mean that environmental issues will be one of the economic and financial indicators taken into account in drawing up the State budget and in planning Italy's economic policies.

Then, also in the decree law, we have a reference to statistical and mathematical indicators to be used to define the environmental accounting model. This second part of the law first needs to go through parliament. It is on the second part of the decree law that we will have to be concentrating, and we have to ensure that at European level we also have the cooperation of the various bodies that are working along the same lines.

Let me conclude by saying that what we need is to set up an analytical and mathematical and statistical system which can provide us with economic and financial indicators that can be used for environmental accounting. They must do this in such a way as to place not just on Italy but on all developed countries constraints regarding assessment of economic and financial policy, or infrastructure policy and social policy, which will make it possible for us to reduce our ecological debt, by giving us a proper assessment of the actual environmental footprint of what we are doing now and what we will be doing in our future policies. Thank you for your attention and I hope your conference is a success.



Patrick Viveret

Cour des Comptes, France

When, a few years ago, I came to carry out an assignment at the request of the French government not only on new indicators of wealth but also on a new approach to wealth, including the monetary question, we were directly concerned by the issues raised in the presentation by Kristalina, i.e. the relationship between, on the one hand, indicators, including the new indicators to be promoted, and, on the other hand, the choices made by society and the issues in public decision-making. Because we can have all the alternative indicators we want but if they are not connected to decision-making and deliberate democratic choices they will simply remain in the toolbox.

When I was carrying out this assignment, the President of the French Republic at the time, Jacques Chirac, said in Johannesburg: "The house is on fire but we are looking elsewhere". And I had taken, as an example of the problem of indicators, the fact that not only is the house on fire and we are looking elsewhere but also we are deliberately adding fuel to the flames of the house that is on fire. A good many of the reasons why we have this counterproductive attitude lie in the fact that our systems for evaluating wealth – be it a question of company balance sheets or national accounts for nations – encourage us to adopt these counterproductive attitudes. Kristalina has just evoked the image of the Queen Mary. Well, in a way we are in the position of a sailor who has decided to change course, whether we call it lasting or sustainable development or even decline: today there is a major agreement developing within the international community about the fact that our type of growth is ecologically, socially, '*civilisationally*' unsustainable, but at the same time as we are asserting the need to change course, we continue to have onboard instruments which are set to the old course, that of productivist growth. Consequently, as long as there is no link with the issues, and particularly public decision-making issues, all our efforts as regards new indicators, even if they are alternative indicators, are insufficient. And when we look at this link with issues, there are some useful experiences that I should like to mention.

One, which I discovered when I was carrying out this assignment on wealth, is the work that has been done in Canada, and particularly Quebec, by the Collective to fight poverty. They proposed to the government of Québec to organise what they called a 'knowledge crossroads' so that there could be an exchange of knowledge between the Ministry of Finances and this Collective for a poverty-free Québec, on the one hand, on economic and financial matters and, on the other hand, on the problems of exclusion and poverty. And on the occasion of this 'knowledge crossroads', to which the then Minister of Finances Bernard Landry had agreed, a debate began on national accounts, and on Gross Domestic Product, because members of the Collective to fight poverty, having heard presentations on the national accounting system, said one day to the Minister: "If we understand you correctly, in your Gross Domestic Product a lot of resources and wealth, which we ourselves carry, do not appear." And at the same time they proposed an alternative indicator which, with their proverbial humour, they called the 'Sweet Domestic Product' (*doux*) as an alternative to the Gross Domestic Product (*brut*). And referring to another indicator, which they called 'Hard domestic expenditure' for the same reasons, they said: "In your accounting systems, destruction, social suffering and health problems are not mentioned but we experience them in our own lives." They proposed to call this 'Hard domestic expenditure'.

That is a good example of where a procedure of positive democratic conflict, through this 'knowledge crossroads' logic, creates at the same time a situation in which the debate on indicators is placed within a new cycle of democratic debates and public decisions.

In France, we have just learnt of a very interesting experiment, the 'Grenelle de l'environnement'. This initiative, which was born in civil society, was proposed by a coalition of associations calling themselves the 'Alliance pour la Planète', and when the present President of the Republic agreed to take it up, for four months the different players in French society asked themselves about new

types of growth, consumption, development, production and even life, and the necessary reorientation so that the debate on indicators could be included within the framework of a general reorientation.

And we can see today that one of the important consequences of this 'Grenelle' is that the scope of this work will be much wider than when this exploratory assignment was entrusted to me, not only on the new indicators of wealth but also on the link with public decision-making procedures. And this is a very important issue from the point of view of the democratic process itself, because most of the time all these indicators leave a situation of opacity in which the implicit choices of society do not appear. This was the case with the Gross Domestic Product and the national accounts. Before the statistical formalisation of the national accounts, you had choices by society and these choices by society were directly linked to the way in which societies, following the drama of the Second World War, tried to recreate a blueprint for life which was that of reconstruction, and in which industrial modernisation was seen as a choice by society. First of all, reconstruction and industrial modernisation were chosen and then they defined the costing methods and statistical instruments which were going to value reconstruction and industrial modernisation, to the detriment of other activities.

Today, we are at a similar crossroads. The human race finds that it is now obliged to take account of the ecological deficit – and Pierre Paolo talked forcibly about this in his presentation. However, the more we take the ecological deficit into account and thus the question of limits on non-renewable resources, which Kristalina has just been talking about, the more we need at the same time to have better indicators of well-being. The reason is that if you propose that people limit their consumption patterns and there is no prospect of greater well-being if they do, they are in the same situation as a drug addict who is offered a withdrawal cure but without any alternative positive prospects. And therefore the double indicator of real resources – the indicator which allows us to frame the question of limits

in terms of natural capital – must at the same time be accompanied by indicators enabling us to work on greater well-being.

When I started my assignment on wealth, we worked a lot with the United Nations Development Programme. It had just produced a major report highlighting the fact that it would take only 10% of the amounts being invested in arms, drugs and advertising to implement the world programmes needed to eradicate hunger and provide access to drinking water and basic health care.

So it is absolutely essential when we ask ourselves about indicators also to pose the political and societal question about the choices made by society and by civilisation. And at the same time, and this will be my final word on the subject, we must not content ourselves with focusing our interest only on indicators; we must also take an interest in the graduation units behind these indicators. And in these graduation units we obviously have a link to money. Yet what we are living today is extreme immoderation in terms of the financial economy. The relationship between the realities of the real economy of goods and services actually traded and the immoderation of the financial economy which is one of irrational exuberance – to use the words of Alan Greenspan, former Chairman of the United States Federal Reserve Board, in his book 'The Age of Turbulence'. The result is that of the 4,000 billion dollars spent everyday in the marketplace, less than 5% corresponds to real goods and services.

If we want to work on calling the present indicators into question, we must also accept that in years to come we shall have to work again on the question of monetary policies on a continental scale and even at world level.

And I dare hope that this European meeting in this Parliament, which is itself an outstanding indicator of the advances made in public awareness of these questions as regards the representation of wealth, will be another step forward. Perhaps next year or in two years' time we shall find ourselves here discussing the issue of new approaches to money.



Kristalina Georgieva

Director Strategy and Operations Sustainable Development, World Bank

Measuring the Wealth of Nations

Good morning everybody. I want to start with a story from the old days of the Soviet Union. Mr Brezhnev went to Europe and at the end of his visit he was interviewed and the journalist asked him: Mr Brezhnev, can you tell us in one word what is the state of the Soviet economy? And Brezhnev said: Good. And then the journalist said: Now if you were to add a little bit more, say in two words? Brezhnev said: Not good.

In a sense, what we are struggling with here is to make sure that we have a reflection of the state of our economies that is accurate, that tells us the foundation for our own well-being and that of our children.

I want to share with you research we have done in the World Bank led by my colleague Kirk Hamilton over a long period of time that in a sense gives us a measurement of the wealth of the nations. I will describe about how we measure that wealth, what we have learnt from this measurement, how we go about measuring changing wealth, and what the policy implications are.

The first question I would start with is: Why measure wealth? What does that give us? There are four good reasons to measure wealth - understood as the net present value of future consumption:

- First, it tells us the potential for future well-being. What is the foundation we have built for our children?
- Second, it shows the composition of wealth: how much of it is physical, man-made or natural, how much is human asset, how much is social assets or institutional assets. This composition of wealth is very important to understand the 'initial conditions' for development.
- Third, it is such a very useful model. If we look at everything that forms the wealth of nations, on the same footing, then we can think of ways

to increase this wealth, including by transforming one type of asset into another, but with an eye on making sure that the whole becomes bigger than the sum of the parts.

- Fourth, and this is very important for us in the Bank, the change in real wealth, which we call 'genuine' or 'adjusted net' savings, is a measure of sustainable development.

Let me give you an example of how understanding this asset base and especially the natural capital part of it can alter our view of how well we are doing. This is an asset sustainability example from Mauritania.

In the first half of the 1980s, and this is a real example, the fish catch in Mauritania grew very substantially – basically more than quadrupled – from 20,000 to nearly 90,000 tonnes. Based on conventional indicators everything was great. GDP up, foreign exchange up, budget revenues up, in fact as Mr Brezhnev said: Good. Except that the fisheries collapsed. It only took seven years. Just seven years later, exports that were growing at 7.5% between 1980 and 1987 shrank to -2.3% in the next three years. The well-being of Mauritians benefiting from the export of fish could not be sustained. If we were to measure fish stock as an asset as part of our overall equation, then we could have warned policy-makers that there was an impending collapse and that measures had to be taken to change the way Mauritania manages fish.

Last year, 2006, we published a book called '*Where is the Wealth of Nations?*'. The book does the following. It measures three types of wealth: (1) produced capital – buildings, machines and infrastructure, (2) natural capital – croplands, pasturelands, forests, minerals and energy; and (3) what we call "intangible capital", namely the human capital and the quality of the institutions that are so critical for the well-being of our societies. Do they provide accountability? Is the judiciary strong? Do we

have a high or a low level of corruption? We did calculations for nearly 120 countries and came up with very interesting findings. Not only did we recognise that the wealth per capita is very different across the world. I am sure you will be asking: Which is the richest, the wealthiest country? In 2000 it was Switzerland: around 650,000 dollars per capita. And the lowest? Ethiopia, with only around 2,000 dollars per capita. And everything in between. This allows us to see different groups of countries (low income, middle income, high income) and how they compare. I chose to show you how they compare in terms of what these three types of capital provide to societies.

Well, three very interesting findings.

- First, built-in capital, the physical, produced capital, actually accounts for the same share, whether you are a rich country or a poor country, 16% in low income countries, 17% in high income countries.
- Second, in all countries intangible capital matters tremendously. It is the largest share of wealth: 59% in the poor countries, 80% in the rich countries.
- Three, and this is very important for how we think of development in the developing world, the share of natural capital is very high in poor countries: 26% of their capital is their natural base, the land, the forest, the fish stock, versus only 2% in the developed world, e.g. in Japan where it is almost 0%.

What this means is that developing countries have to pay very close attention to how they utilise this part of their capital base, and actually to remember that the most important part of it is actually land, not what is under the soil, but the soil itself.

Let me move on to a second point that results from this analysis: what do we know? What have we learnt about measuring the change in real wealth, the indicator we call 'genuine savings'? And just to make it more real, let's look at Bolivia in 2003. If we are to use the traditional concept of savings, we would have gross savings and net savings, and the difference between gross and net would be depreciation of fixed capital and we would basically stop right there. It would look as though Bolivia is not doing too well but it does have positive net savings. If we take genuine savings, then we see how much is invested in

human capital – educational expenditure in this case – and that boosts the savings rate, but then we would subtract natural resource depletion, which in the case of Bolivia is quite substantial. That brings us down to -2%, and then we would add to this the negative impact of pollution damage, which in the case of Bolivia brings it to about -4%. So because of resource depletion and pollution, what we see here is that Bolivia is on a non-sustainable path.

As a Bulgarian national, I naturally looked at how my own country is doing. It is doing better than Bolivia, that is the good news, but still the true level of saving in my country is lower than our minister of finance thinks it is. He thinks it is 6%, it is actually around 4%, in fact just over 4%.

If we follow up over a long period of time what has happened in Sub-Saharan Africa, the poorest of the continents, what we have to conclude, sadly, is that if you apply this measure of true wealth, Sub-Saharan Africa actually has created wealth that is about zero over 30 years, because of the depletion of natural capital and not using it to invest in its institutions and its people.

Which brings me to my last point. What is it that we do with this analysis? We in the World Bank have been tracking wealth for quite some time; since 1999 we have been publishing 'adjusted net saving' as part of our development indicators. Unfortunately each year we observe that 20-30 countries have negative wealth accumulation. These are primarily the poorer countries.

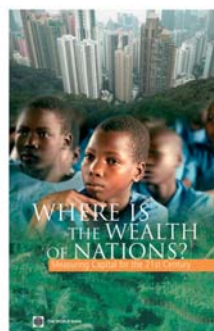
Every year we publish what we call the "Green Data Book". This summarises environmental natural resource impact for countries, and our country teams are using it more and more as they think of operational programmes.

There are other countries that are moving toward wealth indicators, like Canada, with its 'capital approach' to sustainable development; Norway has its 'petroleum-adjusted net savings'; Botswana has a 'sustainable budget index': we cannot spend more of our diamond wealth than we can do sustainably; and it's too bad the minister of Ghana was not here – he would have told you how they think of natural resource management.

Let me conclude: what are the main lessons we can draw for development? First, that because of the high share of natural capital, strengthening

natural resource management is actually much more important for developing countries than it is for the rich world. They have to pay much more attention to soil degradation because of the high share of land in their natural capital. There has to be a very strong focus on reducing incentives to overexploit resources, especially living resources, the gift of nature that countries can rely on hypothetically forever. When we do that, we need to reinvest resources in other assets, so we expand the non-tangible, the intangible, the human dimension of development. It is precisely that investment in human capital – and in stronger institutions – that has the highest pay off. Roads are a good thing, but it is the people and the institutions they rely on that matter most.

Where is the Wealth of Nations?



Three types of wealth, measured in over 100 countries:

- **Produced capital** – buildings, machines and infrastructure
- **Natural capital** – cropland, pastureland, forests, minerals and energy
- **'Intangible capital'** – human capital and quality of institutions



Sustainable Development @ the World Bank

Why measure wealth?

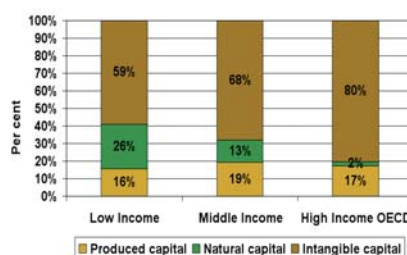
- Wealth measures the potential for future wellbeing
- The composition of wealth indicates the 'initial conditions' for development
- A useful model: development as managing a portfolio of assets
- The change in real wealth ('genuine' or 'adjusted net' saving) is a measure of sustainable development



Sustainable Development @ the World Bank

2

Shares of wealth across income classes



- **Intangible capital is the largest share of wealth** – human capital & institutional quality matter
- **Natural capital share declines with income**
- **In the poorest countries, natural capital is a larger share of wealth than produced capital**



Sustainable Development @ the World Bank

5

Assets and sustainability – an example from Mauritania

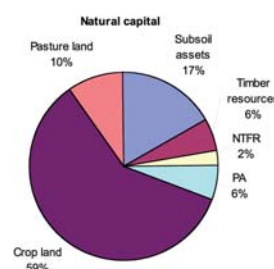
- During the first half of the 1980s fish catch in Mauritania grew strongly from around 20,000 tons in 1980 to nearly 90,000 tons in 1987
- Current indicators – GDP, foreign exchange earnings, and budget revenues – all grew strongly
- But the fishery collapsed from over-exploitation: exports grew at a real 7.5% per year over 1980-87, but shrank -2.3% per year from 1987-2000
- The wellbeing of Mauritians benefiting from the export fishery could not be sustained
- **Measuring assets – fish stocks – could have signaled the impending collapse**



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3

Shares of natural wealth in low income countries



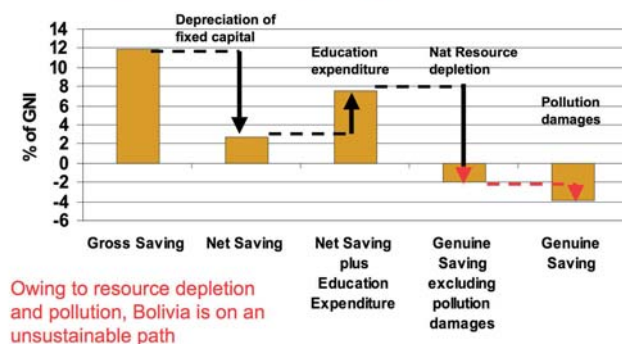
- **In low income countries agricultural land is the largest share of natural wealth**



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6

Genuine saving (change in real wealth) in Bolivia, 2003



Sustainable Development @ the World Bank

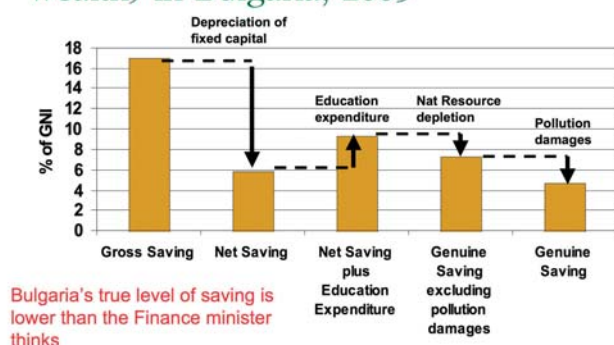
Tracking wealth

- The World Bank has been publishing 'adjusted net saving' since 1999
- Each year 20-30 countries have negative wealth accumulation as reported in the *World Development Indicators*
- Estimates in *Where is the Wealth of Nations?* show that when resource depletion and population growth are both taken into account, **the majority of low income countries face declines in wealth per capita**



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Genuine saving (change in real wealth) in Bulgaria, 2005



Sustainable Development @ the World Bank

8



Sustainable Development @ the World Bank

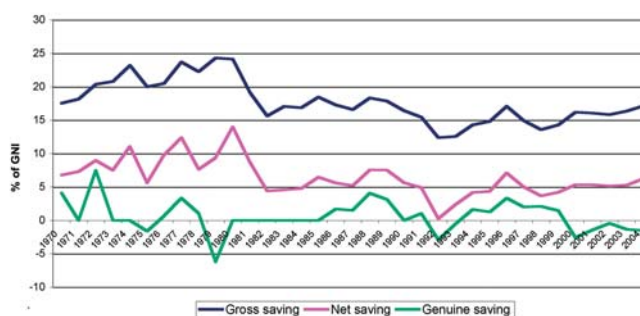
Who uses these indicators?

- Canada – the 'capital approach' to SD measurement
- Norway – 'petroleum-adjusted net saving'
- Botswana – the 'sustainable budget index' tracks whether resource wealth is being consumed
- Ghana – adjusted net saving as a framework for judging natural resource management



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Over 3 decades, net wealth creation in Sub-Saharan Africa has been effectively zero



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9



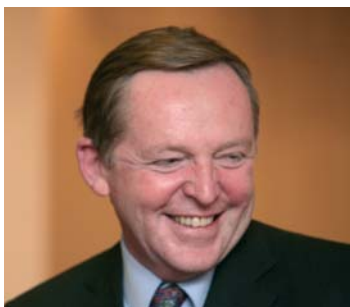
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Main lessons for development

- Strengthen natural resource management in low income countries
- Pay particular attention to soil degradation
- Reduce incentives to over-exploit resources, especially living resources
- Re-invest resource revenues in other assets
- Invest in human capital and stronger institutions



Sustainable Development @ the World Bank



- **Tony Long**

Director European Policy Office, WWF,
Chairman of session 3

During the session that we have now we are going to begin to answer the question which is the title of the conference: How do we measure progress, how do we measure true wealth and how do we measure the well-being of nations?

I have three distinguished panellists to help me with these questions.

By way of introduction let me just say that he has got a distinguished political career in Italy, he has been in the Green Party in Italian politics since 1985. He has served in very distinguished positions as Secretary to the Special Commission on the Prevention and Repression of Corruption. He is also a Vice-President of the Commission on Justice and a member of the Council of Elections and he now holds the position of State Secretary for Economics and Finance in the Italian government. It's with pleasure that I introduce Pier Paolo Cento.

*For speech of Pier Paolo Cento, see page 84.
For speech of Kristalina Georgieva, see page 88.*

- **Tony Long**

Chairman

Before passing on to the next speaker, I wonder whether I could just ask for a point of clarification from you. I can see the analysis, and I can see some of the conclusions you are drawing from the analysis but what I can't see quite is how this becomes 'operationalised' in the Bank.

- **Kristalina Georgieva**

World Bank

Actually, this is a great question! I would like to make two points.

Firstly, it has taken more than 10 years for this research to bring results in terms of impact on operational work. The first lesson I would draw is that, in terms of changing mindsets and how we think of our economies and societies in development, one has to persevere. We have to be very persistent in doing this day in day out for a long period of time for the results to become acceptable.

Secondly, the way it gets operationalised in the World Bank is by these data becoming part of our country operational programmes. What this means is that more and more – and I would not say in every country but more and more – when we think of what is the best we can do together with a particular country in development, we now take into account the assessment of wealth, the different assets that we have talked about here, but more importantly the genuine savings. Then we look at the different dimensions of environmental assets. We look at pollution and then we say: what are the specific policy implications? Just one example: China: pollution as share of GDP. We struggled a lot with the Chinese authorities, we came up with a number, and the number is around 6% of GDP lost due to environmental degradation. Then from there, once policy-makers accept that this is a serious problem, good things can, and do, happen.

The notion is: break it down, to make it operationally relevant, rather than have a theoretical concept. Make it relevant for individual countries by taking individual issues that countries are struggling with and then integrate it into the programmes.

- **Anders Wijkman**

Member of the European Parliament

Thank you very much, Kristalina, as always a very clear message. I commend you for this. But I do not think the theoretical aspect is so unimportant. I would ask you how does the Bank translate this into its overall message, when you have World Bank conferences, etc? Because it is all very well that you factor it in at the individual country level, but if the Bank as a bank could draw the right conclusions, it could start bombarding governments and say: Look guys, you have to change this notion of GDP, you have to factor in other indicators. But

we have not heard that from Mr Wolfensohn, we have not heard it from his successor. Maybe we shall hear it now from Mr Zoellick, I do not know.

- **Kristalina Georgieva**

World Bank

We certainly hope that you will hear it from Mr Zoellick, but the point I wanted to make is that for research to become operational takes time. It takes time to be sure that what we are coming up with as policy recommendations is accurate, that it is effective and that it has implications. So what we usually do is we start with a couple of pilots, we work in a number of countries and then, if this work produces results and we get the governments on the other side to be convinced it is good for them – as it happened in the case of Ghana, or as we see happening in China, or as we see happening in India – then it translates into a broader programme and it becomes mainstreamed in the Bank. Recently, the World Bank made a very important decision. We merged our Environmentally and Socially Sustainable Development Vice Presidency (which used to be: Environment, Social Development and Agriculture), with our Infrastructure Vice Presidency, into one big sustainable development network. Part of the reason we did that was the recognition that we can no longer fight poverty and support sustainable growth unless we pay upfront attention to the sustainability of our engagement. Let me admit here in front of everybody, that the World Bank is kind of a big institution, a little bit like the European Commission. It is like the Queen Mary. The captain turns the wheel, and the ship eventually follows. You do not see it right away. Me, being on the ship, I can say: we are moving in the direction towards sustainability, because fundamentally we cannot succeed in our mission unless we do so.

- **Tony Long**

Chairman

Still before I pass on to the next speaker, there is another comment.

- **Bedrich Moldan**

Charles University

Thanks, Tony. I was extremely delighted by this report from Kristalina. I have been trying to follow the work of the World Bank on this issue for many years, and in fact this publication is a revolutionary one. It is definitely the result of very long research. I think it is an extremely important approach. I was mostly struck by the example of Morocco where the stock indicator could be taken as an early warning signal. This is extremely important in our struggle for sustainability, which is about long-term vision, and not just short-term gains. But I would like to stress that again the devil is in the detail. I think that more work should be done especially on the intangible part of the capital, because the measures are still not well developed. I also think that natural capital is the struggle between the notion of weak and strong sustainability and the substitutability of capital. I think these are very important issues which should be worked out. I hope that they can be worked out, and then this indicator of wealth of nations really is a promise for all of us.

- **Kristalina Georgieva**

World Bank

A quick reaction. I completely agree that we need to do more work. Actually we have been doing quite a lot of work on issues like accountability, institutions, and corruption and how they affect development prospects, as well as on the environmental side. This work certainly has to continue and this is a kind of a plea to potential partners here in this room who are doing similar work. Obviously, we need to bind our efforts together because these are not easy assessments. Of course it takes very little to seed doubt, but you can quite accurately measure, especially the intangible element, so the more we can verify collectively, the better off we will be.

- **Tony Long**

Chairman

There are some people with their hands up but I am going to pass on, because they will get a chance to ask some more questions. Now I am going to ask Patrick Viveret to address us.

Patrick is a member of the Cour des Comptes ("Court of Auditors") in France. He is a distin-

guished author and commentator, especially on the subject we have before us, on alternative measures of wealth. He is currently part of a working party with the UN Development Programme, reporting to the French government on alternative measures of wealth. I am pleased to introduce Patrick Viveret.

For speech of Patrick Viveret, see page 86.

- **N.N.**

Eight years ago in Berlin there was a Congress. The title was “Beyond Growth”. Herman Daly at that Congress put together his experience at the World Bank telling the story of trying to publish in a World Bank document a diagram with the economy as a subsystem of nature. He said it was impossible for him at the World Bank to do that. Now we learn that in Japan natural capital should have zero value. I would like to ask Mr Viveret what he thinks about this appreciation of natural capital in Japan?

- **Enrico Giovannini**

OECD

Enrico Giovannini, Chief Statistician of the OECD. Two weeks ago the International Association of Auditor Generals had its biennial meeting in Mexico City, and one of the two topics discussed by these Auditor Generals from the whole world was key indicators. This was I think a very important signal that this community of people are looking into this as one of the key topics to try to make whole countries accountable, not just governments but whole countries. And at the end of the conference there was a discussion about the possibility that INTOSAI could create a working group to work with other international organisations on this issue of key indicators.

But one of the important points that were made was the problem of the independence of Auditor Generals, because they want to keep their independence. They do not want to be seen as supporting a particular measure, or general policies or specific policies.

So my question is: How do you see this tension between the need to engage the Auditor Generals in this effort and to allow them the independence to be able to assess governments, using indicators but also in an independent way? Thanks.

- **Nick Marks**

New Economics Foundation

Nick Marks, New Economics Foundation, and author of the ‘Happy Planet Index’ actually, but I’m not going to talk about that. As a statistician who has worked on indicators for fifteen years, we always have an issue around stocks and flows. How do we combine these things? And obviously the World Bank has a stock approach, but you have some assumptions in there:

- One is that the future flow of well-being is to do with assets and wealth, and well-being research would challenge that assumption. Indeed people experience diminishing returns from extra levels of wealth.
- The second thing is that we have a slight problem with another stock, which is the stock of carbon dioxide in the atmosphere. Future costs of climate change are not going to flow from marginal additions to the stock, they are going to flow from the quantity of that stock. And so your accounting process must take account of the net current liability for future costs, that there must be some set aside: a fund that basically says that we need to be saving now to pay for the future costs of climate change, and I would like to see that added into it.

- **Patrick Viveret**

Cour des Comptes, France

Firstly, particularly in Kristalina’s presentation it became clear that we don’t just have the example of Japan; in economic capital in the classical sense of the term, natural capital and intangible capital are decisive. What does that show us? Well it shows us that what one could call the environmental fundamentals and anthropological and human fundamentals are the decisive factors of economic fundamentals. If the planet becomes unliveable, if there are no more human beings left, obviously it won’t be possible to have an economy. And if you look at the OECD’s work of a few years ago that was clear. So the share of natural capital and human capital represent 86% of total capital. And that means that the institutions which put forward very few alternatives over the last fifteen years have recognised that environment and human stakes are absolutely decisive.

The second point is that natural and human capital for the most part are based on gifts without a counterpart. The question of the economics of

gifts is a central issue because it is clearly the model for nature and humans that is decisive. If you had general accounting that actually accounted for all natural and human resources, if you had the nature of goods and services as well as the nature of trade, and their characteristics, it would become clear that gifts are without a doubt the most common. So that's a very important point because if you look at the way in which we can advance – and that's why I linked this into monetary issues and what we said, for example, on problems linked to coal – we need in our indicators and in our prices, and in monetary support, to ensure that the reality of the relationship between natural and human economies is taken into account. Now when you have institutions that are independent, such as the Court of Auditors, can they then take on board these issues and turn their independence into an asset rather than a constraint? Recently for the first time, the Court of Auditors had to certify the accounts of the French State as part of a new organisation of the budget and finances of the country. And the question that was asked was, considering that the State through the law on the new economic regulation calls on companies to draw up societal environment budgets, why doesn't the State apply that to itself? And therefore the Court of Auditors, when it certifies the State's finances, should also certify that.

Then the second question was the question of image. When you have accountancy standards that were thought up as a priority by asset holders, in public finances your asset holders are the citizens. So you have to have a faithful image. But faithful of what, faithful to what? If you look at this from an asset holder's viewpoint, you're generally talking about faithful to the economic performance and the assets of the company, but if you transform that and look at it in terms of citizens of the State, then you need a different faithfulness; faithfulness to the quality of health, education, and preserving natural heritage, and therefore the independence of the Court of Auditors is very much an asset in moving down that path. Because there are so many lobbies, there are so many people with vested interests that they want to preserve, that want to preserve the existing status quo. If you have accounting organisations, audit and assessment organisations that are independent, then that independence can actually help, because these are organisations that are supposed to work for citizens and democracy. In France, in the Declaration of Human Rights

and Citizens' Rights, there's a very important statement that says that all citizens have the right directly or through their representatives to verify the necessity of public contributions and to assess how that money has been used. So that is a right of citizens, and therefore independence is actually a guarantee of that service of citizenship.

• Kristalina Georgieva

World Bank

Just a quick follow up on the question on Japan. My apologies if I suggested that Japan has zero natural wealth. Of course this is not true. My point was that in relative terms, relative to many poor countries, the share of natural assets in Japan is much smaller. I have the exact number: \$1,500 per capita is how much wealth we have in Japan from nature. That multiplied by about 120 million Japanese gives us about \$180 billion. But because the institutional and social capital of Japan is so much bigger, I mean, the total wealth of the Japanese is \$500,000 per capita. Of this 500,000, 1,500 is the value of the natural capital. So my apologies if I led you to think that we are back in the Stone Age when we don't value nature.

A question was put on stocks versus flows. Well we do try to think dynamically, we try to understand what happens over time with wealth and what the substitution among assets is. But point well taken, we need to do much more to actually come up with assessment as close to reality and as useful to policy-makers as possible. And of course work will continue.

CO₂ emissions and what we should do – this is probably a subject for a separate conference, but let me make four points:

- First, we do a lot of work on understanding carbon intensity, where the emissions come from individual countries with sectors and uses in developing countries. We are running at the moment six 'low carbon studies' for the biggest countries (India, China, Mexico, South Africa, Indonesia and Brazil), and we would like to expand this to other countries to understand what can be done to shift from higher to low carbon intensity and what are the policy and investment decisions that need to underpin this shift;

- Secondly, we are very concerned that still most of the attention on carbon emissions reduction is focused on energy and in particular on the power sector, whereas in the majority of the developing countries the biggest potential for CO₂ emissions reduction is in avoiding deforestation and land use change. Say in Indonesia 80% of emissions come from deforestation. So can we generating more attention to what actually matters may not be globally so significant, but it will definitely be very significant for countries, and is also good for mitigation, good for climate resilience, and good for development, for poverty reduction and development; So how can we get more attention in this direction?
- Third, we are very keen to gear the World Bank toward getting carbon intensity to be just part of the decision-making process, and not long ago we made a commitment to measure the carbon intensity of our own lending activities starting with energy, transport and forest. Obviously that still doesn't answer the question, how would countries cope, those that have contributed the least and are most impacted? Basically Sub-Saharan Africa is least at fault for climate change but most impacted. And there what we do in the World Bank is raise attention to their vulnerability and to the need for adaptation. We then call on our donors, those that support our soft lending arm, and we say, just to sustain the benefits we have promised to developing countries over the next three years, we have to add something like 600 million to 2 billion dollars to make sure that the risk imposed by climate change is not falling on the shoulders of people and communities in the developing world.

- **Rita Trattnigg**

Sustainable Development Coordinator,
Austria

I would like to turn the spotlight on to a relatively new notion and that's the notion of social capital. This describes the social ties between human beings or citizens within a nation or within a society, and that would also be a very important factor for the well-being of a nation. I would like to ask the World Bank especially ... I've seen human capital but I've not seen social capital on your slides, so I would like to ask you if this will be of importance in your future work?

- **Bruno Contigiani**

L'Arte del Vivere con Lentezza

It's a cultural association, we organise global days of slow-down around the world. So we would like to introduce something like a GDWP instead of GDP, that W could mean "well-being." But well-being does not mean the same in Europe, the United States, China, Russia, India, Bangladesh or Egypt. Poor people or rich people are different in the world, and many people in Western countries acknowledge that we can't continue to grow in the same way we did in the last fifty years. Young people decide to choose a job that is more interesting, low paid, and shifting down or slowing down becomes interesting for manager who are too stressed. But it's different if we think of countries like India or poor countries because well-being could mean a house, a job, food, family or a car. So what we see now is that the common value we have in the world is time, how people spend their time. So we could think of an indicator to understand how people spend their time, because it is the common value we have in the world. But is different to think of time in Italy or in Russia. And we try to include among the other indicators an indicator that shows how people spend their time. Thank you.

- **Walter Radermacher**

Federal Statistical Office, Germany

I'm Walter Radermacher, UN Committee on Environmental Economic Accounting. I've a question to Kristalina. With respect to her approach to the wealth of nations, it's very important additional information you presented but it certainly has also some limitations as we have heard. There is the problem of valuation; we have the problem of applicability to global environmental goods like climate, as you mentioned already and the problem of degradation in the future which is not accountable in the period today.

So my question to you is whether and how far the World Bank is willing to cooperate with a system of statistical offices, the UN Statistical Commission, which follows more or less a multidimensional approach, green accounting so to say, and whether this could be an option for you to join that boat?

- **Anders Wijkman**

Member of the European Parliament

I met with a manager of one of the biggest ethical investment funds in Scandinavia a couple of months ago and he told me that when recruiting young economists he had to re-teach them because they didn't have the qualities, the competences needed to do the kind of screening of various talks in companies that was required. Now I should perhaps add that I trained as an economist many years ago.

My question to you Kristalina is: based on your experience and based on the importance of distinguishing between financial and natural capital etc, etc, how do you cope in the World Bank? You recruit a lot of young economists all the time and most of them don't learn anything about this. So could you please tell us what kind of action the World Bank is taking to reform education for economists?

- **Isabelle Cassiers**

Professor at the Louvain-la-Neuve University

I would like to come back to the example that Kristalina gave about the Mauritanian fisheries. I believe that thanks to what could be called their social capital, Mauritanian knew from generation to generation how not to exhaust their fish stocks and that this example shows the pressure rapid growth exerts on economic activity when it is decoupled from social community life.

In the same light I would like to know if the World Bank examined the link that there could be between the negative or zero genuine saving of Africa and the pressure from multinational companies to abuse African natural resources because they are very much rewarded for doing so.

I would like to thank Professor Viveret for pointing out the schizophrenic signals from the present situation. He was perhaps the only speaker in this conference to point out the problem of the power of the financial sector, the increasing power of money, that is in great contrast with the subject of the conference. I believe that if you want to go further on the question of the indicators, we have to address the problem of a global world increasingly led by a financial community who's private interests have nothing to do with the progress of societies.

So my question would be to Patrick Viveret: What should be the next step for this kind of conference to address this question of a schizophrenic world and to limit the power of money so as to enhance the power of people?

- **Jean-Luc Roux**

Planète Vie

Following on from what Isabelle Cassiers and Patrick Viveret have said, I'd like to put a question directly to Mr Viveret. You mentioned aspects of change that are necessary to go from one economic paradigm to a new one. How to do that is probably a long complicated issue.

My specific question to you is as follows: Given the power of financial markets today and the imbalance between what they generate and the part of that that is goods and services - and it's something that we see reflected across the globe - how would you see that changing? Now what about the question of time? Time is rare, it's scarce, we have no way of measuring time and how we use it.

- **Kristalina Georgieva**

World Bank

I'll start with the question on social capital. Actually we do try to include - in the intangible, social capital and sometime by the summer of 2008 our group 'Working on social development issues' will be coming up with an index to actually try to measure - more precisely social capital. Just a quick footnote. As a young professor in the early seventies I was still in Bulgaria and for the first time in my life, we had a delegation from the West come to my university. They happened to be from Japan. We treated them with traditional Bulgarian hospitality which means that by eleven o'clock everybody was drunk and at that time in a moment of *in vino veritas*, one of the Japanese professors turned to us and said, "You're very lucky, you don't know how poor you are". And that actually really kind of shocked us because we were highly educated, talking about social capital, human capital but we also had the strength of social relations with our families and our friends which to this very day makes me so violently opposed to the statement that we were really poor. So it is important to understand the whole fabric of society and to try to go beyond and above ... and that's why we have this meeting and we

will have many more about what we measure in the traditional economic sense.

I was asked whether we would be interested to venture into green accounting. I think some of my colleagues, to my understanding, have been working with your team. Here is our limitation; it is that we need to come up with a measurement that is actually applicable, we can bring it into our country dialogues – which is to say that there are some levels where we leave the good so as not to be an enemy of the perfect. And obviously this commitment will continue and hopefully the limitations within which we operate will diminish over time as we have seen them diminish in the last ten years. But I just want, for the benefit of everybody, to remind you that the World Bank is owned by governments. We are a cooperative of a hundred and eighty-five governments and they in a sense give direction to what we should be doing. Sometimes we jump a little further, or move a little faster than the instructions we get. But collectively we need to take a political view to make decisions around changes that are absolutely necessary for us to actually perform our functions to leave the world a better place for our kids. Hopefully this is still possible.

And I was asked what we are doing to change mindsets, especially in the profession of economics. Today is my day quotations from the past. Lenin happens to be the person who said that the most difficult revolution is the one that happens in peoples' heads and what we're talking about here is a mindset revolution. What we launched in the World Bank very recently is a programme on leadership for sustainable development. We actually do want to bring to challenge conventional wisdom and a little bit more '*nuance*' into the way we think of societies. We will make this programme to be one that links to business schools and we do hope that over time in the next two or three years, it will produce not only more comprehensive thinking for us in the World Bank, but it would be helpful in how business schools or the profession of economics operate. But obviously we won't do this alone, we will do it hopefully collectively with many of you in this room.

- **Patrick Viveret**

Cour des Comptes, France

Now the question of well-being is of course of central importance in this debate, but all too often in discussing well-being, 'being' seems to be somewhat forgotten. We need to move from 'having' and consumption to 'being'. For the reasons outlined by Ghandi prior to his demise – and which are clearly highlighted by the UN figures I quoted – he said: "Earth provides enough for every man's need but not for every man's greed." So there's enough to go round he said.

According to UN figures, two hundred and twenty five individuals have the same income as two and a half billion human beings. You are seeing untrammelled covetousness and greed which is going to lead to poverty and shortages elsewhere. But we can tackle the fundamental problems of human beings: food, housing, water, basic healthcare. We can afford that, so what we're paying for is the cost of ill-being: advertising, drugs and armaments generate ten times more than you need to sort out these basic problems of hunger. We are paying that cost, the cost of 'anti-well-being'. So it's very important to develop this notion and it's got to be at the heart of the new economic paradigm that has been talked about today.

Max Weber said something very telling: We've gone from an economy of salvation to salvation via the economy. So what we're experiencing now is the end of this salvation through the economy because this is something that is coming back to haunt humanity. Not just because of environmental issues but because mankind is facing such crucial challenges that we are in danger. We might not continue to exist, so we're moving onto a new cycle which has implications for civilisation as a whole; it's not just about economics. And here the two fundamental issues are:

- What are we going to do with our planet?
- How are we going to do that?

What are we going to do to preserve our species? And here the question of accounting time is of critical importance. It ties in with the last problem I raised and that's the question of currencies.

In all the experience of so-called complementary currencies, and there have been about five thousand odd of those throughout the world, it's clear that lifetime, life cycle is an accounting unit. And that's no coincidence because the time you spend on the planet is a fundamental resource.

In an experiment that is being carried out in France where you have got this complementary currency, we find precisely these fundamental characteristics. There's an extremely ambitious project to create a global currency. It is led by Bernard Lietaer, former Director at the Central Bank of Belgium, and he identified fundamental needs at a planetary level. We've seen the beginnings of a financial crisis, that will probably get worse, so it will be all the more important to have a global currency that is based on ecological fundamentals, non-renewable resources, carbon as well as human and anthropological fundamentals and there, the accounting unit is the lifetime. How long you live is the key there.

However the problems we are experiencing in our societies is that they are societies that are at war. Ecological problems are the result of a kind of war relationship with the environment. Equally economic problems are the result of seeing other individuals as permanent rivals and competitors. The lack of an inner life is due to a warlike relationship with oneself. So the key to development is re-establishing a 'peaceful' relationship with nature, with other individuals, and with ourselves and the indicators we need are qualitative as well as quantitative because it is the quality of our being, of our relationship to life, to the universe and everything that requires such an approach.



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Session 4

The way forward





Walter Radermacher

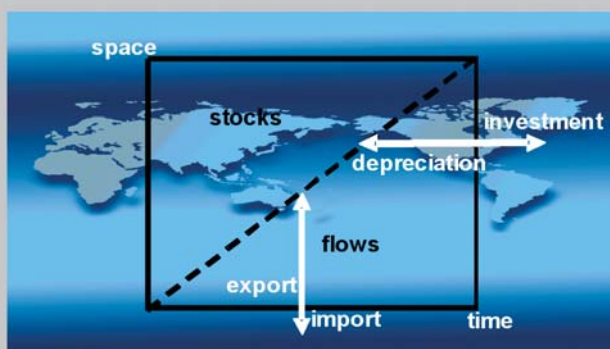
President of Federal Statistical Office, Germany

I start with a little story of the past. We talked about Lenin, we talked about Brezhnev, and I would like to tell you one of my own stories. It is fairly straightforward. In 1989, my predecessor in the Office for Statistics in Germany, spoke to the German Parliament and promised them that within two years he would be able to bring about a correction of the overall accounting system of the national economy, by including the use of natural capital, the consumption of natural capital and also work done in private households. "Egon Hölder, President of the statistical office, is now announcing feminist eco-social product", that was what the newspaper headlines said the next day. I was only a simple statistician at that time when I was given the job of undertaking this whole process, seventeen years ago. And you can imagine that we have a lot of experience in going "beyond GDP" in the meantime and some of those experiences have been included in the following statements.

Statistisches Bundesamt



The Economic System in Statistics: A "flat" projection



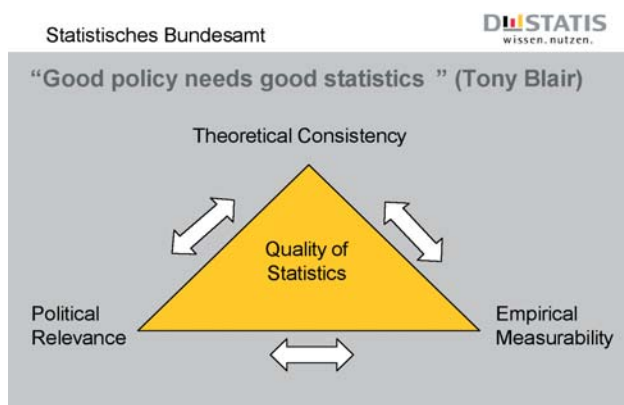
As Enrico Giovannini just said: the world is rather complex and we cannot understand everything just by looking at it from one angle. Even our system of accounts for the national economy is a flat, two-dimensional view of a complex reality, which has to integrate stocks and flows, time and

space. We of course have to make corrections to figures, but into this rather flat structure we are trying to introduce new information. That in fact is what is giving rise to some of the problems to be tackled.

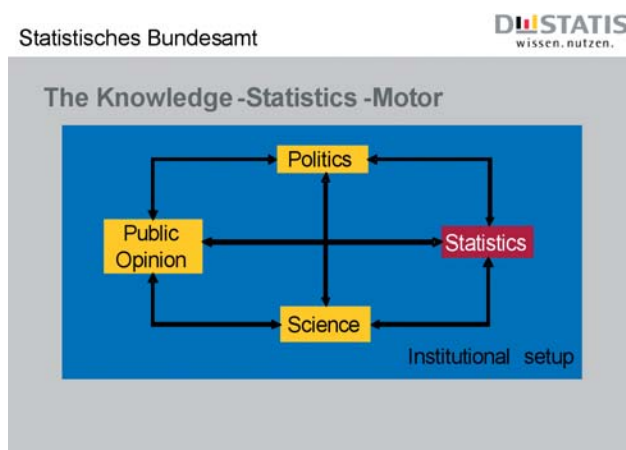
Traditionally, the strength of the statistical system has been based on flows and flow calculations. When I came to stock accounts, the fact is we do not have comparable quality of data around the world. What is also very important, in terms of what Enrico Giovannini said, is the need to update our view and look at what sort of processes underpin the production of statistics. The most important process is design. There are patterns which can be influenced especially if new problems come to the fore.

First of all we have to take a decision as to what sort of measurement has to be carried out, what sort of indicators have to be woven into the bigger picture. So the question is who decides on what information should be gathered, what sort of indicator is relevant and which ones are not relevant. That is the whole basis of a design process. Then it comes to the statistical production process and finally communication is vital. I will come back to these aspects later.

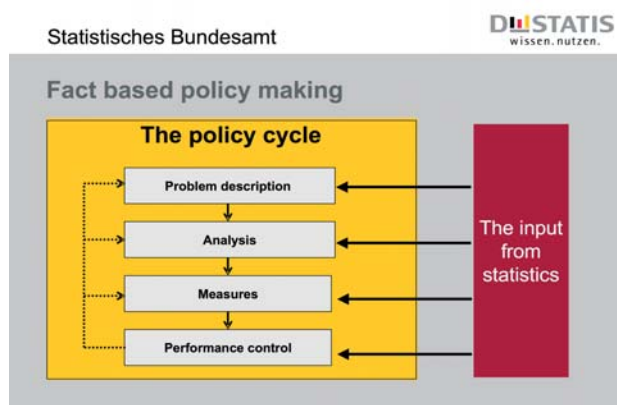
I have been an official statistician for 30 years by now, and I have seen a whole explosion of different proposals coming forward. It began in the eighties with the 'social indicators', and then there were a number of different waves of further information, 'sustainable development indicators', 'progress indicators' came to the fore, 'millennium development goal indicators'. Today there is certainly no lack of proposals or suggestions. In fact, we have a plethora of proposals and our problem in official statistics is to make sense of all of this, to make something consistent out of it all.



This is essentially a question of data quality. Good information must be politically relevant, has to be theoretically consistent, and it has to be empirically measurable. Clearly there is something of a conflict here. The types of approaches that Enrico Giovannini mentioned can be fitted into this triangle in different ways. Indicators normally come out of the relevance corner, while the accounting methods tend to come from the consistency corner of the triangle. Basic statistics have the obvious advantage that they are measurable. So again there are certain problems in trying to accommodate all these diverse things under one single roof.



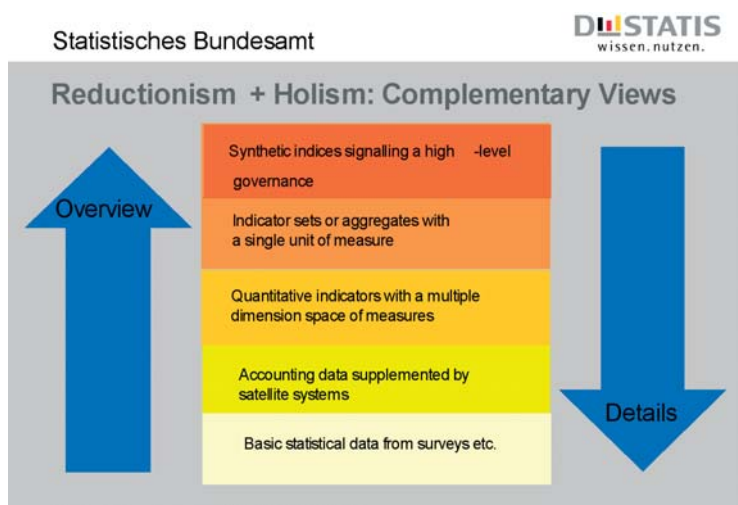
There is some interaction then between the official statistics here on the red, and these three customer groups which I have outlined: politics, public opinion and science. They all interact with the national statistical offices, and they influence statistics in their turn. Statistics then of course has an impact on public opinion; that has an impact on the way voters behave and so on. So there is a lot of feedback and interrelationship between these different aspects. That must be borne in mind at all time.



Next point which is decisive as far as I am concerned is: where do we stand in the political cycle? The first thing we have to do is to describe the problem – agenda setting as is known – in order to put an issue on the political agenda in the first place. But then we have to take more and more specific decisions, the goals are set and finally we have performance control and depending where you are on this scale, the indicators used are very different. We should not lose sight of this fact.

The last point is that if you want to draw up a portfolio of statistical information, on the Y axis there is a distinction between high and low aggregated data, and on the X axis the question of accuracy and cohesion. On one hand you have lowly aggregated short-term data. On the other hand there is the world of accounting to be taken into consideration, the economic, social and environmental accounting. Then we have multidimensional indicator systems. Here I would like to draw your attention to the little 'green book'. This is a bit of a ploy to get you to look at it. It shows the German approach of sustainable development indicators and its application. It is available in the world wide web (www.destatis.de/publications).

Finally we have composite indicators, i.e. highly aggregated indices and indicators as proposed for example with HDI (Human Development Index) or EDP (Eco Domestic Product) and others. They always include a number of assumptions and underlying background that often are not or can not be made explicit. They have a kind of "invisible load" of methodology that usually can not be communicated in an adequate way when using these indices. That is why for official statistics with their claim to offer data of high quality (see for example the European Code of Practice) it is a difficult process to provide this



kind of data. Perhaps rather provocatively, you have this figure of 42. Many of you have probably followed *'The Hitchhikers Guide to the Galaxy.'* In that, the number 42 is the response to everything. We are only not quite sure what the questions were in the first place. But this is what Enrico Giovanni meant, when talking about this one figure, which we do not want to see applied to everything.

So there is a kind of hierarchy in the background of official statistics: highly aggregated, more and more synthetic, and as it goes down, you see an increase in detail.

In Germany – and I think this is true for Europe too – our opinion is that the indicators we use to unify the different elements are collated from basic data via the accounting system. This is the adequate way to gain consistent data in order to supplement for example the headline indicators for sustainable development.

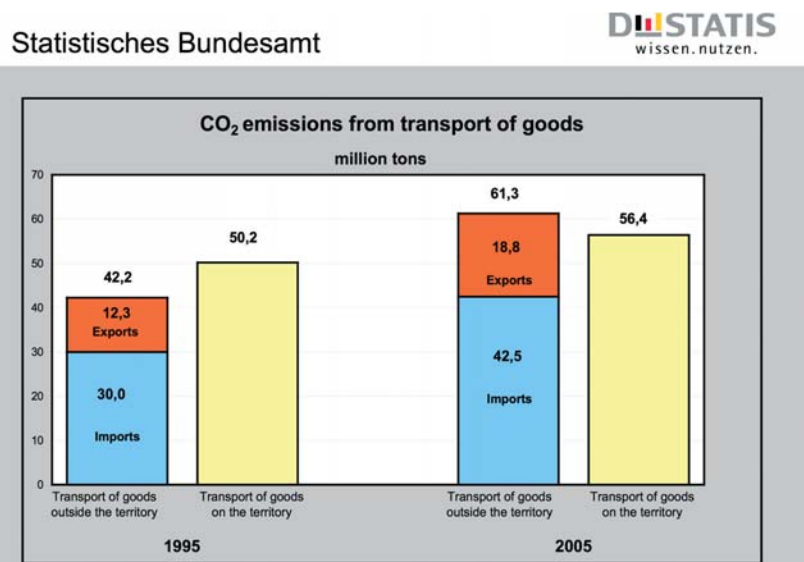
What can we do in terms of analysis using accounting? Here is an example from the German press conference in November 2007. The press conference was entitled to show “environmental-economic aspects of globalisation”. By way of methods of environmental economic accounting using basic data from various surveys (foreign trade statistics, transport statistics etc.) we calculated the CO₂ emissions incorporated in the products imported and exported to or from Germany. In addition we assessed CO₂ emissions abroad stemming from the transport of imported and exported goods on their way to or from Germany (see slide 13). Here, we see that the CO₂ emissions

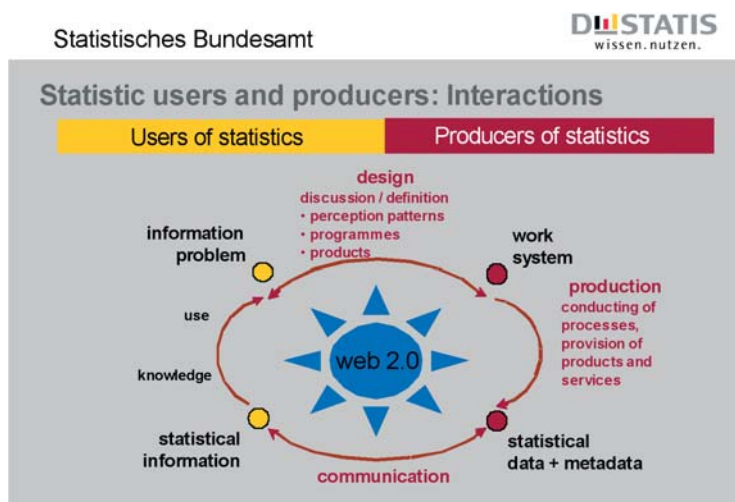
abroad caused by the transport of German import and export goods, have increased considerably faster than CO₂ emissions from goods transport within Germany itself. And of course these aspects play a major role when it comes to pursuing a CO₂ reduction policy. But that is just one example out of many possible ones.

Now, what do we need to take account of when it comes to official statistics and if we want to fill in the wish list we have been looking at for the past couple of days? In official statistics, it is expected that we permanently reduce our functioning resources while continuously new data requirements are brought forward. Many of our colleagues

suffer from this fact occurring to them; we see budget cuts, we have had these cuts for more than 10 years by now in our office. At the same time there are extreme requirements placed on quality. And having spoken to a lot of people working in this field in Europe, they want to take steps to reduce the response burden. So these are the conditions under which official statistics work. And with these conditions I would add that in Europe, the historical political system is very complicated and heterogeneous.

Just a few recommendations now: I think it is very important that from today's discussion we can draw some conclusions. We heard the President of the European Parliament this morning. New data requirements are only acceptable if official statistics are equipped with adequate resources. We also need to make sure that the necessary basic data are available, otherwise we won't be able to score any degree of quality or relevance





So much more than in the past, these days we have to take account of civil society and we have to let them participate in our work. So once again: We need to improve communication and make much more effort in the course of designing statistics, especially when it comes to the selection of indicators. What I am saying is that we need to involve civil society to a much greater extent.

And a last recommendation here: cooperation. Let us intensify the working relationship between national statistical institutes, international organisations and the scientific community. Only by

cooperating we will be able to find better solutions to our problems. Let's go ahead in a common effort.

for the information. We need to broaden the accounting systems. I would refer to the UN approach which until 2011 will have a standard for an integrated environmental and economic accounting system (SEEA). We need to agree on indicator sets based on available information. That is working in Germany but also throughout Europe, I think.

And finally, just a last point: What is very important for the process of improving our measures, is that we follow Hans Rosling's pattern and improve communication. It seems decisive to me, when he pointed out to Web 2.0. The blue sun in the middle, Web 2.0, affects everything, not just communication at the end of the production process (see Slide 17), but also the design process of official statistics.



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Ashok Khosla

Co-President Club of Rome



Thank you, Mr Chairman.

I want to convey greetings from one of the sponsoring organisations that I represent, Club of Rome. I will be talking this afternoon a little bit about the perspectives that the Club of Rome has established over the last nearly 50 years. But I would also like to tell you that a good part of my perspective is from working at the grass roots in a third world country. The two are, to some extent, combined in my presentation.

Let me start with a few what we might call factoids, the bane of statisticians. We have today virtually no way of escaping the idea that the climate is changing. In fact, one of the senior economists of the UK, Sir Nicolas Stern, has said that it is the greatest market failure in history. Then I have to ask him: What about the fact that half the world's population lives below the poverty line? Is that not a market failure? Then I have to ask him: What about the fact that hundreds of species become extinct every year? Is that not a market failure? And then what about the fact that 150,000 square kilometres of land becomes desert every year? Has that nothing to do with market failure? I also, as I said, know one country better than others, so much of my discussion draws on my experience in my own country, which is India.

In 1991, 16 years ago, in the wisdom of the government of that time, we introduced neo-classical liberal policies. Today, 16 years later, all we talk about in our newspapers, our headlines, our front pages, is: "Is GDP this year going to be 9% or 10%?". In those 16 years, we have generated more billionaires than any other country in Asia, possibly in the world. The Club of Rome was invited last week by the President of Germany, Horst Köhler, who told us a very interesting story. He said that one of the prize giving ceremonies that he had to give a prize at, his dinner companion was an Indian industrialist. The Indian industrialist leaned over to the President of Germany and he said in a very condescending kind of way: "I only buy German companies." Well, the world is changing. This is a story from Horst Köhler, it is

not my story. The fact of the matter is that we are living in a world that has completely lost its bearings. Here is a country in which one man a month ago, when the stock market index went from 15,000 to 18,000, made 5 billion dollars in one day of trading. In 6.5 hours of trading, this gentleman made more than 4.8 billion dollars, maybe much more because we do not know all his shareholdings. On that same day, on page 5 of the same newspaper, it said that several dozen farmers had committed suicide because they could not pay their debts. It is a topsy-turvy economy. Frankly, we have a real problem when you have stock markets hitting record highs in a country of 1.1 billion where 800 million according to the government, which is not prone to exaggerate these statistics, are below the poverty line of 2 dollars, where 300 million people earn less than 20 rupees a day. You know what 20 rupees is: 40 eurocents? Even in India it is hard to live on 40 eurocents.

So while the world's economy has made huge progress and some people live with unprecedented opportunities for fulfilment, we have an economic system that does not work for many people. Unfortunately, the concept of GDP symbolises many of the issues that underlie these problems that face the world today.

The value of GDP as an indicator has been proven. It is not a problem, we have heard many of the good things about it over the last two days, and I subscribe to them. It is a necessary indicator. If it is made more sophisticated, all the better. Much has been said by people all through the last few sessions. The classical commitments we have heard include the fact that it is not comprehensive, it does not cover things like women's contributions and domestic work, and subsistence activities, informal sector, free unpaid work, many things: non-monetised transactions, nature's contribution. It ignores non-quantifiable monetised and non-monetised variables like health and well-being, happiness and fulfilment. It tends to aggregate things and to hide the variations like income and wealth disparities, sectoral differences, risks and

vulnerabilities. I won't summarise all the things we have heard, but I will say that there are a few additional things that we have not heard much about.

It encourages very short-term thinking for example. The time horizon never exceeds a year. It is not capable of handling the depreciation of natural assets. It manages well manmade or mechanical or physical resources, but not too well natural capital, or indeed social capital. It has a tendency to double count on the income, even the bads and the goods are all added up. And sometimes underestimates on the cost side.

The methodologies are vague and many of the things like inflation and purchasing power parity and so on are now beginning to be made better and better, but we've got a long way to go. Many of these things have already been said, but there is a lot more to be said. The new criticisms, or the future criticisms of GDP, really, I think, will have to relate to the psychology of human beings, of civilisations, of societies.

Subscribing to GDP as a predominant way of characterising the wealth and welfare of a society, I think, reflects a mindset, an attitude, which is very inimical to the future of our planet, and certainly of civilisation. It reflects what is important in society and economy. We chose indicators that reflect what is important to us. It reflects the relationships and our attitudes towards the relationships between people and nature, between people and people, and indeed between people and machines. It distracts us from the real issues of resource depletion and of the possibilities for overshoot and collapse that these have a tendency to have. I worry, for example, about the counterincentives that GDP numbers give our societies in terms of changing the lifestyles and consumption patterns and production systems that we have to change if the world is going to survive.

We have talked so much here about decoupling: energy and water use and resources from GDP. Unfortunately, what is decoupled is livelihood, unemployment and jobs. Because of the way we have chosen to push our GDP. I have not opened a newspaper in India over the last 3 or 4 years without some reference to the GDP getting up to 9%, 9.5%, 10%, it is like a kind of horse race. Our whole attitude is determined by how well we are doing in this race to get the GDP up.



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It encourages non-sustainable patterns of resource use. It encourages obsolescence; it encourages waste, because all of these add up to more GDP. It encourages hit-and-run-economics, accelerated resource use, and depletion, and it encourages the undervaluing of potentially shared and under-utilised assets. We basically have to reflect how mindsets are going to be looked at. The psychological impact is on low emphasis on the distributional issues rather than on the aggregates. And it tends to encourage homogenisation, standardisation and uniformity of solutions.

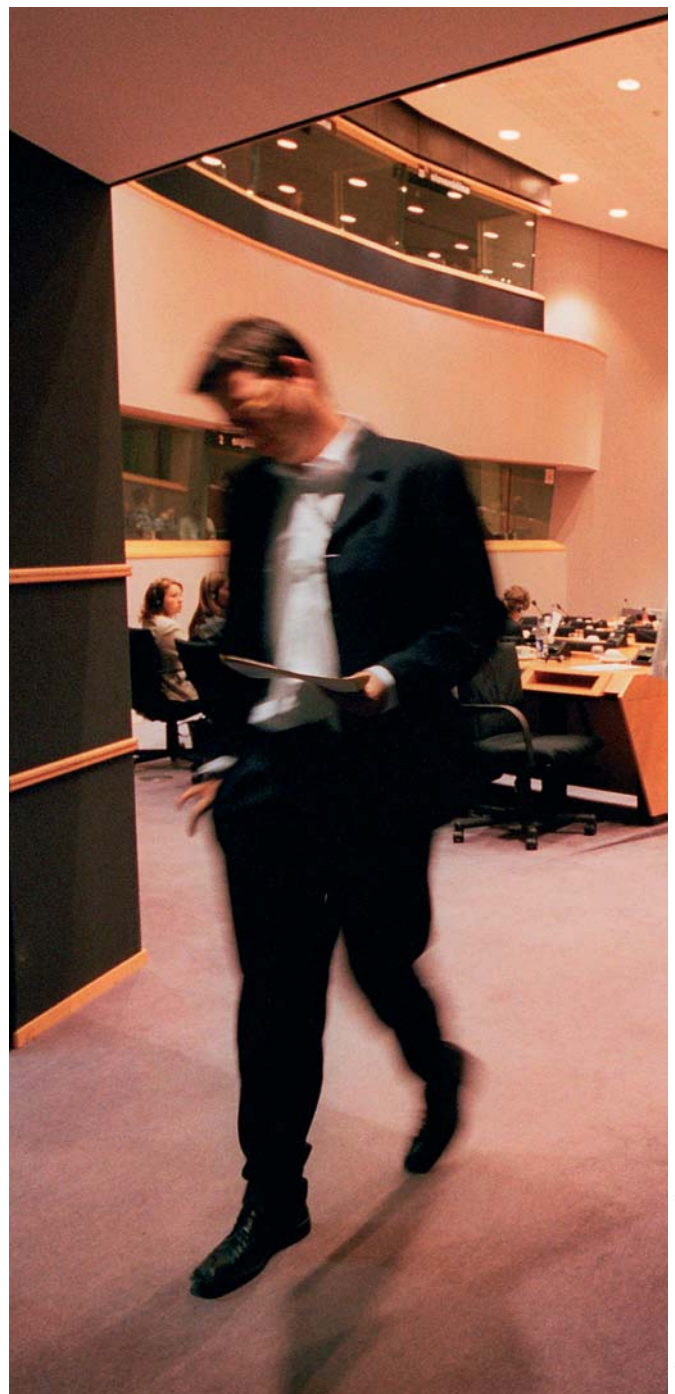
I am being asked to wrap up so let me just come to a few of the things that I think we need to do in terms of the future. I think personally that GDP has to look at the possibilities of how technology and how institutions are going to be designed in the future. Technology choice under the current system has to do with making GDP bigger by making things bigger and centralised and capital-intensive, by using very highly material-based progress and discouraging dematerialisation, and has too much focus on zero sum outcomes: whatever it is that one society gets, somebody else has to lose or pay for. We need to go into positive sum thinking.

The Club of Rome over the last 30-odd years has been basically concerned with systems, and linkages between systems. It has looked at stocks, flows and the links, and the delays between them. It has found that systems have very strange behaviour patterns. They are often counterintuitive. They do things very differently from what you might expect from so-called common sense. And one of those things is, because of the delays in systems and delays in the knowledge that we have about systems, the possibility of overshoot and collapse. We have world systems in which very suddenly the climate changes or the oil finishes, or something happens, and we say: well, we did not think about it beforehand. It is also concerned very much by the limits: limits set by nature, by social processes, and by human potential.

These problematics we espouse to look into solutions for: '*resolutics*'. How to bring economic, social and environmental issues together, to perform, to lead to sustainable development? So our proposition is that GDP has become a surrogate for a way of thinking, and what we have to now look at is defining what is a good life not just by what we have, but by what we are. And that needs very different kinds of indicators. The low-hanging fruits among these indicators are that we need, as my previous speaker just said, much better collaboration between civil society, universities, business and

governments, both as users and founders of work on indicators, and that we promote the idea that variation among the indicators is as important as understanding the aggregates.

My proposition as a person who is a follower of the Gandhian tradition is that indicators ought to be defined from the viewpoint, the perspective, of the lowest, of the poorest, of the people who got left behind, and not by those who dominate the decision structures of our society.



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Miloslav Ransdorf

Vice-Chair of the Committee on Industry,
Research and Energy of the European Parliament



I have some interesting experience from when I worked for the Institute for Forecasting in the Czechoslovak Academy of Sciences. We prepared some projects and recommendations for the government in this interesting period in the eighties. One of our colleagues, Mr Klaus, now the President of our country, said that economics is completely different from other social sciences because it is a hard science. Other social sciences are only soft sciences, including sociology, psychology, history, etc. But my thesis is completely different. After this experience, when our state was governed by economists, I have to say that economics functions more as an ideology, as a political ideology in our own days, and this ambition to be universal or to be a hard science cannot be fulfilled. The recent situation of economic science is described by Paul Ormerod in his famous book published in 1994 *'The Death of Economics'*. From this analysis, it is evident that all social sciences try – at least – to analyse their own basic assumptions. Economics takes these basic assumptions as given. This lack of capacity to reflect on the real basis of the analyses is maybe the problem of economic science today. Ormerod pointed out that no forecast of economists has been fulfilled in the last 20 years, including financial breakdowns as in Mexico, Brazil and Russia. We can find examples of this thesis in a recent book published by Mr Greenspan, the head of the Fed. In Mexico, just one week before the crash, the International Monetary Fund published a very positive evaluation of the development of the Mexican economy. And one week later, everybody was panicking, because it was necessary to put some 50 billion dollars into the Mexican economy to avoid spreading this crash to other countries.

The second problem which is evident in the recent situation of economic science is that most economic analyses concentrate on phenomena. They omit to analyse the essential processes in human society. The majority of economists who have been awarded a Nobel prize worked in the field of the analysis of financial derivatives and

financial fluxes. No economic crisis of the last two decades has been the subject of a warning from economists beforehand. When in recent years, some Nobelists were put on the board of one financial fund in North America, the result was an enormous loss and a further 70 billion dollars had to be put into economic structures to avoid even more bitter consequences.

So the mainstream of economic science functions more as political ideology than as a scientific analysis. The problem is that modern advanced society is the society of universal mediation, as was said for the first time in Hegel's *'The Phenomenology of the Spirit'*. This universal mediation is something very difficult for us, because more and more, these essential processes in human society are mediated by phenomenal structures and phenomenal processes.

It is also the problem of GDP. GDP does not reflect the development of human society in all its complexity, as has been pointed out by my predecessors. For example, if you expand the clearing of rainforests in Brazil, that would obviously contribute to economic boom and expansion of GDP in Brazil. But the social cost for the future would be imminent. The same can now be seen with the growth of China. China is praised as the "recipe" for many countries in the third world. The growth rate of China is astonishing, it's true. But Foreign Affairs published an interesting article dealing with the problem of the environmental cost of this growth. This growth is extremely expensive as regards energy input. The Chinese use more energy per unit of GDP than the advanced European countries or Japan: five times more than the US, and even three times more than India. We can see the degradation of the environment. We can see the terrible impact on nature, water and air pollution, and even the expansion of desert. Desertification proceeds at 1960 square miles per year, despite the fact that the Chinese have started very ambitious projects of reforestation.



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So with these examples we can demonstrate that this push towards a higher rate of GDP and economic progress is not the remedy for social problems. In China, even the Communist Party of China refused to introduce the very principle of minimum wage, arguing that all labour should be governed by market conditions. Respecting the recommendations of mainstream economists cannot resolve environmental and social problems.

I have to say, as was mentioned by Mr Radermacher, that there are also other indicators which can be of assistance in evaluating the situation of recent societies, like the index of social progress devised by Richard J. Estes in the nineties. It would show that a very important factor for citizens in our societies is disposable time. Disposable time can be measured. So it is something which is very important for the quality of life.

To conclude, I have to say that the recent crisis in economic science is a challenge for everybody working in this field. Social sciences need to give us new and fresh ideas, to eliminate the dominance of mainstream economics. We need economic heretics, as one Russian writer, Zamyatin, said in one of his essays: *"Heretics are the only remedy against the entropy of the human spirit."*



Jérôme Vignon

Director, European Commission, DG Employment, Social Affairs and Equal Opportunities



I am going to outline to you the way in which the indicators, and by these I mean essentially social and economic indicators, are used for the development of a European strategy to combat poverty and exclusion. So if you look at the triangle – economics, social affairs and the environment – I shall take just two points of the triangle. But I shall be going to the heart of this conference as I consider how better to use quantitative indicators, to inform and motivate politics and policies.

You have a list of 13 plus 1 indicators, 14 then, which have been chosen from among the 42 structural indicators and these are for the use of 27 members of the European Union (see slide above). These are benchmarks to enable them to measure their commitment to and progress in combating poverty and exclusion. Here we have the illustration of what Mr Giovannini touched on in his opening remarks. We are in a complex environment with complex objectives and if we are to reduce poverty and social exclusion, we must have not just one single indicator at our disposal but a whole plethora, a whole family

of them. Those that you see here have come from the contributions of statisticians, but there is also political input in accordance with the three criteria indicated by Mr Radermacher: consistency, likelihood and veracity. These come together to help the 27 Member States. You need a passage between statistics and politics if you are to have indicators that enable us to guide ourselves.

These 14 indicators are intended to illustrate two main objectives in the European strategy to combat poverty and exclusion:

- Our first objective is to increase social cohesion, to reduce poverty;
- And the second is to measure interaction between growth, employment and social cohesion; to create a bridge between the classic macroeconomic objectives of growth and employment and the objective of social cohesion.

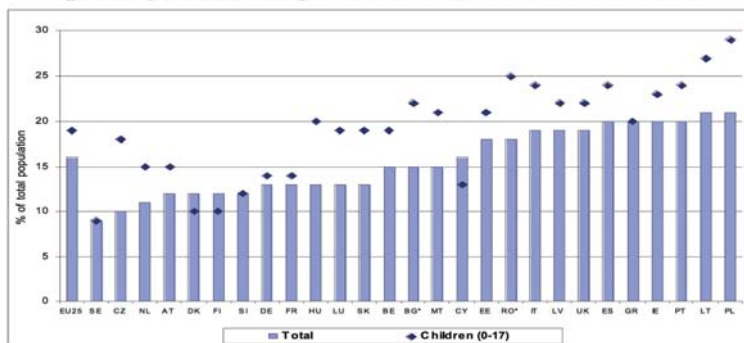
So we are looking at the complex issues that we are studying in this conference. Now in my brief introduction, I shall use just four of these indicators, as I answer the question: is it true that growth in employment does contribute to diminishing poverty and exclusion? Or, under what conditions can growth diminish poverty and exclusion? I shall use indicator 1, the red one, measuring the risk and intensity of poverty; and I shall use the 11th one, i.e. poverty of those who are working, the in-work poverty risk. I shall use indicator 5: looking at households where nobody works, jobless households; and then indicator 12, which is macroeconomic par excellence, participation in employment, in other words activity rates.

Overarching list of indicators for the EU strategy for social protection and inclusion

- 14 indicators to monitor 2 overarching objectives
 - Social cohesion and policies that contribute to it
 - Interaction between growth and jobs and social cohesion
- | | |
|---|--|
| 1. Risk and intensity of poverty | 8. Unmet need for health care |
| 2. Income inequalities (S80/S20) | 9. Anchored poverty rate |
| 3. Healthy life expectancy | 10. Employment rate of older workers |
| 4. Early school leavers | 11. In-work poverty risk |
| 5. Jobless households | 12. Activity rates |
| 6. Projected public social expenditure | 13. Dispersion in regional employment rates |
| 7. Pension adequacy | 14. More health |

At-risk-of poverty rate in the EU (%), total and children, income year 2004

16% of Europeans and 19 % of children are at risk of poverty. Rates range from 9% to 29% for children.



Source: SILC(2005) - income year 2004 (income year 2005 for IE and the UK); except for BG and RO - estimates based on the national Household Budget Survey

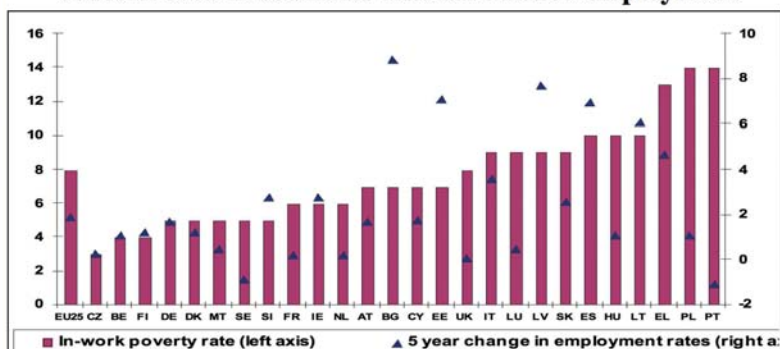
This graph above shows you the scope of the political problem just in the European Union today, with its wealth. I am not talking about developing countries. On the left hand column, you see that about 16% (1 European in 6) risks poverty, the 60% threshold; and one child in 19 (in other words, 1 in 5). Looking at the graph, you see how an increase in adult poverty leads to more poor children. And we come to a political conundrum here: the risk of poverty for children and the poverty rate among children is higher than that for adults. This is one of the reasons why the European Union is looking at this as part of its sustainable strategy. It wants to cut poverty among children.

This brings us to the next question. Why is it that despite important progress in growth and employment – this is the so-called Lisbon strategy, and we are talking about the last five ears, in particular since 2003 – why is there no apparent change in the risk of poverty? First, let`s use our indicators to try to find an explanation. We may have work, we may be amongst those who benefited from the recently created jobs, and yet we can still be poor. This explains why growth in employment does not affect radically the poverty rate. Looking at the columns (see graph above) you see the poverty rate of those in work (it is in the order of 8% for the EU); the arrow shows the variation in employment over the last five years. At first sight, if you look at the left side of the graph, you might think that those countries where there

has been only a slight variation in the numbers in work would also show a very low proportion of those in work who are poor. However, if you look at the right hand side, an increase in the activity rate – you see the arrows, where these are very high – this is to the detriment of the quality of the jobs that we are considering and therefore the pay levels. But this is a judgement with two very weak, simplistic criteria. If you look more closely at the right hand side of the graph, you can see that some countries have, despite growth in activity, managed to keep a relatively low proportion of poor workers, whereas if you look at those on the extreme right of the graph, although there is greater activity, the proportion

In work poverty: at-risk-of-poverty rate of people in employment, 18+, income year 2004

8% of working adults at risk of poverty, in-work poverty a concern even in countries that have raised employment



Source: SILC(2005) - income year 2004 (income year 2005 for IE and the UK); LFS

of poor people in work is very high. So this means that with just two indicators, it is not possible to make any meaningful social analysis. We need more. This is one of the points I need to stress.

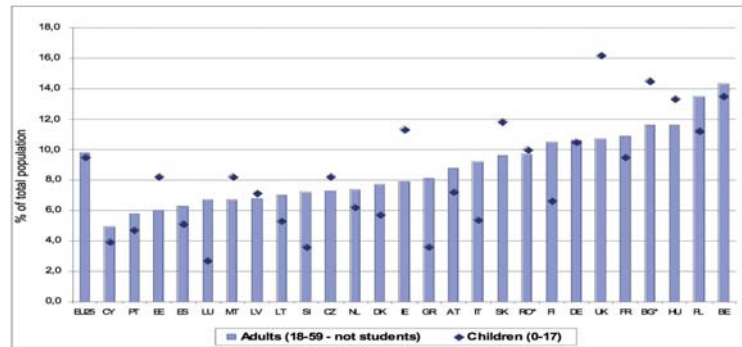
I wish to stress that it is all well and good to have indicators, but there are certain contradictions between the relevance of an analysis and its ability to provide an explanation for us, and then the simplicity of communication. If I add two or three further indicators to this graph, it becomes illegible and impossible to transmit or communicate. We have to live our daily life and our problem is to produce a message that is readable, that is comprehensible.

We need more indicators and at the same time, we need to be able to provide an accurate method that will put us on the right course. This is extremely important if we are to understand these difficulties, and if we are to reduce poverty even when there is a growth situation of employment. When we look at families (see graph below) or households where no adult is at work, and we have very important information from the vertical column in this mauve colour, we can say that since 2001 the proportion of adults living in families where nobody is in work has not changed. Consequently the poverty rate of the children in these families remains very high. There we have the strongest message in social analysis to help decision-makers.

If we do not look at the way in which progress on the labour market affects those families, where there is nobody at work, no adult at work, if we do not worry about the way in which the development of employment affects only those where there is already one adult at work, then we are not going to be able to deal with the issue of poverty at its very root.

Adults and children living in jobless households, 2006

10% of adults and children live in jobless households in EU; no significant improvement since 2001



Source: Eurostat Labour Force Survey, spring results, data missing for SE

I just want to say one more thing. Using a group of indicators which are not very numerous but are significant, it is possible to provide pointers for decision-makers if these are social and can be linked to the major indicators of employment and growth.

And there is a second point I wish to refer to here, namely the importance of health indicators. I do not have enough time to present this to you, but by adding them to what I have just described, we have very good additional explanations to enable us to understand the difficulties there are in ensuring that employment policies reach those families and people who are furthest away from work today. Looking at the future, if in those areas with which I am concerned we are to make additional progress, we need to look at citizens' health and the link there with the environment. One of the best windows for social and economic policy to open up to sustainable development involves knowing more about health, because if we work on that we quickly get to the environment.



- **Enrico Giovannini**
Chief Statistician OECD,
Chairman of Session 4

This session is on “The way forward”. I think that over the last two days we have heard a lot of important, interesting speeches and statements. I think that the challenge ahead of us and especially ahead of the panellists in this last session is to try to homogenise them, to figure out how we can progress, and where to go from here. Let me say just a few words from my perspective. As you have noticed, the panellists represent the different institutions that have co-organised this conference.

The president of WWF had to leave, but all the co-organisers of the conference are represented, plus the world of official statisticians. So let me, first of all, introduce the members of this panel:

- We have Mr Walter Radermacher,
President of the Federal Statistical Office from Germany;
- We have Mr Ashok Khosla,
co-president of the Club of Rome;
- We have Mr Miloslav Ransdorf,
Vice-Chair of the E.P. Committee on Industry,
External Trade, Research and Energy;
- We have Mr Jérôme Vignon,
Director, European Commission,
Directorate-General for Employment,
Social Affairs and Equal Opportunities.

I will take just a few minutes for the introduction. I also ask the speakers to be brief in order to allow you to take the floor and provide your comments and proposals on the way forward.

I draw three main conclusions from this conference.

The first one is about the actors. We have seen a lot of people representing different constituen-

cies with a very similar view, not just to go beyond GDP, but to develop measures that can be used not only by policy-makers, but also by other decision-makers including citizens, including ourselves as individuals. We heard about civil society's initiatives, like local communities and associations who have developed measures of progress, of well-being and so on. We have heard about the commitment of some governments to take this forward. We have heard representatives of parliaments, not just the European Parliament, associate themselves with this effort. We have heard international organisations, statisticians, and also representatives of the business world, media and citizens.

How to bring all these different constituencies together? This is a big challenge and is one of the points I would like to suggest for our discussion this afternoon. But it is clear that we have a lot of actors involved and committed to take this agenda forward. The risk is that we will increase confusion instead of improving collaboration. We have to find a way to work together and give a sense to the final stakeholders that we are working together and not fighting each other – as somebody said today, our world is too accustomed to competing and in some cases, to fighting.

The second point is about measures. We have heard about different approaches, and my personal conclusion and summary, again for discussion this afternoon, is the following. A single number? No, that is not a solution. We cannot reduce the complexity of our world to a single number. GDP is not the right single number, but there is no other single number that can really represent the complexity of our world. We have heard some positive words about composite indicators, and I think we should share this view. Composite indicators can be helpful, but they do not answer all the questions. In the short run, key indicators were quoted as a possible solution with the possibility of giving good answers with some weaknesses, but I have heard from many speakers that key indicators are used in practice and are seen as the possible way forward. The long-term solution, and we have to accelerate this transition as much as possible, is to extend the economic national accounts framework to other domains and extract meaningful and coherent indicators from this extended framework. We have done a lot on the environmental side, at least in theory, but now we need to implement what has been developed on paper. On the social side, human capital and social capital, we are still lagging behind. But it is clear that in the medium-long term, the extension of national accounts seems very promising, although costly.

My third point is about communication and empowerment. It is not enough to engage people. It is not enough to develop good measures. We need to invest in communication and empowerment. These two key words have been mentioned several times. We need to engage people; we need to help people to understand the world they are living in and their society. We need to increase the accountability of governments. We need to invest in tools like those that Hans Rosling showed us, to allow people to transform information into knowledge. Again, this is a big effort. It is not just about statistics, it is an investment in public good, which is common knowledge.

I will stop here.

I will come back a little bit later with some proposals for the way forward, but I want to give the floor now to the first speaker of this afternoon. Walter Radermacher is a very well-known chief statistician but he has also been working for many years on green accounts, so his heart is very close to what we have been debating.

For speech of Walter Radermacher, see page 102.

For speech of Ashok Khosla, see page 106.

- **Enrico Giovannini**

Chairman

Thank you very much. I would just like to underscore two points that I found extremely important in your speech.

One is the importance of variation. Statisticians are a little bit worried about variance because they do not feel safe in dealing with distributions. They prefer to talk about averages. But we have a lot of data that can be used to show differences. I think that your call to pay more attention to differences, and to variance of phenomena, is very important.

The second point that I like very much is your point on systems. This is not something that we can solve as individuals or that just one group or one country can solve. We need, as we said yesterday, to develop new institutions that can help to draw attention to such phenomena using reliable figures.

Now I turn to the next speaker who represents one of the most important institutions in Europe, the European Parliament; one of the most important not just because they hosted this conference, but because the Parliament needs to be fully engaged in this effort. Mr Ransdorf is Vice-Chairman of the Committee on Industry, Research and Energy.

For speech of Miloslav Ransdorf, see page 109.

- **Enrico Giovannini**

Chairman

Indeed, the challenges that you mentioned are very well perceived by those, who, like me, are economists by training and statisticians by practice.

As somebody said in the Istanbul forum: “*You statisticians and economists have a big responsibility.*” So I feel on my shoulders a special responsibility to try to answer these questions. Fortunately I am not alone. We are working with several institutions, and one of them is the European Commission. The European Commission was one of the subscribers to the Istanbul Declaration. Of course, we have long-standing collaboration and, I would say, strategic cooperation with Eurostat.

I am very glad that Mr Vignon will give the perspective of the European Commission, particularly because we have heard some very strong words from the President of the Commission and from the Commissioner for Economic Affairs, and then the Commissioner for the Environment will close our meeting. So indeed, the Commission is a very important player in this endeavour.

For speech of Jérôme Vignon, see page 111.

- **Enrico Giovannini**

Chairman

Perhaps you cannot see it from where you are, but I am glad to say that a lot of people are visiting the European Parliament these days and so we have people in the gallery who are following our work. I would guess that they will never forget the figures they have just seen. This is one way to underline the need for us to reach the people who at the end of the day make decisions. It is very nice that this conference has had some external audience over these two days.

Before opening the floor for discussion, let me be a little provocative, taking one of the ideas that came out of the workshop yesterday morning.

We were reminded that a similar conference took place some years ago and that not very much happened afterwards. Somebody said: "We need an action plan!" This time, we do need an action plan! We need to try to identify after this conference what we will be able to present at the next conference, perhaps in 5 or 10 years. Here I would like to call your attention to some deadlines that have been mentioned throughout these days.

First of all, the OECD, together with other organisations, is planning to hold the Third World Forum on "Statistics, Knowledge and Policy" in October 2009 in Korea. This is a possibility to show progress. But then, as we heard yesterday, the EU needs to be discussing the post-2013 strategy. So 2013 is another deadline that is important.

Then we heard about another deadline which is 2015, when the Millennium Development Goals will be rediscussed. So we have ahead of us, almost every two years, an opportunity to do a check of what we are doing. I think that this timetable did not exist 12 years ago, and it is important that we keep it in mind.

We also have something else. We have seen how many taxonomies are being developed around the world. We heard, for example, that in Latin America, Bogotá, Sao Paulo, Rio de Janeiro and many other cities are trying to do exactly what has been said here. So we have an incredible wealth of experience around the world and we need to try to find a way to bring them together. We have to start talking about this institutional setup. Mr Figueiredo yesterday during the workshop said for example: "We need to build institutions", and he added "at global level, that have the authority and the legitimacy to provide key high-quality statistics to the general

public to underpin public debate on global issues." We are suggesting creating national roundtables. But again, we cannot solve these problems without also thinking about the institutional setup.

Finally, I very much like what one of the speakers this morning said when he talked about this "carrefour du savoir (knowledge crossroads)". In other words, the possibility of putting people together to learn more, to increase their knowledge about what the world is doing. We need to have stronger alliances with the media, because as Mr Ransdorf mentioned today, we live in a world where the media are very powerful. And we need to engage them in this effort.

I will stop here. We have 45 minutes for our discussions.

- **Georges Menahem**

CNRS, France

I want to draw your attention to the link between what Mr Vignon said in his very enlightening presentation about employment and labour, and what Dr Khosla said about poverty.

Now, Jérôme Vignon's statistics were concerned with the safety that is supposed to be provided by the social protection system, the social security system – safety for workers, especially poor workers or unemployed workers. These were supposed to be covered by social security but this does not apply in all countries. In a sense, there is a challenge now to social security systems. They work in some countries, but in other countries they don't.

So this leaves me with my question: why in this conference are we not talking about indicators which would enable us to compare social security systems?

One of the speakers this morning, Patrick Viveret, clearly challenged the responsibility of financial and monetary movements which can direct the economy. This is directly linked. There is just one indicator, the modified security index, which makes it possible to compare the different social security systems and the outcome shows us something very clear. On the one hand, we have the democratic social systems. There is the Swedish social democratic system for example in which we have 28% level of protection. Then in the US there is a negative level of protection. Poverty is not covered in the US. In the middle we have France with about 15%, and the UK at about 8%. That is a liberal

system where the weight of the financial systems is greater. The question is why don't we ask ourselves about the value of social security systems?

- **André Vanoli**

the French Institute of the Environment

I really must say a few words, not as a defence or illustration of GDP, but to qualify part of the discussion in this conference, in particular this afternoon. On occasions, I have had the impression that GDP could be translated as "Group of Devious Partners," "Devil's Partners," or "Group of those who plot against the welfare of mankind." The problem with this sort of criticism is twofold in nature.

On the one hand, it seems to me that it does not do justice to the wonderful development in statistical information systems, particularly over the last 50 years. But even more so, particularly when we consider social statistics since the 1970s and the Club of Rome challenging certain characteristics of growth. Social statistics have been much developed in many countries. There have been reports on social situations and much criticism over the last couple of days has been levelled at the so-called GDP finding answers where they should be found. On social statistics, we could en passant pay tribute to Richard Stone who did a lot to develop things nationally, providing a social and a demographic statistics system that has not entirely seen the light of the day, but he at least sowed the seeds.

Then secondly, there are no doubts about measuring production. But if you ever do challenge this, then it is just fruitless to concentrate on a thermometer. GDP is nothing other than an overall measure of production. And for the last 40 or 50 years, we could have had a general production index, as we have for industrial production, but as there are many factors missing – we did not know much about statistics on services for example – what we have is the national accounts, GDP, looking at the market and various other factors.

It seems to me that a major mistake is being made by mixing up those goods and services which are covered by GDP as a means, and then the outcomes of using the goods and services in question. We need to understand that if we are to make progress, because otherwise we

are stuck with the commonplace interpretation of economic theory. Consumer preference measures everything all at once, preferences and results. We suppose that the consumer is omnipotent and covers all of that. It is not true, so it is not worthwhile imputing those to the poor people who are sweating to calculate GDP.

If we want to measure the results more effectively, and if we look at the indicators which are proposed here and there, we need to develop a new branch of statistics looking at states of health, education, and security. Many features of this sort need to be developed, and apart from some spheres such as education, it does not get very far. Health takes us a bit further, but not that much further; we have not done an awful lot there. But since the beginning of the 1970s when the movement for social indicators developed, the distinction between the means and the end is caught in this.

One last point. It seems to me that during this conference we have underestimated the state of the necessary information. It was very clear in yesterday morning's workshop when on several occasions the impression was given that basically the statistics available, the data are not all that bad. I think that this assessment came from those who look at many very detailed lists of indicators and have to pull them together. But apart from that, and particularly for all of those looking at the deterioration of national assets, consumption, by society, we know far too little to answer the questions that are being asked. I do not want to discourage statisticians in their efforts. Fortunately Walter has experience here. He has shared it with us on several occasions. He has laid stress on the contradictory requirements made of statistics, but in these new areas where we need far more information and analysis, we won't shine with nothing or virtually nothing to hand.

- **Andreas Siegel**

Council of Europe

Having been able to follow the Istanbul Conference as well as this conference, I think there are three dimensions where we have to move forward:

- Firstly, we need to explore further the significance and the scope of what was called earlier "intangible capital." I think we have explored much of the financial and natural

aspect, but this intangible capital needs to be valorised, valued even more;

- Secondly, we have to explore what kind of mechanisms we have to achieve a consensus on indicators. As was said, the data is there, we have a lot of choice, but we have to make that choice, so how can we do it;
- Thirdly, and most importantly, we have to look into managing process, how to regulate the institutional aspects and the follow-up of knowledge. How do we translate knowledge into policy-making? I think there is a general agreement that there is still a big gap in this area.

As far as I can say, we should definitely adopt a complementary approach with different options, different ways. We do not have to reinvent the wheel, because we already have some models. And of course, I'd like to mention that the Council of Europe is actually a regional and sectoral option which we should take into account. It does indeed have a proposal to manage specific aspects of well-being, and a whole cycle of progress, in what we would call the aggregated notions of human rights, democracy, rule of law, social cohesion, and cultural diversity. This can of course develop into indicators such as dignity, respect, tolerance, participation, security, good governance, predictability, solidarity, etc. All of these are actually put together in 200 different conventions elaborated by civil society, and experts, and agreed upon by governments. They are verified by monitoring mechanisms. There are even support mechanisms to help governments come up to the level of expectation, and then there is of course evaluation to start the process again.

I am proposing that we do not disregard existing models where we have a process to manage the whole problem already available.

• Mike Salvaris

RMIT University, Australia

I want to suggest that in moving forward we need to consider more seriously the issues that have been raised in many ways by different people throughout the last two days, concerning democracy, civil society, and communication and building in indicators.

I think to some extent we are still on the quest for a kind of Holy Grail here. We are still looking for a set of indicators that are going to solve the problem,

whereas the problem is really more of a policy and political problem about how citizens themselves are involved in determining the measurements of progress. And I think Patrick Viveret put it very well when he said that the core problem democratically is that the concept of progress that operates in the world is one that is not democratically decided, and that essentially it's visited upon us increasingly in a global world and by financial institutions. So that is a core democratic problem.

Other problems are that indicators then become exceedingly important in influencing government policy and therefore outcomes.

Thirdly, the quality of democracy and human rights itself is an issue in progress, which, as Andreas was saying, needs to be part of the measures that we use. So I'd like to suggest that we give more attention to this and I'd like also to make the point that there are good models. It is not simply a matter of researching indicators. There are many good models. I would say, there is a global movement now of developing well-being measurements as a community engagement strategy, in thousands of small communities and local governments, throughout the world. In my own country, in Australia, we have a law that now requires that local governments of about 60,000 have to develop long-term plans of 5 years involving their citizens and setting clear economic, social and environmental goals, with indicators determined by the citizens. There are many other practices that could be adopted. Canada 5 years ago tried to introduce a National Progress and Well-being Measurement Act to make it compulsory for a report to the parliament each year on the progress and well-being of Canada, across a series of dimensions. That is something that all EU countries should be working toward. Canada did not proceed with that, sadly, but the Canadian index of well-being is important.

The measurement of democracy itself needs to be part of the way forward as one of the measures. I want to commend the OECD project on measuring the progress of societies, because I think it is an exercise in global leadership which has recognised that it is not simply about measuring progress. It is about defining what progress means and making that a democratic debate that is participated in by communities. It is about good governance and democracy and not just technocratic issues or better measures.

- **Raoul Weiler**

Club of Rome, Brussels

I want to make some suggestions about the appeal for action plans for the way forward. I refer to the presentation of the President of WWF yesterday, in which he mentioned some numbers about the footprints we are dealing with today and which look likely to increase in the near future. This also relates to what the President of the Club of Rome said about overshoot and collapse.

The overshoot or the footprint is created in the first place by the industrial world. As the President of WWF said yesterday, some of our countries have a footprint of 2.6, and these countries correspond to about a billion people on our planet. So I would recommend that the indicators to enlarge, or develop, the overshoot situation be taken into account for let us say a period of 20 years, till 2025. That is the first point.

When we look at the evolution of the emerging countries, which is today roughly between two and three billion people, they are facing an overshoot in the very near future, if that trend continues. Then, last but not least, there are 2.5 billion people who have an 'undershoot'. So I think that our industrial societies, and the European Union especially, should focus especially on how to reduce and even achieve a negative development in terms of footprint and overshoot. So it seems to me essential for the way forward, that this recommendation should be explicitly taken into account.

- **Laszlo Pinter**

International Institute for Sustainable Development, Canada

I will try to be quick and practical. I have two suggestions.

1. It is quite clear from the discussions we have had today and yesterday that although there are different perspectives, there is a lot of convergence, not necessarily on indicators, but on certain principles for how we should proceed. I think the practitioner community on all levels that is interested in measurement, might benefit from having some of these principles synthesised at a very high level. This can then be something that the global community interested in these strategic issues can

rally around. From a historical point of view, I would just mention that about ten years ago, a small group of thinkers at that time sat down, spent some time, and developed what became known as the Bellagio Principles for measuring progress and sustainable development. It was not a common set of indicators, but a set of common principles that took us ahead a little bit. Maybe it is time to take another look at this question. This could be something practical.

2. It might also be useful to run some scenarios from a sectoral point of view. If we indeed go ahead, and complement or change – I mean that broadly – the way we measure progress, at both the micro and macro level, what are the implications in practical terms for a particular sector? I am thinking about running the sort of scenarios we do when we make decisions from the perspectives of consumers, producers, regulators, and so on.

- **John Hontelez**

European Environmental Bureau

Mr Chairman, you mentioned a few deadlines for further discussion. I would like to suggest one more, which is 2010. I think the new Commission should present a new Lisbon agenda. The first agenda was set in 2000 for a decade. It was characterised by dominance of GDP indicators, including attention on employment. But, as Mr Vignon has shown, it is rather poor on social inclusion, and, as far as we are concerned, also rather poor on the environment. In 2010, Europe will know what its supposed Kyoto obligations will be. We will also know whether we have achieved the target of halting the decline of biodiversity. We can also see whether the current approach can indeed promote social inclusion. The new Commission should launch a real sustainable development strategy for the EU, with GDP as just one of the main indicators for progress. It should bring the EU back into line with its carrying capacity, and pay more attention to social inclusion and a responsible world at global level. So I would suggest for discussion about the follow up to clearly target a new Lisbon agenda.

- **Stephen Hall**

Department for the Environment, UK

I am not sure whether I will go home today feeling very positive about all this discussion about going beyond GDP, or very depressed. I come from developing the UK sustainable development indicators, and I feel that myself and many colleagues in other countries have been working hard for a number of years to develop indicators that cover something more than GDP. The main problem is that we have been doing this, but we have not quite got the message across yet.

The key question is: How do we get the message across? It may be that we just have to have the policy perspectives changed. Perhaps we are putting too much weight on our own shoulders, as statisticians who feel responsible for this. Because people from the Club of Rome have been talking about this kind of issues for 30 years, and *'Limits to Growth'* was written 30 years ago. The message still has not been taken up by policy-makers.

I am not sure that as statisticians we alone can provide the solution. There has got to be some kind of political change as well. We can go with that political change and provide the answers to some of the questions, but the political change has got to happen. Maybe this might just happen as a result of pressure from the public, and one of the ways through which we can do that is be more innovative about our communication products. Particularly we should be focusing efforts to provide educational resources so that the children who will be the adults of the future will have a better awareness of environmental and social issues than the current generation. I think that is one way forward. The difficulty is to try and deal with the current generation. There is a lot of research that suggests that you can raise awareness, you can raise knowledge, but you still won't get people to change their behaviour – and that is where the political side comes in. There has to be some bravery on the political side to just leap and make some changes.

- **Liz Craeynest**

WWF, UK

I just wanted to make a comment as well on the communication side of things for the action plan on how to take this forward. One of the things that we definitely need to do that needs to be at the heart of this agenda, if we want to take it out of this room and out of Europe as well, is to

be very sensitive as to how we frame this whole debate. There was some discussion on the role of China and the emerging economies in this, and it is very crucial that we recognise some of the research that WWF has thrown up, namely that a lot of the emissions and environmental impacts that are happening in countries like China, India and Brazil, are actually largely connected with consumption in the Western world. So it is probably not useful to point fingers at this stage but actually to recognise where our responsibilities lie in the industrialised world and focus on how we work towards a fair one-planet vision, rather than setting various economies against each other. As regards contribution to environmental degradation in particular countries, a lot of responsibility lies with the industrialised world. It is a very important part of our communication message that needs to be taken into account if we want to have more economies on board for this agenda.

- **Pavle Sicerl**

University of Ljubljana, Slovenia

Marcel Proust said that the road of discovery is not in seeking new land but in seeing with new eyes. What we are trying to do now, is look with new eyes at different new aspects, different dimensions. But I would like to go one step further, and say that we also need to use better existing indicators and the new ones we are going to develop.

I very much like what the panel was saying today, about communication and empowerment, and investing in tools to allow people to acquire knowledge. But perhaps more important than talking about statistical methods is to see how, if you look at the same data from different perspectives, you can reach new conclusions.

Let us look at, for instance, at male and female life expectancy in the European Union. If you look at it in the usual way, which is the vertical way, at a given point in time, in 2000 it was 8% higher for females. If you look at it the other way around, which is the time distance that you go for a given level of the indicator, you might ask: When was the life expectancy for males in 2000 achieved by females? In 1971, a time distance of 29 years. What does this mean? Simply that from the same data you can say: We have a small difference if you look at it percentage-wise. But if you look at it from the point of view of time it is a large one.

So what I am trying to say is: We should use indicators more widely, because otherwise interest

groups pick the one they like for their arguments, and do not look at the whole situation. So we should be saying: yes, as Ms McGlade was suggesting in the workshop, we should have indicators which are understandable to people in the street. I would simply add, indicators and statistical measures should be understood by people in the street. Now we do not have users, only governments and decision-makers. You remember what Hans Rosling was showing us. Now the information goes straight into civil society, and we also need tools which will help them to get perceptions about situations in a democratic way.

- **Stephen Pursey**

ILO

I am a little worried that we are running away with the idea that we have enough basic data to come up with a plethora of indicators. That may be true for the EU and most industrialised countries but I am not at all sure that it is true for the majority of the world, and the world's population, certainly the least developed countries.

I think the statistical services of many least developed and quite a few middle income developing countries are sometimes very badly underresourced. So, as a very specific recommendation for a way forward, could we agree that perhaps all countries should have done a least one reasonably comprehensive national household survey, with a labour force module by say 2012, with the results tabulated online by 2014, in time for the 2015 review of international development strategies? Of course, to make that happen, that means that those parts of the public authorities, national and international that deal with statistics, will have to talk to development ministries. Because many countries will need support for their national statistical services and that typically has not been part of aid budgets. In fact it has usually been one of the bits that drops off the end of the national budget.

- **Enrico Giovannini**

Chairman

Perhaps you or others are not aware that several organisations created "PARIS 21", which is a partnership to try to engage governments and aid agencies to invest more in statistics in

developing countries. It is progressing but a lot of work needs to be done.

- **Frank Corcoran**

European Environmental Bureau

GDP is a one-dimensional indicator but it never pretended to be otherwise. It has just been abused by people, that is all.

The Lisbon process is a two-dimensional process dealing with competitiveness and employment. The European sustainable development strategy on the other hand is a three-dimensional process. The problem has been that people are trying to use a two-dimensional process to solve a three-dimensional problem, and that does not make any sense at all. So as for the solution, we do not have to invent a strategy. The strategy is there. It is called the European Sustainable Development Strategy. All you have got to do now is implement that, and demand of the Council of Ministers that they use this plethora of indicators, the sustainable development indicators, to input into the Council deliberations, so that they can implement the sustainable development strategy and tell them to stop trying to solve a three-dimensional problem with a two-dimensional strategy.

- **Anders Wijkman**

Member of the European Parliament

I did refer to some of the conclusions from the expert group yesterday, and I think we had some forward-looking proposals, in particular pertaining to areas where we need more information and knowledge. One was related to ecosystems and ecosystem services. Another to sectoral policies leading to unintended consequences. A third really focused more on the trade-off between full-time work and time with your family and your children, etc. So we had a number of very concrete suggestions. But, and I think you are right, even if we have more information, more data, how do we oblige the leading policy-makers to use them, and to incorporate them, and to pay as much attention to them as to this almost magical GDP figure? Ashok told us about attitudes, and I think he goes really to the core of the problems. I do recall that when I worked at the United Nations, I think it was in 1994 or 1995, the theme of one of the first human development reports was "Jobless Growth." And how ridiculed we were, because

we dared to question whether conventional growth would result in the generation of as many jobs as in the future because of automation, etc! So whenever you try to question some of those postulates, you find that those postulates are very strongly held, not only by most economists, but, I would say, by most of my colleagues. There is this theory of the inverted Kuznets curve, which tells us that the richer a country becomes in material terms, the less pollution there is. It is a very strongly held notion, although we can show that for carbon emissions, for waste, for ecosystems etc, that wisdom is very questionable, to put it mildly.

So we have to look very carefully and maybe that could be a theme for the follow up: What are the barriers right now that stop us moving to real action? And one is attitudes, perceptions. Another one is of course resistance within the financial institutions. They have been criticised today, but they have certain rules. If someone tells them to do it differently, they will of course resist, until they understand what the transition would look like and how the future would look like. The same goes with business models. Although our friend from BASF told me today that I was wrong, that there were indeed a lot of examples of companies selling performance and quality, etc. I insist that most companies earn revenue by selling more volume. So if business models have to be rethought, how is it being done, and what does the transition period look like?

Last but not least, we have touched upon education. If we strongly feel that economists are wrongly trained, and they are one of the categories that do not understand much of this, well, then we have to do something about education. And I fully agree with you. The Commission could do two things in terms of follow up tomorrow:

- Merge the Lisbon strategy and the Sustainable Development Strategy. That would be very easy to do, and a welcome step forward;
- And you could also reconsider your thematic strategy on natural resources and increase your goal for resource efficiency from 3% to 6%, because 3% will lead us nowhere.

• Giulietto Chiesa

Member of the European Parliament

I speak in the name of the World Political Forum. I have some suggestions, political suggestions.

This conference has been very important, starting with the title. I was astonished when I saw the title of this conference, because I work here, and this conference is taking place in a place where the mindset – to use an expression of Mr Khosla – of GDP is celebrated every day. The Lisbon Strategy was intended here exclusively in the domain of competitiveness. The rest has been simply done away with. We need a new European strategy.

Second point. The main actors of the economic and social system we live in are absent. The big corporations, the big dealers in the gigantic financial world, the big oil companies are not here. And they do not agree with our discussions today. They are absent ideologically, and de facto, which is a very serious indicator of the situation because they are enemies of this discourse.

Third point. We need a radical change in the behaviour of the mass media system, which works to serve the GDP mindset. Every day in every country. How to achieve this is a central question, to provoke a change in the behaviour of millions of people.

Fourth and last point. We need a new institutional world architecture to face a very critical situation where we do not have much time. The question of time is decisive. We have ten years to take decisions. According to the Club of Rome's prediction, the political elite in the world is reacting very slowly. 15 years, they need. I believe we do not have time. That means it is time to put the question of a new institutional world architecture at the centre of discussions because we have no place where decisions can be taken. We have no idea where these decisions can be taken. We do not need any more conferences and gathering data. We need places where questions can be put and decisions taken. These, I believe, are the tasks we have to face very soon.

• Joachim Spangenberg

Helmholtz Centre for Environmental Research, Germany

I want to point to something which has not played a big role in the discussion so far, which is the fact that progress has something to do with the future.

We are usually working with indicators of a state, and not about our preparedness for the future. For the environment, for instance, if you want to have a correction for GDP, you must be sure to check that the system is ultimately future-proof. That has to do with things like the resilience of

the system, so the resilience of the ecological system to elements like biodiversity and things like that is a good indicator for the contribution to future progress. But that also applies to the economy. We cannot measure the economy at the moment based only on one quantitative figure without having any kind of idea whether the economy as such is future-proof. That also relates to what Anders Wijkman just said about the integration of the Lisbon strategy and the sustainability strategy. You must have a perspective for the development of the economy. And that means for example asking: What is the economic sustainability of the economy? How resilient is the economy in case of disturbances? Is the economy sensitive to change, and can its early warning system pick up challenges? Are there redundancies to deal with collapses? Is the diversity of the economy sufficient? Things like that are obviously important questions to address the issue of whether the economy is future-proof. We must address these questions as well, in addition to just quantitative measurement, simply because otherwise we cannot talk about progress, we are just talking about state. So for the future perspective, I think these things must be addressed, and they only underline that these new questions need a new kind of economist. You cannot recycle the old ones, you need to talk about education and breed new ones.

- **Jan Bakkes**

MNP

I was one of the people who were involved in drafting the issue note for this conference. On this very issue of future perspective, I see practical possibilities. A number of people, among them Ashok Khosla, have emphasised the short-sightedness that comes with the focus on conventional indicators, that keeps your vision limited to the next quarterly figures, while not noticing that your fish stocks are going to collapse. What has changed over the past 10 years, is the way we are accustomed to forecast. A lot of things have happened, not only in climate, but also in biodiversity; quite broad based assessments have been produced, looking into the future and it is now almost a routine phenomenon that worldwide environment-focused assessments are being produced. The public and decision-makers are becoming more accustomed to that. And one of the things they reveal is the enormous delays that add to the drama.

So there are good possibilities, many more than 10 years ago, for taking the present set of indicators and projections alongside GDP. That does not give you corrected GDP, but it does give you a set of information that has a high attention value and is highly relevant. That will not come from statistical officers. It will come from one of the pieces of Walter Radermacher's jigsaw puzzle. But the community that has now developed has its models and review systems available, and will be very happy to work with it. And in that connection, another deadline comes to mind, in addition to the ones mentioned by the chair. Very early in 2010 there will be another round of reporting to the spring Council on the state of a number of indicators. I think we have just enough time to add a future perspective to that set.

- **Ivo Havinga**

United Nations Statistics Division,
Department of Economic and
Social Affairs

I have really enjoyed the whole conference and I want to bring forward my ideas, in a personal capacity, with regard to the way forward. I have formulated them for eight different topics, some of them reinforcing what has been mentioned earlier.

One. I fully embrace the concept that it should be a multipurpose system of perspectives. That means that we should not have a single composite indicator, but more. The human development indicator of the UN has been mentioned. We have talked about sustainable development indicators and we should move forward on them. That is the "Beyond GDP" and here we are talking beyond GDP in terms of systems of national accounts. Of course, the system of national accounts is already broader than GDP, but here we are also talking in terms of the system of environmental economic accounting, and social accounting matrixes; and of course in terms of indicators we are talking about millennium development goals, which we are all very proud of monitoring internationally.

Having said that, I come to my second point, of course all these different sorts of indicators and composite structures, and integrated accounting systems, have to be updated from time to time. It has not been properly reflected in the discussions about what is actually already

happening on the ground at this moment, in terms of inclusion of medium-term and long-term views in economic statistics. By 2008 we will submit a new system of national accounts and one of the major contributions that has been made is the inclusion of research and development and other intangible assets, as well as natural resources, with the perspective of getting a better understanding of growth analysis, in terms of understanding what explains growth. Apparently the assets that we had in the system of national accounts of 1993 were insufficient, so we extended them to the areas that I have indicated. So we hope to come to a better understanding of growth, but not only of GDP but also of other areas, like consumption, exports and imports and the like.

In terms of the SEEA (System of Integrated Environmental and Economic Accounting) we have already made headway in terms of discussion and revision, which will be brought to the Statistical Commission in 2012. We are incorporating depletion and degradation, as well as measurement of the ecosystem. There has been a whole team mobilised internationally that brings that together and brings countries to debate these very issues.

In terms of the action plan, I think you definitely have to set deadlines. Some deadlines will have a bearing; the system of national accounts with its already extended asset base is going to be moved forward in 2008. We have extended inclusion of natural resources by 2012 through the SEEA and we have the NDG discussion in 2015.

In terms of the engagement of the accounting community, we have to make headway. Already in the United Nations, being very close to Wall Street and the investors, we do engage them on the intangibles in terms of understanding shareholders values, and we should go beyond that in non-financial reporting systems, as has already been mentioned, like the global reporting initiatives, and we embrace that. We have to engage more fully in that sort of process, and they have to move forward, not only in Europe, but also beyond.

Another point which I would like to stress: there is an enormous contribution by NGOs, private sector, financial sectors, in terms of developing indicators and productivity indicators and the like, bringing into account the limitations of growth. But I think there is a critical role to be played by official statistics in terms of providing data in an authoritative and integrated manner. It is important to bring these data out with independence and integrity, which of course should be relevant.

And due to the fact that we very much stimulate the system of national accounts by broadening its assets base, by including also the natural environment in terms of environmental economic accounting, we will have a basis for providing the official statistics. So in that sense, I would like to echo the position taken by Laurs Norlund, who said "I am rather optimistic, we have already gone so far, and we are going forward." So it is not that we are developing a whole new paradigm shift today. We have to get increasingly more vocal about what we are doing and bring that closer to those who have to make policy.

If we have ambition, we need budget. So in terms of official statistics, if you want to have greater ambition, you definitely need to provide the budget for it, and we are looking to the politicians to make that available. I think it is not so much bringing GDP to the street. I do not ask for my little town to understand GDP. What I want politicians to do, is when I provide them data, that they understand it and translate it into policy on the street, so that we really embrace issues, like poverty, distribution and the environment. And that is where politicians, statisticians, accountants the government have to work together.

Finally, I think the European Union has to lead by example, and it does, and this conference is testimony to that, that it leads by example., You should be congratulated for doing that, both the Parliament and the Commission, as well as Eurostat in that particular context, and the public at large.

And I really salute you all on that. What I do ask is that if you lead by example, I would like that this followed through by Eurostat by developing a programme for environmental accounting. It is much more detailed, that this kind of data will be made available to the public. And finally, if you lead by example, you should also lead the implementation in developing countries. And I am looking forward to the support of the European Union in implementing a broader database in developing countries too.

- **Enrico Giovannini**

Chairman

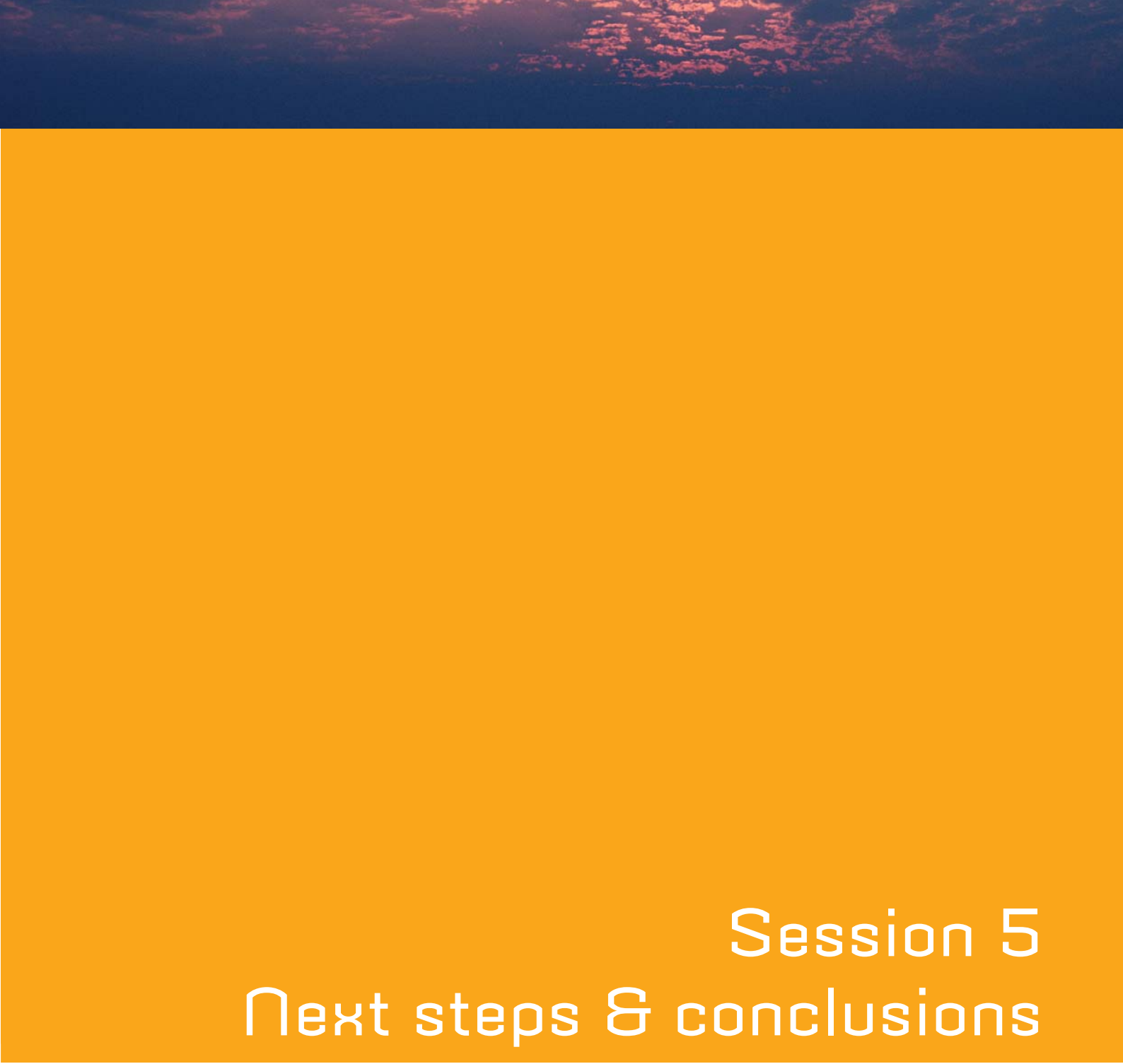
We have had a very rich debate, not just in this session, but over these last two days. Let me take this opportunity on behalf of the OECD to thank the host and the co-organisers and all the speakers and the participants in this very important event.

This event is not just an event that is going to disappear. In the world of new technologies, we are very glad to say that, as you know, this

conference has been broadcast, and the images and all the speeches will remain, in future, as archived video. So people will be able to look at what we have said and I would encourage you to inform your constituencies about this opportunity and encourage others to look at what we have done. Presentations will also be made available online and we hope to publish the proceedings of this very important conference. So I think we can now close this session. I am very glad that Commissioner Dimas has joined us, and I would like to give him the floor for the closing remarks.



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Session 5

Next steps & conclusions





Stavros Dimas

Member of the European Commission,
Commissioner for Environment



The European contribution to a global effort: next steps in measuring progress

Distinguished Guests,
Ladies and Gentlemen,

It is a very great pleasure to be delivering the concluding address to what has been a very successful conference.

One of the measures of success is the quality of the audience and the speakers. Each of the partners – the Commission, the European Parliament, the OECD, WWF and the Club of Rome – have been represented by their highest representatives. We have had 620 participants from 53 different countries attending the event. Industry, trade unions, NGOs, academics and policy makers have all made their voice heard ... and from all sides there is a consensus that there is a need to move “Beyond GDP”.

Politics is about changing the world we live in. We want to end poverty. We want better jobs. We want to reduce pollution. In order to develop intelligent policies we need to understand the world and understand the impact that our policies make – or are likely to make. Politics without good indicators is like trying to make a jigsaw in the dark. And just as the overarching priority of the European Union is sustainable development – which balances social, environmental and economic progress – our indicators need to be able to measure progress in each of these areas.

I would like to conclude this conference by looking back at some of the themes that were raised by other speakers. But before I do this I would like to extend my particular thanks to the European Parliament for agreeing to host the event. The home of European democracy is an ideal setting for discussions that are ultimately about changing the way that we make politics. There is also a sense of continuity because this conference follows on from the conference “Taking Nature into Account”

that was held 12 years ago – also in the European Parliament. And when you compare the two events, there are good reasons to believe that this conference can mark a turning point in how we measure and understand the world we live in.

A first change is that this debate has moved outside of the environmental community and into the mainstream. We are now looking at progress, wealth and well-being and not just “nature”. With initiatives, such as triple bottom line accounting, businesses are embracing the search for new ways of measuring progress. And with the support of the Presidents of Parliament and the Commission this is an initiative that has political support at the highest level.

A second change is the active support from economic and statistical experts as we look for ways to move beyond GDP. I am very encouraged that organisations such as the OECD, the World Bank and Eurostat have all been involved in the organisation of the conference because it will be their expertise that takes forward the conclusions we have reached.

The final change is that a lot of excellent work has been carried out over the last 12 years. We are not starting from a clean slate and concepts like the “ecological footprint” have caught the public imagination. The World Bank has been taking thinking forward on concepts such as “natural capital” representing the real wealth of nations. And tools such as integrated accounting and sustainable development indicators have been steadily developed.

For these three reasons – being in the political mainstream, having the active support of economists and statisticians, and being able to build upon

a solid body of existing work – I believe that this can be, to return to the words of President Barroso in his introduction, “... a truly groundbreaking conference that will lead to the sort of breakthrough that we saw in the 1930s, a breakthrough that adapts GDP, or complements it with indicators that are better suited to our needs today, and the challenges we face today.”

Looking back to the discussions that have taken place, an important first conclusion is that GDP is the most successful and best known indicator that we have. It is simple, it is clear, and it has stood the test of time. I think there has been general agreement that GDP is a rigorous indicator for economic purposes and that it should continue to play a role in economic decision making.

But I think all speakers have agreed GDP is not sufficient to guide modern policy making that covers social, environmental and economic objectives. It is not a good indicator of well-being and this becomes a problem when GDP is understood by public, press and politicians as the unique yardstick for progress.

We have heard many examples of the limitations of GDP. The case of Hurricane Katrina

is one of the most vivid. The hurricane killed almost 2000 people. It flooded 80% of New Orleans and caused widespread destruction to property. It caused damage worth more than 80 billion US dollars. And yet American GDP actually increased after the start of reconstruction work. It is quite possible for something that is good for GDP to be bad for society. And it follows that, if boosting GDP is the only measure of success, we could easily end up doing more harm than good.

There were many new ideas raised in previous presentations and I would like to come back to some of these in order to draw some conclusions that could help guide us as we look to develop better indicators.

A first conclusion is that there is no single alternative to GDP – and that to look for one would be a mistake because it would miss the point that GDP has multiple uses. GDP is used for communication purposes as a simple to grasp proxy of progress. It is used for policy assessment and design. It is used to decide the allocation of budget resources. One of the messages from the conference is that we need a set of indicators – but a very limited one – that can complement GDP in all of these areas. There are a number of potential routes: from integrated



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accounting to new composite indicators. I hope that I correctly summarise the consensus of the conference as being that we should advance on all fronts at the same time, and not try to pick a winner in advance.

A very important point was made by Chief Anyaoku from WWF who underlined the urgency of action. Current consumptions patterns are unsustainable and Europeans are living as if they had 2.6 planet Earths at their disposal. This global overshoot is liquidating the assets on which life on earth depends and is limiting the development rights of future generations. Perfection can be the enemy of the good and striving for the perfect indicator at the first go is unrealistic. We need to be prepared to experiment with tools that are perhaps less than perfect and then work improve them over time.

State Secretary Baleiras from the Portuguese Presidency put forward very interesting ideas on how better indicators could be used in practice to guide EU policies – and in particular the review of the EU budget and the revision of our cohesion policies.

President Barroso noted that we should strive for consensus to develop indicators that are globally recognised and comparable – which are two of the strengths of GDP. But at the same time, we should not use this as an excuse for inaction. The EU and its member states should be prepared to take the lead in looking for better ways of measuring progress.

A number of speakers noted the need to have a better understanding of the value of stocks of natural resources and of the vital services provided by eco-system services. This is an area where work – supported by the Commission – is ongoing and which I am sure will be a theme of next year's ministerial meeting of the Convention of Biodiversity.

Anders Wijkman drew attention to the importance of timely data. We have stock market information every minute of the day. We have quarterly reports of GDP. But information on environmental trends is often years old by the time it reaches policy makers. On a similar theme the European Environment Agency drew attention to the possibilities that new technologies are creating for collecting and processing data in almost real time. This is something that we should be aiming for. The more up to date indicators are the more useful they are.

Perhaps the main achievement of this conference has been to clearly demonstrate the political consensus on the need to go beyond GDP. President Poettering noted that “for too long we have focussed on economic growth as an alternative to welfare”. President Barroso concluded “that we cannot meet the challenges of the future with the tools of the past. Commissioner Almunia felt that “the time is ripe to take the measure of well-being one step further”.

The challenge now will be to pick up from the conclusions of this conference and actually start to improve our indicators and the way we use them. It is essential that the momentum is not lost and I look to Europe taking a lead role – working together with other organisations including the UN, the OECD and the World Bank.

It is also essential to work closely with business, NGOs and other stakeholders who in many ways are the real leaders in this field. On the part of the European Commission I can announce that we will present a policy Communication next year that will develop these ideas into a roadmap for action.

We will certainly need to work on headline, composite indicators that can measure social and environmental progress. We will also have to speed up and improve the development of integrated accounting in the social and environmental spheres. And to improve our governance of the European sustainable development strategy, we should also develop and publicise a “sustainability scoreboard” based on existing Sustainable Development indicators. This tool is already well developed in other policy areas such as innovation and would help Member States to judge if real progress is being made and to better identify good practices.

Ladies and Gentlemen,
Distinguished Guests,

To meet the challenges of the 21st century we need more integrated and transparent policies. To design these policies we need to better assess where we are now, where we want to go and how we can get there. GDP will be one of the indicators that do this job. But not the only indicator. To change the world we need to change the way that we understand the world. And to do this we need to go beyond GDP.

My final words are words of thanks. Thanks again to all the partners who helped organise this conference, to the organising team, to the staff of the parliament for hosting us, to the interpreters – and most of all to the speakers and participants. I hope that you have found the last two days stimulating and also an inspiration for the work that is to come.

Thank you.



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Workshop Programme



November 19

08:00 Registration

SESSION 1: Introduction: The challenge of going beyond GDP

09:00 Opening by the chair

Chair: Anders Wijkman (*Member of the European Parliament*)

SESSION 2: Technical and policy challenges

09:20 The session offers an overview of recent history and current developments, with a focus on European initiatives. Participants will discuss:

- the evolving needs of decision makers and the general public and how to best meet them.
- the specific methodologies that go beyond GDP, including composite indicators, indicators sets, and extending traditional accounts through integrated accounting;
- the key successes, obstacles and opportunities for improving and making better use of the different approaches that complement GDP.

Format: two overview presentations and general discussion

Speakers:

- Marco Mira d'Ercole (*OECD*): Introduction.
- Oliver Zwirner (*European Commission, DG Environment*): Assessing EU progress.

Panelists: Jacqueline McGlade (*European Environment Agency*);

Laurs Norlund (*European Commission, Eurostat*);

Branislav Mikulic (*European Foundation for the Improvement of Living and Working Conditions*).

10:30 Coffee break

SESSION 3: Breakout session: Key needs and ways forward

10:50 Split into three groups to identify where energies should be invested to improve the methodologies and increase their adoption. What are the key opportunities for going beyond GDP? What is feasible in the short to medium term and how can implementation be improved? How to engage policymakers, key institutions, business, media and the broader public?

Format: chaired breakout sessions with panelists and general discussion (*three groups, each with a chair and three panelists*).

- **Panel 1: Chair:** Jeff Mason (*Reuters*).
Panelists: Thais Corral (*REDEH, Brasil*); Carlos Figueiredo (*Environment Ministry, Portugal*); Peter van de Ven (*Statistics Netherlands*).
Rapporteur: Fulai Sheng (*UNEP*).
- **Panel 2: Chair:** Aldo Ravazzi (*Ministry of Environment, Italy*).
Panelists: Isabelle Cassiers (*Université Catholique de Louvain*); Jean Gadrey (*University of Lille*); Paul Hofheinz (*Lisbon Council*).
Rapporteur: Anil Markandya (*University of Bath*).
- **Panel 3: Chair:** Ivo Havinga (*United Nations Statistics Division*).
Panelists: Stuart Bond (*WWF, UK*); Teresa Fogelberg (*Global Reporting Initiative*); Andrea Saltelli (*European Commission, Joint Research Centre*).
Rapporteur: Marcel Canoy (*European Commission, Bureau of European Policy Advisers*).

SESSION 4: Collaboration opportunities

12:10 Collaboration opportunities: improving the metrics and integrating them into policy making

Participants and panel members will discuss how to collaborate in taking forward the beyond GDP agenda. The conference should lead to the launch of an interdisciplinary European effort to improve our measures of progress, true wealth, and well-being. The workshop results will be fed into the main conference.

Chair: Pieter Everaers (*European Commission, Eurostat*)

Reports from breakout sessions 3: Fulai Sheng (*UNEP*), Anil Markandya (*University of Bath*), Marcel Canoy (*European Commission, Bureau of European Policy Advisers*).

Panelists: Willy de Backer (*3E Intelligence*); Johannes Blokland (*Member of the European Parliament*); Bedrich Moldan (*Charles University*).

SESSION 5: Workshop conclusions

13:20 Chair's summary of the workshop

Anders Wijkman (*Member of the European Parliament*)

13:30 Lunch for all workshop participants



Session 1

Introduction

The challenge of going beyond GDP





Anders Wijkman

Member of the European Parliament



Opening by the Chair: The challenge of going beyond GDP

Let me welcome you all here to this two-day Conference on “Beyond GDP”. The theme we are about to discuss is of extreme importance and I very much hope we shall make some real progress. The expert workshop precedes the Conference and the purpose is to allow for some in-depth discussion between experts before we meet in the much larger context after lunch.

Why a conference on “Beyond GDP”? The answer is very simple. The economy as presently organised overlooks some very important aspects of production and consumption. Market prices do not reflect the true costs of production and consumption. Moreover, the way we measure progress is very narrow, meaning that we send the wrong signals to society. Most people seem to think that everything is fine as long as consumption increases. That may have been a reasonable way of measuring progress when living conditions were poor and economic activity was limited and nature was plentiful. But this is no longer the case.

The conference today is not the first of its kind in the European Parliament. In 1995 the European Commission, European Parliament, WWF and the Club of Rome organised a similar conference, the theme being “Taking Nature into Account”. The fact that the OECD is also now one of the hosts today represents a step forward.

This conference has been in preparation for quite a number of months by now, and we are very happy indeed to be able to welcome later on today representatives from more than 50 nations, from all the continents except Antarctica, with more than 750 people registered.

The aim of this expert workshop is to address the various challenges in improving our measurements of progress. Precise suggestions and recommendations that can later on be fed into the conference are more than welcome.

My own background is one of having worked for many years on issues related to the environment and development. It strikes me that there has been – and still is - a very strong perception among a majority of citizens that a growing GDP will eventually help us solve all kinds of problems in society, and address a series of noble objectives in terms of equity, in terms of development, and in terms of environment sustainability. For many economists this is still something of a dogma. But I also feel that more and more people today realise that all kinds of externalities are beginning to overwhelm us and that certain types of growth create more problems than they solve.

Being a politician, I can tell you how difficult it is for us as a body, whether we talk about the European Parliament, the US Congress, the Swedish Parliament or whatever, to integrate and to act on all those externalities. The assumption seems to be that the externalities will be factored in and dealt with at political level, but in this globalized world where competitiveness is everybody's concern, this is becoming increasingly difficult.

The history of GDP as a concept goes back to the 1930s. We all know that there was a strong need felt by governments at the time to be able to measure the activity in the economy. Before that, there was very little understanding about what was going on. Simon Kuznets was asked by the US Senate to develop a measurement of national production or income and this later on became the prototype for what we call GDP.

I would submit that ever since that time, GDP growth has been one of the pillars in terms of policy-making and objectives. Listen to any election debate, anywhere in the world, and everybody - whether from the ‘right’ or the ‘left’ - calls for increased growth in conventional terms. This is quite natural because with growing GDP jobs have been created, wages have been raised and taxes and profits have increased - so more or less everybody is happy.

There are undeniably strong correlations between GDP levels and many components of welfare such as literacy, nutrition, healthcare, life expectancy and so on, but there are, as we are increasingly aware, other components of welfare where correlations are not so obvious.

The whole informal economy, i. e. volunteer work and work within families, is not accounted for. Leisure contributes to people's welfare; however, seen from the perspective of GDP growth, leisure is most often seen as a negative thing. With regard to technology, GDP reflects only the volume of the end products; it doesn't



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really capture changes in technology and/or the dynamics of capital accumulation.

Human capital and investment in education is most often underestimated by GDP. The same goes, of course, for pollution and resource depletion. Probably the single most important un-priced dimension of GDP are the effects of production and consumption on natural capital. Some people say that Planet Earth is run like a company without a real balance sheet.

Equity and distribution is another issue that is absent from GDP. Social breakdown and other forms of social problems if anything add to GDP rather than the opposite.

Criticism of the GDP concept is not new. Kuznets himself early on said and I quote, *"Distinctions must be kept in mind between quantity and quality of growth, between costs and returns, between the short and long run. Goals for more growth should specify more growth of what and for what."* I am old enough to recall a lecture that Jan Tinbergen gave in Stockholm in the early 1970s. He made more or less the same points as Kuznets had previously done.

I have already referred to the 1995 conference in this Parliament. It was quite a successful conference – a lot of good recommendations – but somehow they were not picked up. Maybe we were too early?

Instead we have seen developments over the last ten to fifteen years where the conventional growth concept has become even more important. In the EU it's a pillar of the growth and stability pact and it's a very important component when it comes to distributing the social and regional funds.

We are gathered here today to try to come up with some intelligent responses to the limitations of GDP as a measure of welfare. So the question is: "What to do? Should we adjust GDP?" That was very much the objective in the debates during the 1970s, 80s and early 90s – that is to say, the effort was to try to incorporate social and environment factors and concerns.

Another way of responding would be to replace GDP by some other indicator, whether it is the human development index, the 'happy planet' index or whatever. A third alternative would be to complement GDP by a set of new indicators.

The task of this expert workshop is to elaborate on these various options and try to come up with some precise suggestions. So a number of questions arise.

Why do we need new measurements? I think it is pretty obvious, but we could maybe spell it out even clearer.

What real progress has there been over the years? We know that the OECD, the World Bank, the European Commission, etc. have been working on these issues for quite some time now. How do we deal with this problem in a globalized economy, where national accounts still dominate but where increasingly we have to take into account exports and imports – not only of goods and services but of pollution too, including embedded emissions. Do we have the data required to come up with new measurements and indicators and do we have the skills in the various statistical departments, and the willingness to embark on this?

Last night at the pre-conference dinner I was made aware of the fact that not everywhere in statistical offices are the issues we are going to discuss dealt with comfortably. How do local communities become involved? Unless people at the ground level understand these issues correctly can we really hope for real change?

What about our systems of taxation? They are very much based on the assumption that the economy will grow in the conventional way. And how about business models? There are very few exceptions in the business world that deviate from the norm that to earn more revenue you have to sell more volume.

We have some urgent problems out there - climate change is one, the ecosystem crisis is another. How can we speed up this process so that we end up by providing society with better signals for what's going on in society?

I would submit that there are many other things we have to do as well, with regard to the economic policy framework, but the theme for this conference is first and foremost to come up with more appropriate measurements for progress in society. I am very much looking forward to this expert workshop and the Conference later on.



Session 2

Technical and policy challenges





Marco Mira d'Ercole

OECD Social Policy Division



Honoured to introduce this workshop. Honoured to do it on behalf of the OECD. The E in OECD stands for Economic, which is often taken to imply a narrow approach to well-being, where economic considerations trump other factors. But it is also an organisation with a broad range of competences, hence well placed to bring together some of the themes that come together under the heading of “progress”, “wealth” and “well-being”.

I offer these introductory remarks with a lot of modesty. The themes of this conference have been the subject of research for many years and they span a very wide field of interest. In the early 1970s, the social indicator movement first brought in the public sphere some of the critical dimensions of well-being that are missed by conventional economic measures, at the same time as the report by the Club of Rome, “Limits to Growth”, enlarged what we now understand as the “capital base” that sustain well-being. Since that time there has been much progress but also setbacks relative to the early optimism. What brings us here today is the view that the agenda of measuring “true progress” need new impetus and that this requires the commitment of all partners active in this field.

The OECD has organised over the past two years a range of activities on how to measure well-being, which have culminated in the Istanbul World Forum and declaration. We have also undertaken a stocktaking assessment of alternative ways of measuring well-being, whose main elements are summarised in the background document for this conference. I will refer to these activities and what we have learned from them when responding to some of the questions posed by the Chair in his introductory remarks.

What has been driving the OECD interest in this area? In a nutshell, it is the realisation of a large and growing gap between what official statistics tell us about “progress” and the feeling of ordinary people. People are worried about the state of the environment, poverty, lower purchasing power, crime and insecurity, quality of public services – all areas where official statistics have a hard time

in accounting for these growing anxieties. The OECD Global Project on “Measuring the Progress of Society” is one step in filling that gap.

Let me start by spelling out how the well-being agenda relates to conventional economic measure. Are we arguing that GDP is irrelevant for the assessment of progress? The answer is NO, for reasons that are well explained in the background papers for this workshop. We have simply reminded ourselves of something that well known to National Accountants but whose implications are often put on one side in policy discussions: that GDP is a measure of production and (very imperfectly) of how much a country can afford to consume. It is of limited value for assessing welfare because:

- First, it does not reflect differences of experiences within a country; and
- Second, because it omits many of the items that matter the most for well-being of each individual, even if they are affected by economic processes.

Developing better measures of well-being requires addressing both of these limits. How can we make progress in these respects?

With respect to the first limit, let me be more explicit. SNA aggregates are based on the aggregation of income flows among unattached individuals, with the total then divided among all persons in a country. We may call these “household measures” when they are drawn from the household appropriation account but this is a misnomer.

- First, because each person is treated as an “island” disconnected from other household members: in this way we neglect the pooling and sharing of resources that occurs within families, and the social costs of family disruptions and lower family size.
- Second, because individuals are all assumed to be identical, and each country is effectively treated as one person.

I stress these aspects as they relate to a question posed by the BEPA paper on: *“how to deal with distributive questions when discussing well-being”*. My own answer to this question lies in better integrating SNA and household survey data. This was one of the recommendations made by Tony Atkinson as he chaired a workshop organised by the OECD and the Joint Research Centre of the EU in July 2006 in Milan. He recommended *“to do for welfare what the SNA has done for economic production”*, i.e. develop accounts for the household sector that give visibility to the experiences of homogeneous groups of people (by age, socio-economic status, or income groupings). We should start doing this for money income as conventionally measured. But we should then extend these accounts to other domains such as public services to households. I think that the UK discussion on measuring government output is critical from the perspective of measuring the well-being, inter alia because it highlights a tension – present since the early days of the SNA – between a perspective focused on production and one focused on welfare. The type of household accounts mentioned above would allow bringing in information on the quality of these activities and how and they contribute to the well-being of individuals.

With respect to the second limit, the challenge is to move beyond income to identify those items that matter the most from the perspective of measuring the well-being of individuals and the true progress of society. This requires expanding the traditional boundaries of the SNA with respect to both “asset stocks” and “production flows”.

With respect to assets, its most critical extension is to develop tools suited to track the health of the natural environment. The natural environment matters for well-being, beyond the services it provides today, because it is critical for sustaining well-being over time. While we all recognise today the scale of the environmental challenges we face, progress on the measurement of these environmental threats fails to convey the urgency of action. Some progress is however occurring in two main directions:

- The first is represented by the publication in 2003 of manual on a “system of economic and environmental accounting”, to which the OECD has contributed in important ways. Wesselink et al. rightly describe this as a “landmark achievement” and this is not an oversell.

Today, the creation of the UN Committee of Experts on Environmental Accounting is an important step to mainstream environmental accounting, to elevate the SEEA to an international standard, and to advance its implementation at the national and local level.

- The second is represented by the construction of several composite indices aimed to measure both the impact of human activities on the environment as a whole (e.g. the “ecological footprint”) and the state of some specific aspects of the environment's health (e.g. the WWF Living Planet Index with respect to biodiversity). While the first set of measures mainly serve a communication function, those in the second can also be used at the policy level to monitor the results of different strategies.

Expanding the “asset boundary” is not limited to the environment but brings us to the broader agenda of sustainable development. The measurement agenda on sustainable development is tightly connected to that on measuring well-being, but there are also differences. As noted by David Pearce: *“the problems with the concept of sustainable development are perhaps not so much with the word ‘sustainable’ but rather with the term ‘development’*”. For some purposes it makes sense to separate the two rather than subsume one into the other – not obviously to forget the agenda of measuring “development” but for the sake of making progress one step at a time. Some important work in this area is being pursued by the UNECE/OECD/Eurostat Working Group on Sustainable Development statistics. The discussion in the WG is still ongoing, and others closer to this process are better placed to inform this workshop about the state of its deliberations. But the option considered by the draft report is to focus on the “requirements for sustainability”, i.e. on maintaining a constant level of total assets per capita, as measured through a narrow set of (13) indicators covering the real per capita values of produced, human, natural and social capital, as well as physical indicators covering a small number of critical environmental threats (climate, air, water, landscapes, biodiversity and soil) as well as education and health (8). The agenda of measuring assets is important not just for the environment but also on the social side, we are still far from having developed suitable tools to track in a comprehensive manner the state of human and social capital.

Expanding the “asset boundary” of economic accounts is important from the perspective of assessing “progress” but this is not enough. Also important is to go beyond the “production boundaries” of the SNA to identify those flows that contribute to well-being. The most critical in my view refers to the different uses of time, and here I would like to stress two points.

- First, is that time in paid work contributed to people's well-being via the income it generates, the role-models that it provides, and the socialisation that it offers. But unpaid work and leisure time also contribute to well-being, either directly (in the case of leisure) or indirectly (through the value of what is produced through household production and voluntary work). Much of what families do contributes to the welfare of its members through the care they (mainly women) provide – and a narrow focus on paid work in policy discussion may undermine those immeasurably more valuable functions that parents do for society.
- Second, is that a focus on the diverse uses of people's time is also important because an increase in income achieved through more hours of paid work – i.e. less leisure – has different welfare implications of an increase in income due to higher wages: by conflating the two aspects into the same income measure we cannot have an adequate understanding of people's welfare.

Better measures in this field depend on the availability of suitable surveys. Some OECD countries (e.g. the United States) have done the necessary investment setting in place continuous time-use surveys, which lead a panel of the US National Academy of Sciences to argue in 2005 that “*time is ripe for developing better measure on this front*”. Other countries (including Europe) are however lagging.

All issues I raised above have to do with “objective” measures of well-being. But “subjective” measures of happiness and life-satisfaction have also driven a large part of the interest on well-being. The OECD, the JRC and the University of Tor Vergata jointly organised a workshop on subjective measures of life satisfaction in Rome last Spring that gathered researchers on “happiness” and people coming from a more policy-oriented background. It has been a fruitful discussion as, beyond these differences in background of various participants, the workshop also highlighted some elements of consensus.

- First, subjective measures have probably a limited leeway to compare countries at a point in

time but could be more useful when used in difference form.

- Second, the use of these measures is much more interesting at the individual level, as they highlight the role of both “adaptation” to life-events and of “comparisons” with other people living in the same community for people well-being.
- Third, statistical offices need to look at this area more than in the past, integrating questions on satisfaction with life as a whole and in specific domains in their surveys.
- A final conclusion is that policy attention to these subjective measures is likely to increase in the near future. The BEPA background paper identifies as one limit of these measures that “*it is not clear how to use them for policy making*”. This is a fair comment if it refers to the state of current research. But, let me also add, that (by and large) these measures have not yet been tested this type of use. Survey questions about “work satisfaction” surely tells us something important about the constraints facing working parents, and on the effects of various policies to reconcile work and family life.

Let me conclude by trying to respond explicitly to the questions posed by the organiser:

- *How have recent measurement efforts gone beyond mainstream economic indicators?* It is an open ended question, with many possible answers. But the element that I would like to stress as probably the most important is the development of large set of physical data pertaining to dimensions that matter for well-being: health, education, social, environmental, governance indicators. We have today a rich menu of statistical data to feed our assessment of well-being and how it is changing. This richer set of data reflects the initiatives not just of statistical offices but also of NGOs, business associations, trade unions, and academic researchers.
- *What initiatives are underway to further improve our ability to measure progress, true wealth and well-being?* These initiatives are well described by Wesselink: *single number indicators*, often started from an environmental side, such as “ecological footprints”, “genuine progress”, “genuine savings”; indicators sets (such as the structural and SD indicators used in the EU); and elements on an accounting frameworks (such as the one proposed by the SEE manual). Hence not a single contender, but a variety of approaches suited

for different purposes. We should accept this diversity because, as noted by Wesselink et al., different indicators serve different needs within the broad “policy process”.

- *What are the key technical challenges to implementing new measures?* In this respect, the twin challenges that I would like to stress are to achieve parsimony and avoid double counting. There is a trade-off between the two, and the right balance will depend on the use of the indicators. *Single indicators* achieve parsimony at the risk of counting twice the same element. Accounting framework are better in avoiding double counting but leave open the question of how to get to a synthetic representation. I would argue that single indicators accounting for *all* dimensions of well-being are not well suited for our (OECD) type of policy audience. But we should strive for parsimony within *specific* domains, though either general indicators (such as healthy life-expectancy, which is a synthetic description of both mortality and morbidity, or physical measures of biodiversity and GHG emissions).

These is a personal perspective to the question posed. Participants will have different answers to the questions posed by the chair, depending on their backgrounds and comparative advantages. But, beyond these differences, I want to stress the points of agreement – which I would hope would be shared by all participants to this workshop:

- Agreement that GDP needs to be complemented by other measures if we want to get

a better view of progress, true wealth and well-being.

- Agreement that GDP is only a measure of economic activity rather than well-being.
- Agreement that measuring progress requires environmental, social and governance indicators.
- Agreement that priority is to build consensus among those active in this area: we are not here to engage in a beauty contest among different approaches but to identify priority areas and assess the “comparative advantage” of various partners to move this agenda forward.

One final word. Improving our measures of progress is a necessary condition for re-orientating policies – but not a sufficient one. First, we need need not just to measure, but to get the measures used; this require a closer dialogue between users and producers of the indicators as well as novel ways to present and disseminate results, and is an important part of our Global Project. Second, we need to identify policies that are effective in improving the various items that matter for well-being, and assess their costs, both the costs of policy *actions* and that of policy *inactions* (as dome by the Stern report with respect to climate change). Closer interaction with the policy community is critical for progress and the OECD can play an important role in this respect.



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Oliver Zwierner

European Commission, DG Environment

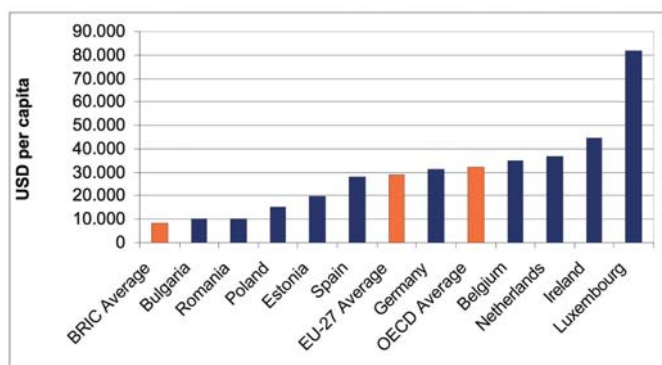


Assessing EU progress by “existing beyond GDP” indicators

It is an honour and a pleasure for me to address this expert workshop. We heard from Marco Miranda d'Ercole what was developed in the past and what will come in the very near future. In my presentation I will illustrate what we already have in terms of 'Beyond GDP' indicators and what kind of stories and insights the existing indicators can give us.

Let us start with the traditional measure of Gross Domestic Product (GDP) *per capita*.

GDP per capita (2006)

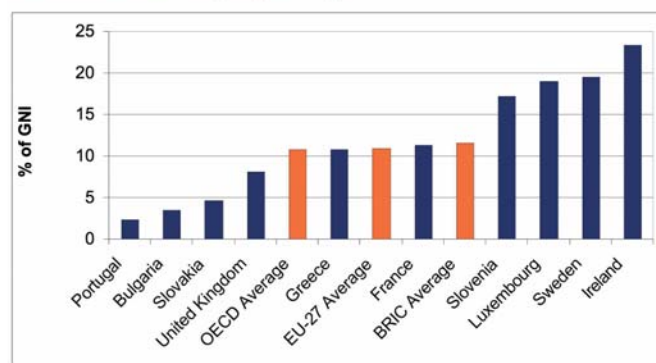


Leaving aside the exceptional case of Luxemburg we then have Belgium, Netherlands and Ireland with roughly US \$40,000 *per capita* and year as the EU Member States with the highest figures. If you compare with the BRIC countries, we see that Europe has a high income, but let us keep in mind that this is only what is produced and sold on the formal and legal markets.

My next question would be: How does this national income translate into national wealth by savings. In economic terms, saving or investing is the way to increase wealth. The question is: Do we get richer when we get more income, does our wealth actually increase? I took note of the traditional measure of investment in man-made physical assets but I chose to present here the genuine savings concept of the World Bank as it includes

investment in education and deducts depletion of natural resources and deterioration of the environment. This concept measures better the increase of the “true wealth” of a nation – a term quoted in the sub-title of the conference.

Genuine Savings (2004)

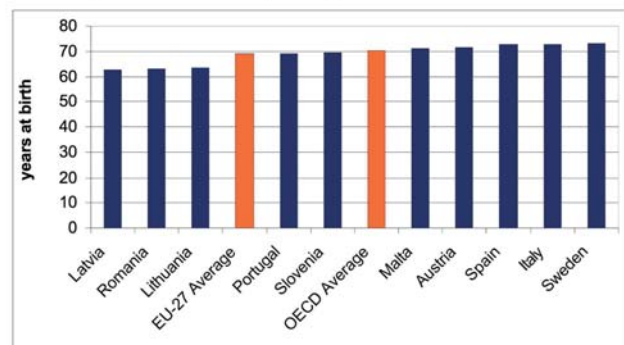


And what we see here, for example, is that Ireland manages to translate its high GDP into high savings while Portugal, although mid-range in terms of GDP, is less able to translate it into increasing wealth (see also Figueiredo, page 166). A newcomer to the top ranks is Slovenia, which has an exceptionally high genuine savings rate compared to its income. It is also notable that the BRIC countries – Brazil, Russia, India and China – save more – at least in terms of this indicator – than the OECD or EU countries.

My next question is: How does this wealth, this income, translate into quality of life? One aspect of quality of life is a healthy life. A long and healthy life is certainly an important aspect of quality of life.

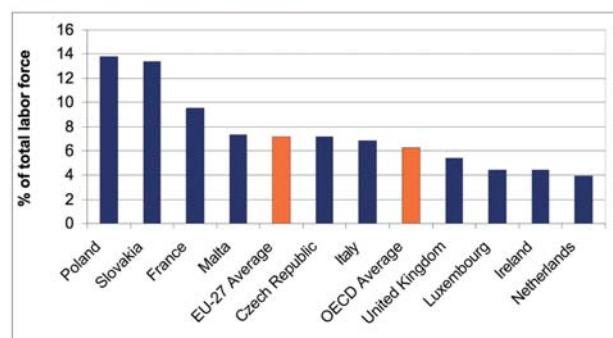
Here we have some interesting newcomers in the top range: Spain, Italy and France – although more mid-range in terms of income – translate this mid-range income into a long and healthy life, which is quite encouraging I would say.

Healthy Life Years (2002)



Let us now look a bit more into the causes and costs of these developments. I will start with a key social aspect: (un-)employment. Although the unemployment rate is a bit of an 'in-between' indicator because it's a 'means' for income (how many people work?), it is also an end in itself because work is something valuable from a social and human perspective.

Unemployment rate (2006)

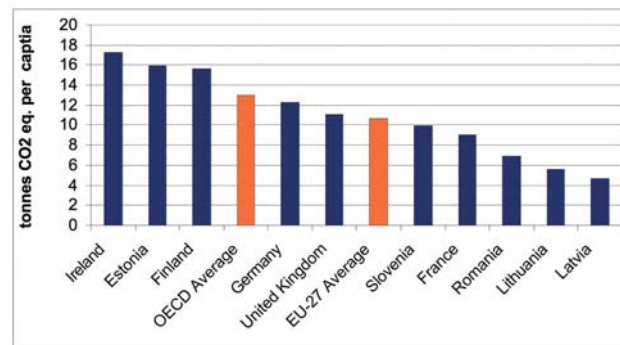


Here we see that some countries with high income like Luxembourg, Netherlands and Ireland also translate this into a high employment rate or at least a low unemployment rate. Meanwhile, for example, France is not able to turn high income into low unemployment. However, this might also be a social or political choice, to tolerate relatively high unemployment. And let us keep in mind that France realises long and healthy lives.

Let me now pass on to another important perspective, namely at what cost and at what expense to the environment this performance is achieved. How well do we perform on environmental issues? For a first step I have chosen the greenhouse gas emissions.

We see here new top runners to the right: we see Romania, Lithuania and Latvia with very low Kyoto gas emissions *per capita*, and we see that

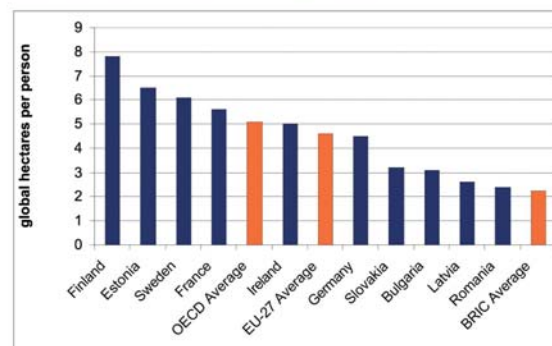
Kyoto Greenhouse Gas Emissions (2004)



emissions *per capita* vary quite widely within the EU; it is more than three times this amount which is emitted in Ireland, Estonia and Finland. And we also have a very wide range in terms of carbon intensity, which means how much carbon is emitted for each euro of GDP.

Climate change is of course the political focus of the moment – very much so – but we also have wider measures of pressure on the environment, one being the ecological footprint.

Ecological Footprint (2003)

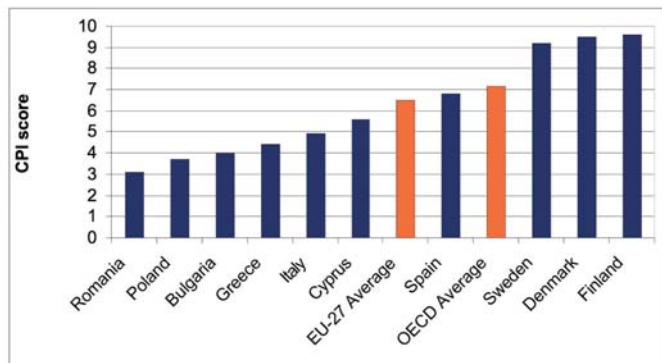


Here we see that the average of the BRIC countries is still lower than the lowest footprint of any EU country. What we see here is that we normally have a quite high correlation between GDP and footprint, but there are also exceptions. For example, Finland which has the largest footprint in the Union is more mid-range in terms of GDP.

But not only does the environment matter, good governance is also important.

Here we see the corruption perception index, which is produced by Transparency International. This is on the one hand a means to produce high income, to preserve the environment and to secure social protection and social inclusion, but on the other hand it is also an end in itself to

Corruption Perception Index (2006)



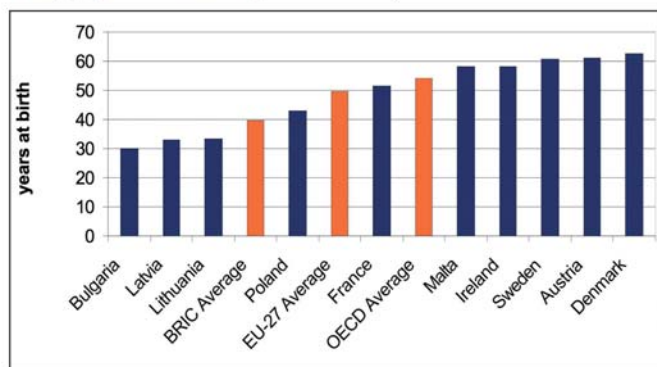
have an honest society. Here again we see that the Northern European countries are top ranking and we see for example that Greece, which is normally quite wealthy in the mid-range, here has a lower ranking with the other indicators.

Let me move on to indexes that cover perception and are subjective. Let me continue with something which is a final end, and that is the wellbeing that we perceive.

Although Europe is quite small on this world map, we see that the divergence is quite high from dark red which is 'quite happy' to some yellow which is 'below average happiness.' It would be of course very interesting now to compare in detail these ratings with the previous ones, but my time is running out.

Let me finish with an indicator that tries to capture what perhaps most of us consider as a final end, which is a long and happy life. This indicator combines subjective "happiness" data with the statistical life expectancy.

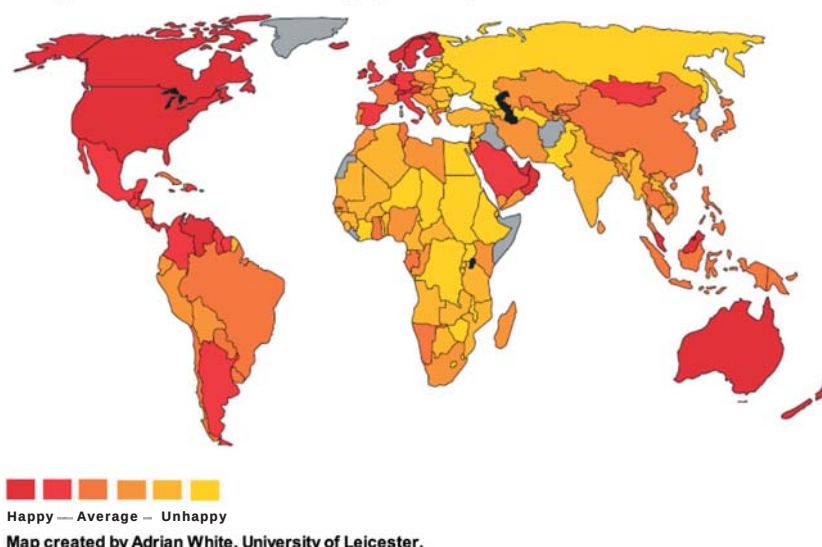
Happy Life Years (1995-2005)



We see that some countries translate their income, wealth, social and environmental protection into a happy life while others, although quite wealthy, perform less. For example, Malta is quite a new-comer here in the top range, quite close to the top score of Denmark.

My conclusion on this is that already with the existing "Beyond-GDP"-indicators one can gain interesting and politically relevant insights.

Subjective well-being (2006)





Jacqueline McGlade

Executive Director, European Environment Agency

Accounting fully for ecosystem services and human well-being

"Because National Accounts are based on financial transactions, they account for nothing Nature, to which we don't owe anything in terms of payments but to which we owe everything in terms of livelihood."

Bertrand de Jouvenel 1968

Introduction

Ecosystems sustain biodiversity, the basis for all life on earth. Ecosystem services are the benefits people obtain from ecosystems. They include *provisioning services* such as food, water and timber; *regulating services* that effect climate, water, soil, waste and disease; *cultural services* that provide recreational and spiritual benefits.

Ecological truth & market prices in accounting for ecosystem services

Ignored benefits: The actual value for people's well being from ecosystem services is accounted only when these services are incorporated into the price of products. When their market price is zero, however, as in many cases, they simply don't exist, whatever their importance. They can be accordingly appropriated for production or simply degraded without any recording. These free ecosystem services should be measured, valued and added to the GDP for computing a more **inclusive aggregate, called Inclusive Domestic Product (IDP)**.

Ignored costs: The negative impacts on ecosystem services of, for example, over-harvesting, waste disposal, fragmentation by dams, and sealing of soil for development have no direct counterpart in GDP. This means that the full cost of producing and consuming domestic goods and services are not covered in many cases by their market price. This is also the case for the price of imported goods and serv-

ices generated from ecosystems that are not maintained: their price doesn't reflect their full cost for the exporting country.

Allowances should be made for these ignored costs and added to the current production output and imports of countries, sectors and companies for computing **the full cost of domestic and imported goods and services, called the Full Cost of Goods and Services (FCGS)**.

IDP and FCGS for policy decisions

Once computed, these two aggregates can provide added-value to policy makers in terms of better informing decisions on the costs of action versus the costs of inaction, on the internalisation of environmental externalities and as a result of these, where to target actions around Ecological Tax Reform. The aggregates aim at **supplementing GDP**, not at replacing or adjusting it.

The two aggregates are based on environmental accounting for ecosystems. These ecosystem accounts can be established in both physical and monetary terms. **Physical accounts of the natural capital**, stocks, material/energy flows, resilience, services can be benchmarked according to stated policy objectives. This is possible for example in reference to European environmental regulations and directives and international conventions. IDP and FCGS can be derived by applying monetary valuations to the results of physical ecosystem accounts.

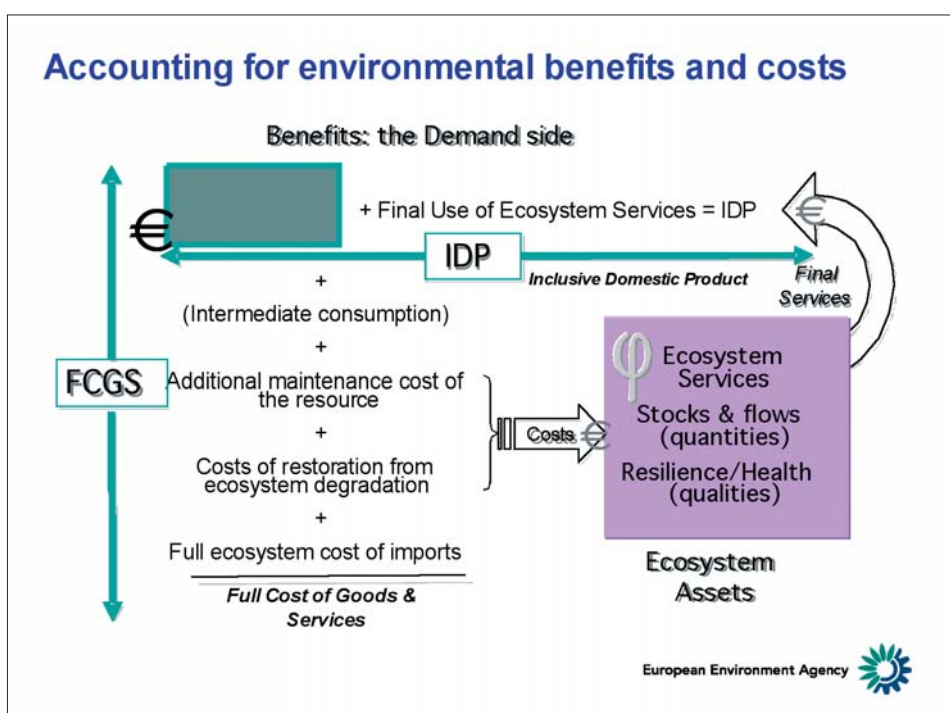
Implementation

Environmental accounting is a joint activity between Eurostat, EEA, OECD, the UN and many EU Member States in the context of the European Strategy on Environmental Accounting and the revision of the UN-SEEA2003. Subjects covered at EEA include land, ecosystems, water, and production and consumption (based on material flows accounts and NAMEA). Physical accounts for land and elements of NAMEA have already been published. First water accounts will follow in the next year.

Ecosystem accounts will be delivered through to 2012 under the European Ecosystem Assessment

of Europe – Eureka! which will assess what the ecosystem accounts mean for policy, today and in the future. Intermediate accounts will be published for wetlands and forests ecosystem services and biofuels by 2010.

The Shared European Environmental Information System (SEIS) is the umbrella under which physical accounts are being developed. SEIS provides the basis for a harmonised geographical data infrastructure for producing a range of indicators such as: Landscape Ecological Potential, Ecological Footprint, HANPP and other indicators derived from Material Flow Accounts.





Branislav Mikulic

European Foundation for the Improvement of Living and Working Conditions, Dublin

Quality of Life in Europe

I would draw your attention to the quality of life, which has already been mentioned in a number of previous discussions, and to the concept of quality of life – and measuring it – which has been developed and applied by the European Foundation in Dublin.

GDP is a single indicator of economic output. In Dublin, when we were thinking about measuring and developing a concept of quality of life, we couldn't use it for our analyses as a key indicator or key analytical variable. We had to develop a concept of quality of life and to operationalise this concept in order to measure it.

What is the concept of quality of life for the European Foundation? It has three major features:

1. One of the features is that it uses micro-perspective. This means that it focuses on individual conditions and circumstances but also looks at their perceptions, attitudes, expectations, goals and objectives.
2. Another important characteristic of the concept of quality of life is that quality of life focuses on a number of measurements of people's lives. So it goes beyond the concept of income and living conditions. It broadens it. What was also very important for us in the beginning was that we wanted not only to look at and to describe the number of measurements of people's lives but also to analyze inter-relationships between different measurements of the quality of life.
3. Finally, the third feature of our concept of quality of life is that we used both objective and subjective indicators of quality of life. So we went beyond income, we went beyond assets, and we looked at the subjective indicators: indicators of people's perceptions, of people's attitudes, but also of people's satisfaction or their happiness.

Further, we tried to measure a concept and we developed and designed a survey which is a quality of life survey, which focused on all these need concepts. It focuses on individual situations. It uses a multi-dimensional approach. It measures a number of dimensions. It uses subjective and objective indicators.

People who are thinking of going beyond GDP, or complementing GDP, or making some composite indicators can use our survey and our database. Why? Because it is unique, not as to the sample size or some other characteristic. It is unique because it covers all of the 27 European Union Member States plus three candidate countries. We have the possibility to examine a number of non-monetary indicators, to compare them between countries, and to examine how they behave in these comparisons, but also to compare them over time. Our survey already has two rounds. We can compare the period of 2007 with the situation in 2003. These are advantages for all those who think about going beyond GDP or complementing GDP or adjusting GDP by some other indicators. This is what the European Foundation offers and what we will develop in the future.

Of course we will do our own research and we will inform the scientific community and policy-makers about all findings. Not only about these indicators, but also about constructive indicators, aggregate indicators, which we are going to develop in the coming months or year. In the second round of the quality of life survey, we extended it to cover a number of dimensions of the quality of life, asking some additional questions in order to gauge the weights of some of the subjective indicators. We hope that we will be able to produce one composite indicator of subjective well-being. It might be one of the additions to GDP.



European Foundation for the Improvement of Living and Working Conditions

QUALITY OF LIFE IN EUROPE

-

Concept, measurement and findings from the first pan-European survey on quality of life (EQLS)

Dr. Branislav Mikulic, European Foundation -Dublin

Brussels 19-11-2007

1/09/08 1



European Foundation for the Improvement of Living and Working Conditions

Foundation's concept of quality of life: main features

QoL and QoW are high on the UE social policy agenda

Departure point is policy objective of enabling people, as far as possible, to achieve their own goals in the society they are living in

Features of the concept

1. Quality of life refers to individuals' life situation (micro perspective)
2. Quality of life is a multi-dimensional concept
- Quality of life is measured by objective as well as subjective indicators
- European Quality of Life Survey (EQLS): a unique source of data for monitoring quality of life in an international perspective



European Foundation for the Improvement of Living and Working Conditions

Domains of Quality of Life

(Core domains)

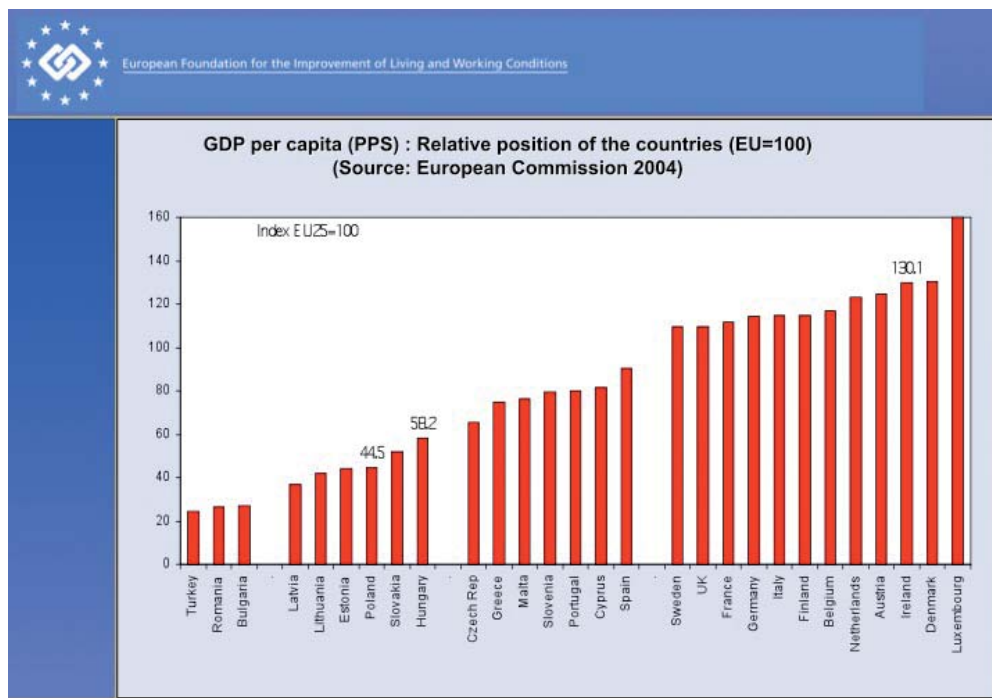
1. *Economic resources*
2. *Health and health care*
3. *Employment and working conditions*
4. *Families and households*
5. *Work-life balance*
6. *Community life and social participation*
7. *Knowledge, education and training*
8. *Subjective well being (happiness, life satisfaction , domain satisfaction)*
9. *Housing and local environment*
10. *Public safety and crime*
11. *Recreation and leisure activities*
12. *Culture and identity, political resources and human rights, including the European dimension*



European Foundation for the Improvement of Living and Working Conditions

Foundation's concept of quality of life: main features

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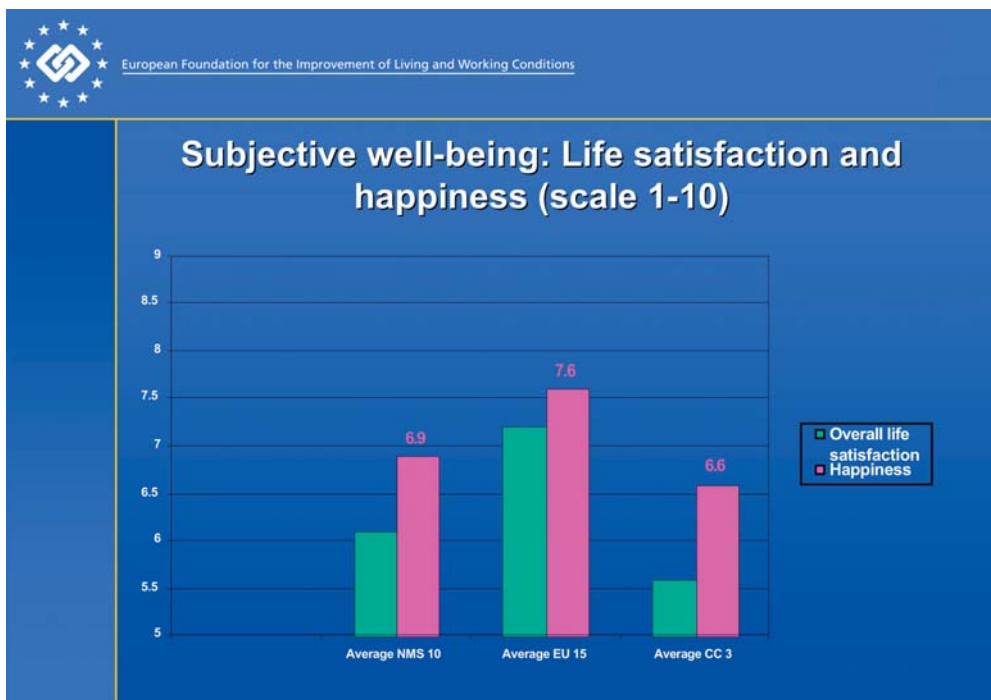


European Foundation for the Improvement of Living and Working Conditions

Subjective well-being: life satisfaction and happiness

Economic resources and standard of living have strong impact on subjective well being.

However, there are other factors such as cultural, political and social ones pay also important role in determining peoples life satisfaction and happiness.

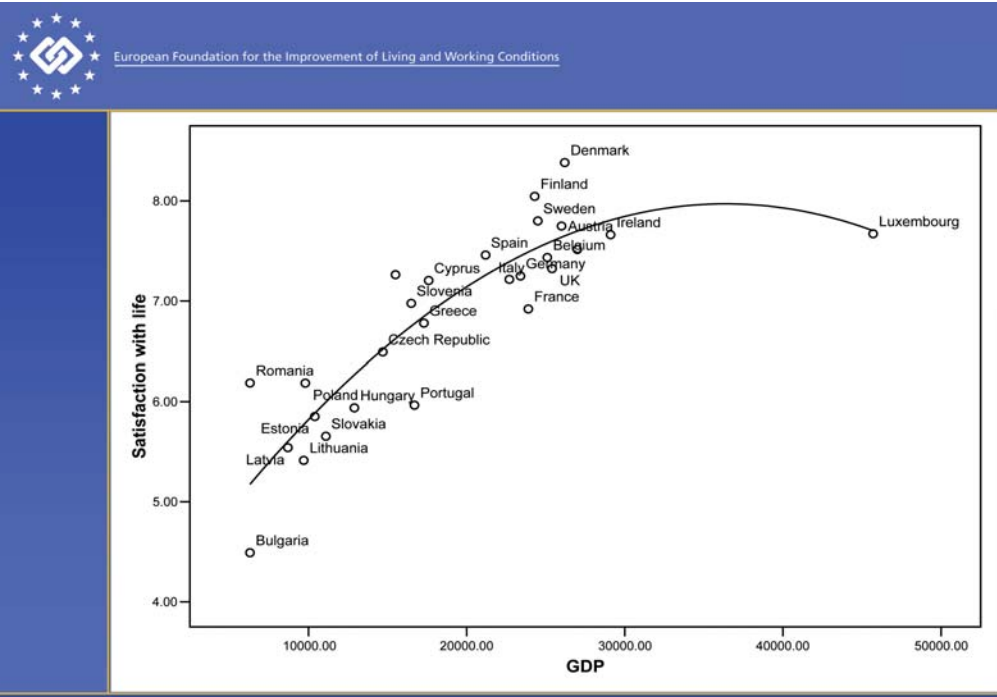
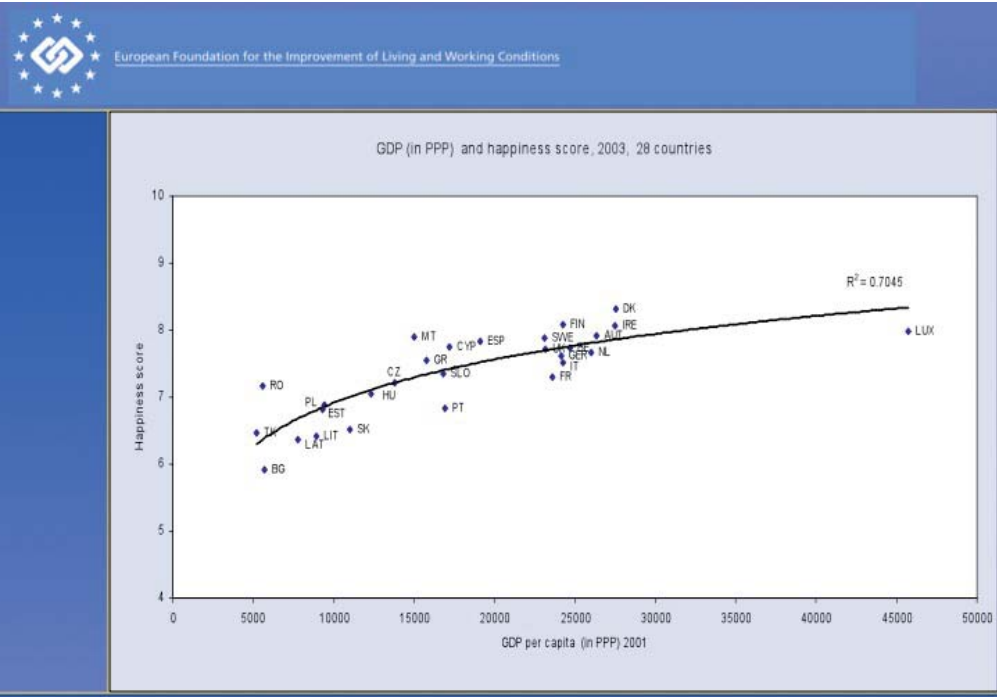


European Foundation for the Improvement of Living and Working Conditions

Subjective well-being: life satisfaction and happiness

Lower level of standard of living, poor working conditions, job insecurity, difficulties in balancing work-and life and lower quality of society have impact on subjective well being are strong explanatory factors for the level of subjective well-being.

However, there are other factors (cultural, political and social) which play also important role in determining peoples life satisfaction and happiness.





European Foundation for the Improvement of Living and Working Conditions

Future EF work on well-being indicators

- Subjective QOL index (composite index based on the domains' satisfaction figures)
- Weights for the index components (importance of domains)
- Sensitivity analysis of the QOL index (the index vs. income and non-monetary indicators)
- Measuring capabilities and opportunities for achieving personal goals and objectives (developing additional subjective indicators plus objective indicators)



Laurs Norlund

Director, European Commission, Eurostat,
National and European Accounts



I want to start to say that I'm extremely optimistic. On the one hand, we are in a situation where the complexity of modern society is clearly more pronounced than ever before. We have decision-makers and politicians who are presented with more and more dilemmas and more and more sophisticated trade-offs that they have to have a view on.

Why am I optimistic when that is the case? Because I think that at the same time we have never had access, never ever in the history of our species, to so much timely, relevant, well-developed, high quality information as we have today. In fact, I do believe that to a large extent, a lot of this information is being presented in a very clear and understandable way to decision-makers. I think the post-war era has been absolutely astounding in that respect.

What are the elements of this information system? We have a wealth of information coming from the primary domains of official statistics and other information providers. It is information which is available about almost any conceivable variable that you can imagine about our society – at all levels of society, at regional level, at national level, and of course we are also interested in the super-national level, the EU level and the global level.

The variety of statistics is extreme. It's extremely well developed. It is methodically mature in many domains. It allows for a large variety of both inter-temporal and interspatial analyses and comparisons. There is no reason at all to believe that the availability and quality of primary statistics should not develop further in the future in line with technological development, which has to a large extent been a carrier of the development of statistical measurement. This assumes that we continue to accept that we, as a society, need to invest also in this kind of infrastructure which is the provision of information. That's the first point.

The second point is based largely on these primary statistics, but also on a number of other information sets. We now have at our disposal an increasing number of valuable sets of relevant indicator sets

like the EU sustainable development indicator set, and other indicator sets. Many here in this – room have their own indicator set, but there are many – I would almost say – competing indicator sets.

The added value of these sets compared to primary statistics is that they present indicators in a logical analytical framework. The one I know best is of course the EU sustainable development indicator set. They are intuitively understandable, which makes them valuable for policy-making and for communication purposes. They provide very valuable insights into how our societies work and therefore hopefully allow for better decisions. There is one way into the – future with these sets - in which I hope we will invest more in the coming years – and that is to build up our understanding of the inter-linkages between different indicators in the indicator sets. Because these are often very complex linkages, our understanding of them is not as good as it should be. It is also, I admit, methodologically very complex but we should invest more.

Thirdly, and now we come in a way, to the title of the conference. We have something that I work on, a very advanced system available for a variety of types of economic analysis based on the national accounts system. It's not only one of the balancing items, the GDP. It is a long range of variables and balancing items in different sectors of the system at different levels of aggregation. They are used for a variety of types of economic analysis. It is certainly not a perfect system and that is clear when you look at the system and see where the gaps are. But it is a system that is under development and where the methodology is being improved to fill in some of the gaps. It is obviously not a well-being measurement system, but it is a system which provides a very rigorous framework to conduct analysis in a variety of situations.

The fourth point then is closely linked to the national accounts and is what Jacqueline McGlade spent some time on. It is the development of other systems or integrated systems which would also use the accounting framework but would allow us to analyse a number of other phenomena in

society, like the pressures on use of scarce physical materials or in principle any other kind of social phenomena. The advantage is – because you use the very strict rules of the accounting framework – that you are able to analyse these phenomena within a rule-based system. This is of course not something new. The only regret we have is that we are not very advanced in this system. Look at one of the fathers of modern national accounts, Richard Stone. He made a very good acceptance speech for the Nobel Prize in 1989 – that speech was called the 'Accounts of Society', it was not called Economic Accounts, or National Accounts, it was called the 'Accounts of Society'. Towards the end of the speech, which reflected very much of course the development of the science at that point, he made it very clear that for him, the accounts of society consist of economic accounts, environmental accounts and social accounts. This kind of analysis, which cannot stand alone but has to be a complement to the analysis of other direct observable phenomena, is extremely useful. We should invest a lot in them. I am very happy that the Agency, Eurostat, the OECD and others are heavily involved in that work.

I have two small warnings, if you allow, Chairman. I cannot just agree with everyone on everything.

If we have well working complex analytical systems, we should be very wary of trying to amend them by introducing elements into them which would make them less a reflection of observable statistical reality and more the results of imputations of weakly based assumptions of thinly argued conventions. It is very important that we don't throw the baby out with the bathwater. Therefore we should work on accepting parallel approaches and be very careful when we start changing the fundamentals of some of these analytical systems. That's my first challenge.

The second point is, it would be a mistake if we tried to pretend that we could reduce the information we provide to policy-makers as a basis for serious policy decisions to very simple indicators. I don't think that's possible. It would do policy-makers a disservice. The reality is that life is complicated. The reality is that we need an extremely complex set of connections and we need very good people to explain, interpret and understand these complex connections. So we should not dream of having one indicator to solve the dilemmas or the trade-offs that the policy-maker has to be faced with anyway.

- **Anders Wijkman**

Member of the European Parliament,
Chairman of the Workshop Session 2

As you can see from the programme of this first session, – we will lead off with Mr Marco Mira d'Ercole who is a senior economist, Head of the Social Policy Division and responsible for the development of social indicators at OECD.

After that we will have my colleague, Oliver Zwirner from the European Commission's DG Environment who has been working 120% of his time on this conference since we met in January.

Then we will have a discussion with panellists:

- Jacqueline McGlade whom most of you know, who is the Executive Director of the European Environment Agency in Copenhagen. She is a very distinguished professor and an outstanding personality when it comes to a system's perspective on sustainability;
- We also have Laurs Norlund from Eurostat who is Director and responsible for National Accounts on my right here;
- And last but not least Branislav Mikulic from the European Foundation for the Improvement of Living and Working Conditions.

Hopefully, they will be stimulating as broad a discussion as possible of the challenges ahead. So without further ado, I give the floor to Mr Mira d'Ercole. Once again, very, very welcome!

For the speech of Marco Mira d'Ercole, see page 142.

For the speech of Oliver Zwirner, see page 148.

For the speech of Jacqueline McGlade, see page 149.

- **Anders Wijkman**

Chairman

Thank you for some very good points. May I ask a question? When I prepared myself for this session, it struck me that all the countries in the world that are towards the top of the ladder in terms of the human development index, are also the ones with the largest ecological footprint. We can debate whether ecological footprint is the most perfect measurement, but it's a good way of describing how much, on the planet, we need to source materials and to manage our waste materials. What is your comment on that, in particular, as a European and as head of the European Environment Agency?

- **Jacqueline McGlade**

European Environment Agency

I think we need to separate this into two discussions:

- an ethical discussion on, the redistribution of wealth across the world and,
- the wasteful use of resources at global and regional level.

What I'm suggesting is that we haven't got nearly close enough to that second category to understand the wasteful use of resources. The same time we need to be aware of the larger picture of how we are moving resources around the world.

Now I'm not saying that globalization is either good or bad, but what I am saying is that perhaps we could use our resources better. Take water, for example - whatever concept you want to use. How many litres of water does it takes to make a car? Maybe people should know that. But on the other hand, I think it is up to agencies like ours and others around the world to show for ourselves just how policies can distort and disrupt the use of resources in an inefficient way.

For the speech of Branislav Mikulic, see page 151.

- **Anders Wijkman**

Chairman

Laurs Norlund, before I give you the floor, I would like to say that this is really the first time that I experience this sort of dual approach to looking both at objective and subjective indicators. That was not really what we discussed 12 years ago here. Representing Eurostat, how is your response to that particular sort of dimension?

- **Laurs Norlund**

European Commission, Eurostat

The immediate reply is probably to find a way out for official statistics, because official statistics are probably not the best ones to deal with subjective measurement indicators. At least, we don't have the same tradition of doing it as other people have, which is why one of the first remarks I wanted to make was to link up with what Marco Mira d'Ercole said in the beginning that one of the keys to having a useful outcome from this discussion is to accept that there is a variety of approaches and there is a variety of actors and they have different strengths and weaknesses.

For the speech of Laurs Norlund, see page 158.

- **Anders Wijkman**

Chairman

Well, we've had five very interesting perspectives presented. We're now going to break up into three groups, but I would like to pose three questions to the five of you. Given what you've said, first of all, what I sense is that at least from the Eurostat point of view and also OECD's point of view, you feel that we already have high quality indicators in many fields.

The question is then, when we look at resource constraints:

- Why don't policy-makers act in the right way? Look at fisheries in Europe. We've had very good evidence from scientists for I don't know how long, and yet it still doesn't work.
- GDP, with I do understand that we shouldn't throw the baby out with the bathwater, but what can we do, or what can you do, repre-

senting these agencies that provide us with data, to make sure that most policy-makers and society in general don't continue to focus on what they've always focused on? Maybe it's a question of maturity? Maybe it takes time, but we don't have much time. How could you be more effective in conveying all the various data in a more coherent way, where the interlinkages are clear, etc.?

- And last, but not least, we heard that we need to understand better what's happening at household level. In your remarks, Mr Mira d'Ercole, you said that one challenge was to understand better how people's incomes are being complemented by services from the public sector, and that we have so far limited information about that. It would be very interesting to hear you elaborate a bit on that.

I realize these are not three easy questions, but maybe if you just try to give a spontaneous reaction.

- **Jacqueline McGlade**

European Environment Agency

I think on the first one, it's very clear that the interlinkages have been missing. If you take out one piece of the system, it has consequences for the others: unintended consequences. The statistics were never set up to establish unintended consequences. That's the real problem. What inconsistent accounting does is that it begins to tell you what the unintended consequences are of one policy area on another. So, if you do something in transport, you will affect air quality. You do something here, you will affect land accounts, etc. So we need to look not just at double accounting but also at unintended accounting.

Just on fish, I know for a fact that when Europe negotiated its bilateral fishing relationships with Morocco, Mauritania, and in particular with Senegal, that the Senegalese sold the fish and then the Mauritians, and then the Moroccans. And it was definitely the same fish. So they managed to sell the fish three times and we were stupid enough to buy it three times. It works in both directions.

And just on the very last bit. Public services and the work done in the UK is actually very interesting and it would be good to see that accountability and effectiveness in delivery. But for me it is a matter of making these data more spatially disaggregated. The key is: get as much spatial information as possible because it's about the local environment; 'in your neighbourhood' should be the byword of how we do resource accounting.

- **Marco Mira d'Ercole**

OECD

We are all in the business of policy-making, not just producing indicators but trying to influence the policy process in some way. We should not be too naive in thinking that developing better measures will be sufficient by itself to change the policy process.

A big challenge that we will all be facing in the future is not just to identify and measure the items that matter most from the perspective of well-being, but to articulate a sensible discourse about how different policy levers can influence them. We are still very far away from having achieved that goal. In a sense, the social indicator movements of the '70s had this ambition. Just having better measures of incarceration, poverty, and family breakdown is not enough to change the policy discourse. You need to be able to say which specific policies are capable of changing these outcomes, and to articulate a vision about the costs of policy actions and inactions. That is why continuous dialogue with policy users will be very important for progress in the measurement agenda.

On household measures, some steps have already been taken to incorporate the value of the services provided by the public sector to households individually into aggregate income statistics for the household sector. For example, OECD national accounts include measurements of actual consumption and actual disposable income, which retain the SNA conventions but provide a better proxy of well-being. The big challenge that lies ahead is to go beyond a perspective which is just focused on production costs and most often on labour costs, apply it to individual cases: to say how much the health and educational services that are provided in each country are benefiting people that are at different points in the income distribution. We have done some exercises in the OECD. The challenge now is to build up statistical information at national level that allows to regularly monitor this information.

The last point that I wanted to make refers to your question: 'How can we be more effective in the future?' There are no easy answers. Of course these types of event occur regularly at ten-year intervals. Some of you will remember where we stood ten years ago and where we are now. A positive contribution to your question would be that we should collectively articulate a vision of where we want to be in ten years' time. Many policies today involve setting objectives and then assessing performance in terms of how far we are from the target. Each of the partners in this conference should articulate a vision of where he wants to be in ten years' time. For example, to develop accounts for the household sector that better incorporate the assessment of leisure time or public services. Other agencies may say they want to develop accounts for 15 European countries about eco-systems services. Let's articulate a vision and let's be ready in the future to assess the steps we have taken to get there.

- **Anders Wijkman**

Chairman

Maybe that's a question to ponder on in the working groups. So, Mr Norlund, what do you say? You sounded so optimistic.

- **Laurs Norlund**

European Commission, Eurostat

I'm afraid the reply is that there is not much we can do in terms of taking the right political decisions. That's not our job. But it's clear, and that is what I tried to say and what has generally been said here, that what our aim and objective should be is to present reality in as clear a way as possible the choices clear.

I'm sure that even if we understood perfectly how the world functions – considering every detail, every household, every individual, – there would still be wrong political decisions taken even then. But that is another discussion in my view. What we should do, and that's where I'm optimistic, I think we can deliver on that. We are delivering to a large extent. There are a number of issues where we can do much more and that is of course what is expected of us.

I do have to say that if you look at the political debate globally, and some of the key issues we have today, there is no doubt in the politician's mind about the linkage on some big issues. We all know

that economic activity exacts a price in terms of the strains on the environment. Our objectives should not be to do it differently but to do it better. That's what we are trying to do now.

- **Branislav Mikulic**

European Foundation for the Improvement of Living and Working Conditions

As to development of future indicators which can better measure progress than GDP, the role of European statistical systems and the United Nations statistical systems is very important. Indicators developed within national statistical institutes or some research institute will never be widely accepted and promoted in the same way as the indicators which have been produced by the OECD, Eurostat, United Nations statistical office. They play a particularly important role in developing and disseminating those indicators.

- **Oliver Zwirner**

European Commission, DG Environment

I will focus only on one aspect and that's timeliness and time lag.

This is a problem we have at least in environmental statistics. They are normally two years old while GDP data are at least quarterly and we can read about the newest 'nowcast' and forecast of GDP nearly every week. The Dow Jones is available daily, hourly, every minute. We have a huge time lag on the slow-burning issues although we need very urgent action and we probably need indicators that show us whether we are reversing trends; whether we are indeed changing, our energy system to a low carbon energy system, for example. Maybe we need information on planned rather than existing power plants to indicate whether we are actually changing in the right direction.

For example, the European Environment Agency has near real time information on ground level ozone. This is meaningful to households because then you can decide whether to go jogging or not. It's like a weather forecast every day. It is meaningful to people. Maybe we can manage to translate pollution data into meaningful information for renting flats or buying property. Make it relevant for daily action. The information needs to be more timely and closer to action by businesses, households, and politicians.

- **Anders Wijkman**

Chairman

Let me add one comment after listening to you all, in particular the comment about the inter-linkages. I somehow feel that we, the political system, probably have to rethink the way we are organized. We are vertically organized, or sectorised. It seems to be almost impossible to deal with things that cross sectors or which are more systemic in nature.

The temporary committee on climate change that we have just established is an attempt to try to look at the horizontal consequences. We'll see whether we come up with a good report. If that happens maybe we can start dealing with some of the horizontal issues in a better way and not see sustainability only as an environmental issue that is discussed once or twice every year. Maybe that is a recommendation that we could come up with.



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Session 3
Breakout session
Key needs and ways forward



Carlos Figueiredo

Environment Ministry, Portugal

Insights on New Measures of Progress

Good morning to everybody!

First of all, I would like to thank the organizers of this conference for inviting us to participate in this workshop.

My name is Carlos Figueiredo and I work at the Portuguese Ministry of Environment, Spatial Planning and Regional Development.

This presentation was prepared with the support of a technical team listed here.

I would like to focus on three main questions.

Firstly, what do we know about the different indicators that are linked to the well-being? Besides we should analyse some empirical results relating to GSI.

Secondly, what do we want ? We want a new generation of indicators that should include the environmental issues in complementing the GDP.

Thirdly, what should we do? We should mobilize the different statistical institutions and also their main stakeholders to provide a set of complementary indicators with GDP.

The **limitations** of GDP and other traditional economic measures as indicators of welfare are well-known. Moreover, such measures do not show whether the economic system is on a sustainable path or not. Indicators that go beyond GDP are needed to support better decision making.

There are **different categories of indicators** which can be roughly divided into monetary and non-monetary indicators. The former are generally based on corrected national accounts; while non-monetary indicators can be based on environmental data or on socio-demographic data.

Although there are many indicators available, in this presentation we would like to focus on the analysis

for the Portuguese case of a specific indicator, the **Adjusted Net Savings (ANS)**.

This indicator is based on national accounts and is consistent with the capital approach to sustainability, i.e. the notion that future well-being can only be maintained if the wealth-producing asset base is preserved.

This indicator is built upon the **National Net Saving (NNS)**, which considers only the depreciation of built capital and attempts to include the net changes in both human and natural capital, thus providing a measure of an economy's genuine savings.

In this way, The ANS indicator corresponds to the concept of weak sustainability (WS).

All values of those indicators are monetarized. Thus the aggregation is easily achieved by adding up the different values considered in the ANS algebraic expression.

This is a real advantage to interact with the policy makers and to communicate to the general public.

This concept of genuine saving was considered by the World Bank to organize a set of data for all countries that allow international comparisons.

Based on data computed by the **Environment Department of the World Bank**, these figures show the path of the listed indicators as a percentage of GNI – Gross National Income.

In this way, we can see the evolution of ANS for Portugal and the EMU countries between 1983 and 2004.

In both cases **the path of ANS roughly follows that of the conventional measures of GNS/ NNS**, but the **gap between ANS and NNS has**

been increasing in Portugal for over a decade, unlike that of EMU countries, which has remained relatively stable.

It is important to analyze the role of each component in the results. The influence of **education expenditures** (EDE) on the gap is high both in Portugal and in the EMU as a whole, but there was a significant increase in education expenditures in Portugal from 1990 to 2004 (*larger than one percentage point in terms of the ratio to Gross National Income*).

As for **natural capital depreciation**, the Portuguese values show a smaller decrease, which also contributes to a larger gap.

Summarising, the gap ANS/NNS just mentioned shows a positive correlation with EDE and a negative one with depletion of natural resources and environmental damages since 1990.

Now, we propose moving forward on several levels so that new insights can be gained in the medium and long term.

Firstly, to get a better picture of genuine savings, **additional natural resources and environmental damages** should be included. In what refers to human capital creation, **professional training expenditures** should be considered without disregarding education and training outcomes.

Secondly, to **improve the basic GNI measure**, non-salaried time activities such as housework, volunteer work and leisure time need to be valued and included.

Thirdly, to ensure that we are not following paths that are just weakly sustainable, **a set of environmental quality indicators, namely for critical environmental services**, should be established for international comparisons. Indicators that reflect ecosystem **resilience**, such as biodiversity, require particular precaution as the context is of huge uncertainty.

Finally, we propose that sustainability in the EU is assessed at a **regional level**, which will require spatially disaggregated data. This would be important for a consistent framework to support decision makers at national and European policy levels.

In the long term, we should end up in an established modular System of Economic and Social Accounting Matrices and Extensions (**SESAME**), with enough flexibility to answer the needs of different users but that is still **consistent with national accounts**.

This is my guess on that matter!

Thank you for your attention.

Feel free to put your questions and comments.

Insights on New Measures of Progress

What do we know?

What do we want?

What should we do?

Carlos Figueiredo (DPP)

Technical Collaboration

Catarina Roseta Palma (ISCTE), Daniel Santos (INE)
Fátima Azevedo (DPP), Jorge Catarino (DPP)

What do we know

- **National Accounting Matrix** including Environmental Accounts – Air Emissions (NAMEA - AIR), 1995-2004
- **Satellite accounts** to the ESA95 for the analysis between the environment and the economy
- **Sustainable Development Indicators (SDI)**
Reconciliation of economic development, social cohesion and protection of the environment

What do we want?

To answer this question it is important to highlight some remarks about portuguese figures as regard **Adjusted Net Savings (ANS)**

What do we know

Sharp increase of ANS in the 80's, reversing this tendency from 89 onwards

Stable pattern in a range of 10-13% of the GNI

The path of ANS follows the dynamics of GNS/NNS



Since late 90's portuguese gap is larger

What do we know

1990/2004			
	PRT_Gap ANS_INNS	EMU_Gap ANS_INNS	
Gap ANS_INNS	1	1	
EDE	0.99	0.97	
DEPLETION	-0.83	-0.62	
CO2_PM10	-0.82	-0.50	

Sources: World Bank; INE; DPP

The influence of **EDE** on this gap is high both in PRT and EMU.

Depletion of natural resources has a positive trend in PRT since 90, contributing to amplify PRT gap comparing with EMU

These data point out different structural profiles and to improve the assessment of the capital components we must use more detailed data

The Future

A modular system of accounting for **Well-being** and **Sustainable growth** could be effective:

- Setting up an integrated information system based on environmental accounts (**NAMEA**) and social accounts (**SAM**) linked to the National Accounts;
- This should end up in an extensive System of Economic and Social Accounting Matrices and Extensions (**SESAME**) with huge potential: harmonisation, flexibility to answer users needs and consistency with core National Accounts.

What should we do

Medium term

•Improving ANS

- Evaluation of additional natural resources and environmental damages (**NAMEA_ENERGY**, **NAMEA-WATER**, **NAMEA-WASTE**)
- Add professional training expenditures as human capital's investment
- Upgrade and application of monetary valuation methods

•Improving GNI

- Evaluation of activities such as house and volunteer work & leisure time;

•Improving Strong Sustainability

- Harmonisation of environmental quality indicators, namely critical environmental services
- Development of useful methodologies for decision making process in a context of huge uncertainty, taking into account the precautionary principle



Thais Corral

Executive Director, Rede de Desenvolvimento Humano (REDEH), Brazil

I will address the three discussion questions¹ by offering some examples, because conceptually a lot has been said. But when we see what happens in real life as a consequence of a certain perspective, it's also helpful to see how we can move forward. And, in terms of opportunities, some of the consequences that we are facing with this narrow view of GDP are very important in showing us what can be done, but also how these narrow views also reveal some kind of culture that is very difficult to change. And the opportunity now is climate, as with climate we have a limited time in which we take action.

And I want to give you the example of Brazil and what has happened over three decades in the Amazon. As in the seventies we had a policy of occupying that region. It was the policy of our military government, which was very nationalist, and as a consequence of that people were given subsidies to occupy the forests. So most of this was done just by chopping down the trees and putting cattle there, which was the easiest way to get hold of the subsidies. Over the years the consequence of that was major occupation of the Amazon, 30% of the forest was destroyed. And today it goes on because this trend still continues. So Brazil now occupies the 16th position in terms of a global production of greenhouse gases and 75% of this is produced by deforestation. The Amazon alone is responsible for 3% of the global greenhouse emissions and at the same time produces only 0.1% of our GDP. So now of course Brazil wants to change that perspective urgently and also doesn't want to be seen as the villain on the global scene. We are changing; we are starting to implement now a new law from 2006 on incentives. It takes an opposite approach by giving people a kind of salary to protect and to maintain the standing forests, to maintain the trees. The question is how long this shift in terms of policy is going to take in terms of our

mentality and culture, so that we can really be protective of the forest. Because the way that people see wealth is just using the trees in the opposite way for money or for cattle.

The second example I want to give is also related to consequences, and in this case the consequences of poverty that are not taken into account in GDP. And it's true for most Latin American cities, namely the question of safety.

Most of our cities have a high rate of crime today and if you go to people in terms of the service we're doing on perceptions, the most important thing for them is safety. Because of course if you don't have safety you don't have wealth, you don't have a lot of the things money can bring no matter at what level. And on the basis of that, several cities starting with Bogotá started a movement which was called *Bogotá 'como vamos'*, and then we had *'Rio How We Are'*, and Sao Paulo, *'Our Sao Paulo'*. And the idea is to match the perception with the statistics that are available and make them usable for people, so that they can not only act themselves but create a dialogue and a mobilisation that can be translated into action and can involve politicians and mayors. And there are goals for the mayors. In the case of Bogotá after ten years of this movement the situation in the city has totally changed. And I think this shows us how indicators can be used by people and produce change, because after all this is what we want.

In an attempt to do that, in 2003 together with Hazel Henderson and the corporate social responsibility movement of Brazil, statisticians, policymakers and a lot of grass roots organisations and social entrepreneurs, we organised this big conference with the participation of 700 organisations. And the most important

¹ What are the key opportunities for going beyond GDP? What is feasible in the short to medium term and how can implementation be improved? How to meet the needs of policymakers, key institutions, business, media and the broader public?

lesson of that conference was dialogue, because actually we have to understand each other. I think it's important, we need complex data, but how are we going to follow the path unless we can really understand each other and make this useful? Because all these very complicated methodologies, unless they are translated into something that can be put into action, are very limited. And this conference was an example of that, as an outcome of all these movements. There are all these examples of cities working on their own neighbourhoods, schools, no matter what level. But the important thing is that people can handle the complexity and are not afraid to use them.

And my final point is that ICTs (Information Communication Technologies) are very important assets on our side. And I think that there are several examples, like the Community Right-to-Know in the United States, that actually helped. This was a law, integrated with access to ICTs, on information and helped the United States to overcome toxic release into the environment. And this is an information and model that is 20 years old, but is an example of how information put in the hands of the people can really make a change. Thank you.



Peter van de Ven

Statistics Netherlands

I would like to put forward two arguments, two messages I want to convey. The first one is a plea for cooperation. I think that we as researchers, statisticians, policy analysts, and policymakers should look more for the common ground and should do a better job in looking for the areas where we agree instead of stressing the points of disagreements, and that for two reasons:

- The first one is that I see from the discussions on environmental accounting that people are very engaged and very personally involved. In my opinion, progress in measuring and analysing broader concepts of welfare and broader concepts of well-being society may sometimes even have been hampered by the discussion about rival indicator approaches by what in the documentation for this conference is called "beauty contests".
- The second reason is that we have totally different ideas and concepts of welfare and well-being. Every introduction showed a different approach. My question is, do we actually know what we want to measure? It seems that everybody has a different idea. Therefore, we should also look for the common ground of what we want to measure.

My second message is that we can learn from the worldwide success of the system of national accounts. There are some factors which we should learn from in making environmental accounting or, more broadly, the measurement of well-being a success.

To go back to the first point, as I have said, I have a long experience in national accounts and I can tell you that hardly any national accountant considers GDP or economic growth as the ultimate indicator of societal progress. There is no argument about that. Of course economic growth is considered to be an important indicator of economic activity, and an indicator for production and income with strong relationships for example with employment, and for that reason also with, for example, issues like social exclusion.

On the other hand it's clear that GDP has its limitations. We all agree about that, including 95% of national accountants. So that's not an issue and it's important to realise that. In my opinion, the discussion is much more on the way to arrive at a broader measurement, to a more inclusive measurement of welfare or wellbeing. Personally,

I think that welfare and wellbeing is a multidimensional phenomenon and as such I'm strongly in favour of a limited set of headline indicators in which, for each aspect of welfare, an indicator is defined that is directly observable and measurable. In addition, these indicators should preferably be embedded in an integrated system of accounts. By doing this, it is possible to analyse the interrelationships, the interlinkages, and the trade-offs between different indicators. That's very important when discussing and analysing policy choices.

On the other hand, I know that there are other approaches that try to capture these different aspects of welfare or sustainability in one indicator. Just to name a few examples: Sustainable National Income such as developed by Dr Hueting who is present here – he is a pioneer in this work – or Genuine Saving developed by the World Bank. There are other approaches as well.

Personally, I think that there are still a lot of theoretical as well as practical problems involved with these single indicator approaches, certainly when it comes to the inclusion of this kind of research in the programme of official statistics. But that's not a point I would like to make.

My main argument is that all these approaches are not mutually exclusive; that initiatives like Sustainable National Income or Genuine Savings complement or supplement information from multiple indicator systems. We should not compete with each other, instead we should try to

help each other and support each other. As a statistical office, by providing the relevant data, the relevant statistics, and researchers can help by telling us what kind of data are needed. "We can help you".

The second point, as stated before, was that we can learn from the success story of national accounts. Factors in that success are: one set of international standards; a conceptual framework with worldwide commitment to apply these guidelines. In addition, there is international agreement about a set of tables that a critical number of countries compile in practice, making international comparison possible. Furthermore, there is agreement, implicitly or explicitly, about headline indicators.

In my opinion, it is important to have such an international standard for environmental accounting as well, like the system that is already mentioned in the introduction, the SEEA, the System of Integrated Environmental and Economic Accounting. This system is now being developed to an international standard by the United Nations in close cooperation with other international organisations. However, I am quite sure that it will not be possible to agree on aggregate indicators. On the other hand, I think it will be possible to develop a system in which economic development can be related to environmental issues. It is very important to look into such international standards, agree on them, and agree on a set of tables which as many countries as possible compile.



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OPENING AND DISCUSSION OF WORKSHOP

- **Jeff Mason**

Reuters, Chairman of Workshop Session 3
Panel 1

My name is Jeff Mason and I'm a correspondent for Reuters based in Brussels. It is my privilege to be the chair of this working group. Thanks for joining us. I see my role as simply one of facilitator and getting the conversation rolling. I'm looking forward to having a good conversation. Also, to talk a little bit perhaps about the needs of the media in an issue like this, so feel free to throw questions my way about that later once we get to the discussion.

What I'd like to do first is just have all the panellists briefly introduce themselves and then we'll start with our presentations. Please go ahead.

- **Carlos Figueiredo**

Environment Ministry, Portugal

My name is Carlos Figueiredo. I work at the Ministry for Environment, Special Planning and Regional Development. I'm an economist and I worked with a small technical team to prepare this presentation. We have the full presentation available on the website of the conference.

- **Thais Corral**

REDEH, Brazil

My name is Thais Corral, I come from Brazil. I am the head of an NGO called Network for Human Development. I was involved in the Rio Conference in 1992, the UN Conference for Environment and Development, and since then we have been working on how to translate information into action, especially with local sustainable development, renewable energy, and empowerment of women in the community. I am also an old friend of Hazel Henderson and in 2003 we organized together a big conference on indicators on quality of life and sustainable development and that's the reason why I'm here.

- **Peter van de Ven**

Statistics Netherlands

My name is Peter van de Ven. I have more than 20 years experience in national accounts. I still like national accounts very much. My present position is director of national accounts at Statistics Netherlands. I have been and I still am heavily involved in international discussions on the con-

ceptual framework of national accounts. I am a member of the advisory expert group on national accounts which is responsible for the revision or the update of international guidelines on national accounting. I'm also, perhaps more importantly in this context, a member of the UN Committee of Experts on Environmental Accounting, a committee that started two years ago with the goal of arriving at international standards for environmental accounting and a better common approach to environmental accounting.

For the speech of Carlos Figueiredo, see page 166.

For the speech of Thais Corral, see page 169.

For the speech of Peter van de Ven, see page 170.

- **Jeff Mason**

Chairman

A couple of thoughts came to my mind listening to the speakers that I think it might be interesting to explore; the idea of complexity and making sure that whatever the direction that we go doesn't get too complex. It's appealing at least to a journalist whose job is to boil it down to that lead sentence in a story or in a TV report in a 1½ minute package, so I think that's an interesting issue that maybe we can touch on.

Also both of you gentlemen talked about having an international standard. I would be curious to hear more from the panel about what that standard should be, and I'd also be curious to hear what some of our audience members think about that.

The three issues that we are supposed to be following during this session are as follows:

- What are the key opportunities for going beyond GDP? Some of those have just been discussed.
- What is feasible in the short to medium term and how can implementation be improved?
- And then thirdly: How do we meet the needs of policymakers, key institutions, business, media and the broader public?

So I suggest we start maybe with the first question: "What are the key opportunities for going beyond GDP?" Does anyone have a question along those lines?

- **André Vanoli**

The French Institute for the Environment

I am André Vanoli, an old national accountant, probably an older national accountant than Peter van de Ven, nearly from the 19th century... but national accounting did not exist in the 19th century. In France I am retired, but I chair the Scientific Board of the French Institute for the Environment which is actually a statistical office. I will elaborate on what Peter van de Ven said, on how to try to take advantage of the success of the system of national accounts. I will not answer the question, but I will raise a question which perhaps can be usefully studied in the context of national accounting.

In France in recent months there has been what has been called the “Grenelle Environmental Conference.” In the context of this conference, which was both a political, economical and environmental conference, the interesting question was raised on, how to show people, consumers, what are the unpaid costs. And the suggestion was made and the minister in charge actually proposed to shop-owners – the big chain of shop-owners – to add a second price to the price to be paid, and this second price was called the environmental price. Unfortunately the expression was not perfect but this is not my point.

In my view this was a very, very interesting and fundamental proposal because the issue, which is increasingly clear in my view not only to policy-makers but to the public at large, is that we are consuming part of nature. And of course this is not reflected in the costs that are paid except for a small part of the natural assets which are involved in market transactions. So when you go to a shop and look at the price, what you see is only a reflection of the cost paid, i.e. the remuneration of labour and the remuneration of produced capital, to simplify the picture a bit.

So the question is: are we able to come up with an estimate of the unpaid cost, not only at the aggregated level but also product by product, because when you go to the shop you look at certain products.

I think that it is a difficult question to answer, perhaps we can see what would be the approach to such an issue. In my view going back to 1993 and the SEEA, system of economic and environmental integrated accounting, a very

important point was stressed at the time: it was the estimate of the maintenance cost. That is what would be or what would have been the cost of not degrading the environment, to give a visual symbol. Unfortunately for various reasons too many objectives in my view have been pursued instead of concentrating on this main objective. And nowadays the question is raised in France, I don't know what the situation is in your countries, but we are not really able to answer this question. But it seems to me that it would be necessary to concentrate on certain main issues. One is to try to have global estimates of unpaid costs and to see how they could be allocated to the various parts of final demand. And in my view this is a basic issue. I am afraid that perhaps the objective of this conference – I don't mean only the workshop but the conference as a whole – is perhaps a bit too wide. If you want to do too much there is a risk of not achieving anything reaching something substantial. And my advice would be to focus on environmental issues. I suppose Jacqueline will agree with me but it's not an issue of institution, it's what is most important...

- **Catarina Roseta-Palma**

Lisbon University, Portugal

I am an environmental economist and I think the issue that the previous speaker brought up is relevant.

Basically we have two approaches to choose between, or we can decide to go for both of them at the same time. One of them is to decide that we want things to be in prices.

If you have the monetary price and if you have taxes for the environmental costs or whatever, then the monetary price already has those costs in it. So maybe one approach, and that is the one the environmental economists are working on obviously, is to say: what you need is the correct price, you don't need a multitude of prices, you need a correct price.

Then the second approach, which apparently the previous speaker was defending, and which might be more direct, is maybe less polemical because you don't have to monetise things. The second approach would be to have a multitude of prices for products to help the consumers make the right decision.

Now I think we should be clear about what we're proposing. We don't want to do both at the same time because that would be wrong. For example, imagine you have a carbon tax and the carbon content of the product is already being considered in the price, then you don't need to have a specific indicator for carbon content in the product. This relates to a question that I had before the previous speaker took the floor, and this question is directed to the statisticians in the room: how advanced are statistical systems in terms of price valuations for environmental or social indicators? Especially environmental indicators where I know that a lot of work has been done, but it is analytical work. There's a lot of methodological discussion on what's the best way to analyse monetary values for environmental goods. And so, how has this been incorporated into statistical systems? These are not observable data, these are data that are constructed by people working in the field and I was wondering whether these data are useful; are they considered; are you thinking of including them in the statistical systems?

- **Enrico Giovannini**

OECD

I am not sure, Peter, that past experience with national accounts could be taken as a good model to go forward. The community of national accountants at the beginning, and even now, is relatively small, and the number of those who have the capacity to produce data according to national accounts, which is big machinery, is very limited. Today a lot of people are trying to put forward indicators of wellbeing or other environmental measures and we cannot close the door to those who are trying to do it. The real problem is how can we try to build a taxonomy that brings together the existing taxonomies? This is one of the most important issues and we are working on this with some people in San Francisco, who are trying to develop algorithms able to transform the natural language into taxonomies in order to understand what these hundreds of initiatives around the world are developing in terms of taxonomies. So this is something that we need to do, otherwise we will give the impression of tremendous confusion, while my guess is that in the end the key words are not so different around the world.

My second very quick point is about what can we do in actual terms, also in the short run. I think that communication is so important that we need to invest. But to do that, the fundamental question, especially for statistical offices, is: to what extent is

communication their job? A lot of statisticians feel that when they put figures out their job is finished, while of course it is not, at least in my view. And so it's difficult to convince not only statisticians but other institutions that the communication of information is part of the role of knowledge builders. This is a big shift in the culture of statisticians and again this requires investment.

- **Jeff Mason**

Chairman

I'm going to come back to you in just a second. We've got three comments. I'm going to start by saying as journalist on the panel "good communication is very important to us." If you have a message that you want to get across to a journalist, just throwing a bunch of numbers at us without a little bit of interpretation will be less successful. So I am pleased that you brought that up.

- **Peter van de Ven**

Statistics Netherlands

Well the first issue is about valuation and how to show people the unpaid costs and how advanced are our statistics to do that? Let me first stress that, in my opinion, it is important to have this kind of research and this kind of experimenting on the valuation of these costs. On the other hand however, I think at the moment that we are not so far that we can integrate these kind of valuations into official statistics. When you look, for example, at the interrelationship between environmental pollution, the effects on ecosystems and backwards, and the effects of ecosystems on the services that the economy derives from the ecosystems, we hardly know how this relationship works. And to value this, to put it into money, is too complicated. A first step could be to value and subtract depletion of natural resources. We are well advanced in that field, but when it comes to ecosystems it's too difficult.

Another point I want to make, is that we are not only dealing with a statistical problem; it's also a societal or a political problem. We know what happens to the environment, we don't need summary indicators to show that we are using up our environmental resources. Still we do not act upon it. And then I come to what Enrico Giovannini said about the importance of communication. In my opinion, as statisticians, we should do a better job in communicating. Sometimes, we put too much emphasis on economic growth. Instead,

we should put other indicators on environmental or social progress on a par with economic growth, and show that there are other important things as well. That's something we can do. In the Netherlands, for example, we now have concrete plans to develop and publish a monitor on sustainability. This is a co-operation venture between Statistics Netherlands and our planning agencies, the Bureau for Economic Forecasting, the Environmental Planning Agency, and the Social Cultural Planning Agency. With this monitor, we want to provide information on broader picture.

- **Carlos Figueiredo**

Environment Ministry, Portugal

Yes, I agree to some extent with Peter, but I think that at this moment we need to think outside the box. Because we already have some initiatives, and some indicators that make a real attempt to improve some calculations about natural capital, like depletion of natural capital, and energy. We have NAMEA, national accounts for energy. We have made some steps but we need to gather them together. And I think we can't answer at the same time. That is the reason we have chosen lots of different questions genuine net saving because it has three important components: build capital, fixed formation capital and depreciation, and human capital with expenditures, education expenditure. It's probably missing the outcomes for education; I think that's very important to make expenses compatible with outcomes.

We have a lot of problems in Portugal with that because we have high levels of expenditure, but we have some problems with the outcomes of education and we need to balance that. We probably need to do a methodology improvement to an indicator like the genuine saving indicator. We also have the depletion of mineral resources. We have environmental damage. This is a starting point probably, and I feel that we need to go ahead step by step.

There is another problem in terms of communication and how to sensitize the policy-makers. The first is that we need to have indicators reflected in monetary values. The second one is credibility. We need an institution that could publish some data like GDP Worldwide. I think the next indicator set must be a complement to GDP. It's very difficult to create an alternative to GDP because economic growth is very important.

We need to adjust economic growth and make some improvements in GDP, like Green GDP or something like that. But we need to go ahead with these kinds of indicators and explore ways of refining these calculations.

The third one is that we need more advances in order to introduce things like fisheries and other wealth stocks, because these kinds of indicators are not included, for instance fisheries and forestry. And I think we need to go step by step; it's very important to heighten the policy-makers' awareness.

Another thing: it's very difficult to have a composite indicator, but the evolution of these kinds of indicators is reflected in monetary values, it's very easy to aggregate the components.

And finally, these kinds of indicators must be included in the national accounts because it's a very important reference system. A lot of improvements have also taken place during the last decade in national accounts and we can't forget that.

- **Thais Corral**

REDEH, Brazil

I just want to make a brief comment about the question of communication, which is critical for the era in which we are in. Because if you are to get into more co-operation among sectors, among disciplines and among levels, we need people to understand what we are talking about. I think that we are in an era where we are flooded with information but with very little understanding. It took me a lot of time to understand why these multi-disciplinary approaches didn't work. Because we finish doing a job as a statistician or as a social entrepreneur or whatever, and then we pretend that somebody goes there and understands in five minutes all that complex work that maybe took us ten years. And that doesn't work. And I think that, building on what you said, to think the box doesn't work alone, you know. You have to really challenge yourself and your way of thinking in the process in which you're elaborating that thinking, and for that reason, I feel is that we need more and more to integrate people that deal with communication but also all the people who are going to use the information, from the beginning, and really challenge ourselves in that respect.

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Of course maybe we will go less quickly but we will go further. And I think that's what we need now, and I like that sentence of Al Gore, *"if you want to go quick you go alone, if you want to go together and far you have to see that it will take more time"*. And I think that time now is very helpful.

And the second point I want to make is about including the price in the products. I also think that we have to take into account the effort that was done over the years by all the people that built the certification process, which is not so clear in this environment but very helpful in terms of responsible consumption.

- **Jeff Mason**

Chairman

Just a reminder that the second two questions on our list were:

- What is feasible in the short term, short to medium term, and how can implementation be improved?

and

- How to meet the needs of policymakers, key institutions, business, media, etc?

- **Nick Marks**

New Economics Foundation

I want to address the last question about how to make it useful for policymakers. Policymakers are interested in adding value and it's a question of what we value. And it goes back to your first point, Peter, what are we trying to measure here?

I think what we're trying to measure here is people's lived experience; it's their experience of actually what services provide and what national governments provide. And we have to get into the realm of the subjective if we're going to do that. So in the UK local governments are very, very interested in wellbeing, because they know that they have certain economic situations which they can't control. But what service provision can do is affect people's experience of their life. So if you're going to create a system of national accounts, you're going to build them up from the bottom. I don't think there's any way that they're going to be useful if they're not built from the household upwards, through the local authorities, through super output areas where you can see where deprivation is felt and experienced, where crime is experienced, where fear of crime is experienced, and that's how we have to do it.

So we have to create a system which builds from the bottom. If we just have a top-down system, it remains an academic exercise. People won't relate to it, so if you're going to have national accounts of wellbeing, it's got to be a bottom-up process, and that's my plea. Thank you. Nick Marks, New Economics Foundation.

- **N.N.**

I would like to say more or less the same thing. Today we have a kind of disequilibrium. We are in a good position to produce indicators as Peter van de Ven said. We have good indicators, we have good institutions. All this is functioning, but the problem as he said is what do we want to measure? And the next question is who is the 'we'? Who decides what we want to measure? That is the problem.

First of all it is a problem of democracy, which is to choose the right indicators we want for society. The indicators, for instance, the government can choose what kind of indicators they want. We do it in the Council of Europe for instance. We have some benchmarks we define together between governments. And also at local level. When we say we speak about well-being, what is well-being? We want to measure well-being, but who is able to say what is well-being? So we have to get the citizens themselves to tell us What they consider their own criteria for indicators of well-being. We always say we need to make things understandable and useful and communicate well. We are always in the same framework, which is that we are producing indicators and we want the people to use them. We have to change that. We have to start from the democratic process and help them to build it. The technical services are a good place because they can help. We have done it in some cases and showed that it is possible.

- **N.N.**

This trade of information for decision-making has been going on for quite a while.

What has developed quite well over the past 10-15 years is our ability to look ahead, to make forecasts. Scenario driven, model based outlooks.

One of the short-term possibilities is to take the sometimes crude indicators that you have. A set like Peter van de Ven said to show trade-offs and apply them in a forward-looking manner like GDP has always been forecast traditionally. As a very

short-term opportunity that we can capitalize on, it is by sheer coincidence this autumn and next spring that there will be no less than four worldwide environmental outlooks that include this sort of primitive but still feasible forecasts. Decision makers and the audience have more or less become accustomed to that over the past 10-15 years. That's the difference. So it will be feasible to cobble together a complement to the structural indicators, as the indicators reporting to Spring Council based on worldwide outlooks including projections. It's something that's part of the discourse now and we can work on that.

• Roefie Hueting

Foundation for Research on Sustainable National Income, The Netherlands

I've been working on beyond GDP for more than 40 years. I've also published together with Jan Tinbergen, whose name was cited in a previous session.

I would like to make two comments: one is that it is not a good idea to build composite indicators because they entail conflicting goals and the rates of each aspect of these indicators cannot be given because of preferences. That is the key to the problem. We cannot measure welfare and welfare is simply satisfaction of wants, and these indicate the preferences that we cannot measure. What we can do, is make assumptions. It can be shown that GDP is also based on assumptions. I will not do that, because it takes too much time.

There is one indicator that assumes that there are preferences for environmental sustainability. That is only one aspect, but it might be an important one, because it is an indicator for the maximal attainable production level, which ensures that environmental functions remain available for future generations, and environmental functions are defined as the possible uses of the non human-made physical environment, on which human life is dependent. By definition, these environmental functions, which are the most fundamental economic goods humanity disposes of, remain outside the national accounts. Also, their losses remain outside the national accounts, which is logical because they are not produced by man, whereas national accounts and national income measure production, value added, and the definition of producing is "to add value."

Based on the assumption that we want to behave in such a way that future generations have at least the same living conditions as we have, and maybe a little bit better, is the sustainable national income, the environmentally sustainable national income. This is defined as the production level that leaves intact those fundamental environmental functions.

This indicator – sustainable national income – has four features that no other indicator has:

- First, sustainable national income is the only indicator which is directly comparable with standard national income, because it is estimated in accordance with the conventions of the system of national accounts.
- Second, sustainable national income relates to the measurable, physical environment. Ecology relates to subjective preferences that the economy has shown in a figure which I cannot show you at the moment.
- Third, sustainable national income provides the distance between the actual production level as measured in national income. It thus provides this distance, so it shows whether a country is drifting away from sustainability or towards it.
- In the fourth place, sustainable national income shows the development of this distance in the course of time and thus shows whether or not, as I said already, a country is drifting further away from environmental sustainability, defined as keeping vital environmental functions available for future generations.

The first rough estimate of sustainable world income was made by Jan Tinbergen and myself for the Rio Conference in 1992 and we arrived at about 50%. That means that 50% of production and consumption is unsustainable. A more advanced estimate was made for the Netherlands, and that estimate too arrived at about 50% of the current production level. So there is a big gap. We are talking about a very serious problem. The sad thing is that although the Dutch government promised the Parliament to subsidize further elaboration of national income, those subsidies were cancelled. So we are in a sad situation that maybe the most important and scientifically best underpinned indicator has no chance of being developed; maybe the European Union could do something about that.

- **Victoria Thoresen**

Consumer Citizenship Network, Norway

I have a comment and a question related to the reasons that we are here. We asked what are we measuring. We have heard much discussion this morning about indicators but very little about the human development index, which I have understood UNDP based very much on theories of needs. Yet as was mentioned, needs change. This is a problem, but one of the basic definitions of human development was participation in decision-making. If this is one of the key indicators of human development, then it is interesting to see that in the ISO - International Standards Organisation – process on developing standards for social responsibility for all organisations in the world, which is going on at present, they also focus on stakeholder involvement as one of the criteria for measuring social responsibility, because this also changes constantly.

So my question is: if we are talking about bottom-up, if we are talking about democracy, perhaps one of the most important criteria that can be developed in whatever indicators we now work on, or choose to focus on, is participation at grass-roots level, which again will connect with the question of dealing with communication; because if people there to help make the indicators, then they will understand them better when they are made. So I think we have to consider that very carefully in our work today.

- **Ruut Veenhoven**

Erasmus University, Netherlands

I would like to pick up on the question Peter Van der Ven raised: what do we want to know? Well, one of the things we want to know is how we can save the world, while leading a decent life? I think an answer to that question is in the Happy Planet Index by the New Economic Foundation, which on the one hand takes happy life years in nations, and on the other hand, sees how large the ecological footprint is, and allows us a picture of how efficient countries are in realising good quality of life while at the same time preserving the environment.

This is a very simple index which everybody understands. It is not yet perfect. We have data problems but these can be solved pretty easily.

- **Carlos Figueiredo**

Environment Ministry, Portugal

I think that these are very good questions, but we are still at the beginning of this debate. On the one hand we need to have indicators that need mobilisation of statistical institutions, governments and society in general in order to simplify the methods and to clarify the contents of these kinds of indicators. It is my feeling that some indicators need universal application and need to have some credibility in order to be useful for policy-makers.

There are a lot of indicators all over the world, like ecological footprint, happy planet, and so on. There are a lot of indicators like this, but we need to create an environment in order to put some people together to discuss that. It is very important to make a linkage with national accounts and the recent improvements in national accounts, because we have some physical indicators, and monetary indicators. So we need to correctly adjust the concept of sustainable development in order to put different indicators to use. I think that we need to go step by step.

- **Thais Corral**

REDEH, Brazil

From what I have heard here and from what I sense and feel after all these years working with the information, one of the challenges that we have is to maintain the integrity of the information and the methods we know about, in order to guarantee the diversity of the needs, the need for participation and the actual use of the information. I think that is still a challenge, because we do not know exactly how to do that. Even in what I see as multi-stakeholders processes, it is still at the very beginning, because it is more or less the same people that continue to go to the same meetings, because these are the people who actually know about it, and can understand the level at which we communicate those things. How can we really make information useful for the different levels, so that people can really make something out of that information? That is still a challenge. We do not know the answer yet.

The other point I want to comment on is this whole new trend of happiness and how we measure happiness. We also have to consider the diversity in that, because they are situations in which happiness is very different. In the city where I live, I think that for most people nowadays happiness is just to feel safer, and just to be able to go out on the street. So it is probably very different from

the way we are going to look at happiness in Norway or Denmark. I think we also have to embrace that diversity, which also reflects the challenges we have in the world today.

- **Peter van de Ven**

Statistics Netherlands

About subjective well-being or the measurement of happiness, indeed we should know more about that. It is very valid, very good information. On the other hand, you still need to know the factors driving this happiness. Otherwise you cannot make a policy to act upon. You need to know what drives happiness. As you said, it may be safety in Rio de Janeiro, and other things in other countries. So, what to measure? This democratic process is a very valid point. As statisticians, we should be more open to feedback from society, from politics: what are important factors, when it comes to societal progress? We as statisticians have a responsibility to respond to that need, and to give politicians, to give society the information they need to make this policy happen.

On Sustainable National Income, I fully agree with Dr. Hueting on the validity of his question: What would national income be, if we had been on a sustainable path? We have differences of opinion, however, when it comes to the measurement issues. I am much more hesitant on that point. But that is where science starts, asking the right questions. I will leave it at that, because of lack of time.

- **Jeff Mason**

Chairman

Does our Rapporteur want to make any final comment?

- **Fulai Sheng**

United Nations Environment Programme, Rapporteur

Just a very quick one. I am very pleased to be here and to hear the various presentations. The key messages I got from the session included things like:

- the need to have a bottom-up approach,
- a democratic process to define what needs to be measured, and

- issues including also the need for diversity, for different kinds of indicators.

We have heard several propositions, some of the systems that are dear to people's minds, sustainable national income which I am very familiar with for the last two decades, and also other kinds of indicators. But as we have heard several times, this is not a beauty contest and we should be open-minded to different possibilities. Hopefully, as a result of this discussion, even though we may not be able to answer all the questions that have been raised, we will hopefully be getting closer perhaps to determining the kind of direction, in which we would like to take this work forward.

- **Jeff Mason**

Chairman

Thank you to the speakers. Thank you to all of you. Apologies to the people I had to cut off or encourage to hurry, and apologies also to those of you who I was not able to call on. Please keep the dialogue going, and enjoy the rest of your day.



Isabelle Cassiers

Professor of Economics,
University of Louvain and National Fund for
Scientific Research, Belgium

As a panellist invited to the expert workshop, I shall comment on the key points to which the speakers were asked to react. I shall tackle four issues:

1. Beyond or beside GDP?

We should be coherent about the status of GDP. One of the key points raised for speakers (*The merits and limitations of GDP*) states that:

"GDP is not an indicator of well-being or welfare; it is an indicator of economic market activity; it does not pretend to be an indicator of well-being or welfare, but some use it as such; GDP growth is not necessarily a progress indicator, though the news often portrays it as such".

We now have a consensus on this statement. Nevertheless, another key point (*New tools need to be applied to measure progress, wealth, and well-being*) suggests that :

"More adequate indices of progress, of wealth and well-being must include environmental and social indicators, in addition to the traditional economic ones."

The expression "in addition" is questionable. If we agree that GDP is *not* an indicator of well-being, if we recognize the existence of negative correlations between GDP growth and the quality of life, then why should we keep it as a ground for a new indicator? Of course there might be a strategic issue here. Leaving GDP aside might appear unfeasible in the short run and nevertheless be kept as a long run target. In any way the status of GDP should be explicitly stated, otherwise the risk is that huge efforts eventually lead to very minor changes.

2. Economic interests against challenging GDP

We should put more emphasis on the fact that there are strong economic interests involved in pursuing economic growth without restriction and in keeping GDP as proxy to well-being.

We should recognize that we live in a kind of schizophrenic society:

- On the one hand we know that the path we are on is not sustainable and brings forth questions on life satisfaction: this conference, many NGO's activities, and some academic work on the subject bear witness to this trend.
- But on the other hand we are flooded by advertisement and by all kinds of encouragement to consume, and produce, and drive and fly as much as possible.

Going beyond GDP requires addressing this contradiction.

In the same line, the move beyond GDP is an implicit recognition that the market cannot respond to our aspirations and that there is today a strong need for public intervention, from local to global. This might also encounter some political resistance.

3. Consider the distributional concerns

The distributional concerns are not included in the *Core messages*. Inequalities (not only income inequalities, but also unequal access to education, to healthcare, to culture) have risen during the last thirty years and will probably still rise in the future, despite the millennium goals. On this point we are moving backward as compared to the model that was set up after the WWII, at the time when GDP was implemented. Besides the fact that inequalities are often felt as a limit to social wellbeing, inequalities give in fact more power to the wealthy citizens and hamper the democratic process of redefining the progress of societies. On the move towards a more even share of income and wealth, we might as well encounter political resistance.

4. A normative issue that requires a democratic process

Being a normative issue, the move beyond GDP cannot be a technocratic process but must be rooted in a democratic ground, because it is. A question such as "Where do we want to be in ten year time" has to do with values and ends. If we seriously want to address the question of what is

well-being and how to enhance it, people should be allowed to express themselves as much as possible and at every stage of the process. That major institutions have launched a critical debate on GDP and the definition of progress is

pivotal, but it is now crucial to widespread the questioning as far as possible and in a democratic way. This is the only chance for a broad and sustainable consensus.



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Jean Gadrey

Professor of Economics, University of Lille

I largely agree with Isabelle on her four points. In less than five minutes I will only insist on two complementary questions and a few key opportunities that I've personally experienced.

First question: If we want to enlarge the circle of stakeholders for new indicators, what is the main political change? Do we need sets of multiple indicators or synthetic indicators?

Answer: we need all types depending on what they are intended for, but considering the aim of this session, I defend a limited number of synthetic indicators as key opportunities for three reasons:

1. If we want to challenge the excessive attraction of GDP in public debates, sets of multiple indicators are simply in a position of unfair competition. For citizens, for policy-makers, and the media, synthetic indicators are more appealing. Oliver Zwirner's presentation this morning was based on them, this is an indication.
2. It is true that they have serious shortcomings, but they are young and they will increase in reliability.
3. They lead people who discuss them to go beyond them, and to enter the complex field of the sub-indicators on which they are built. They may open up some very rich debates.

Second question: How to take care of social considerations in new synthetic indicators? This is another challenge and an opportunity to grasp, if

we want to go beyond GDP in a way that is coherent with the three pillars of sustainable development policies, which is a condition of success in my view.

For environmental factors or for well-being contributions such as leisure time, domestic labour, unemployment costs, and so on, progress has been made towards economic valuations even though other good methods exist. But it is much more risky to give economic valuation to contributions such as equality between men and women, social security, decent work, and so on. This is why most existing indicators in these fields, beginning with the UNDP's one, are based on a weighted average of selected variables and this is why they are often accused of being arbitrary. In my view, this is unfair. As far as we recognize that any indicator, even GDP, is based on value systems and on judgement of what is worth measuring and what is not, we should also admit that it is possible to organize democratic debates on what should be included in a synthetic social indicator and on the weightings. That could even be a remarkable contribution to policy design and to democracy. It is an opportunity.

And the last opportunity: There is a rapidly growing interest in local indicators, whether synthetic or not. I am convinced that the popularity of European policy for a proper use of new indicators will largely expand on a local and territorial basis in the future. This is a key opportunity that I have also experienced.



Paul Hofheinz

Lisbon Council

I'm from the Lisbon Council. We're a think tank. We have as our mission the Lisbon Agenda and we do a great deal of work in all areas trying to make that process happen. We can talk more about it later if there is interest.

I'm going to take issue slightly with some of my fellow panellists here and with some of what we heard this morning. I do think there are some points of consensus, here and I will end on the points of consensus, but I want to start out talking about differences before we move into the less controversial areas where I do think we can agree.

Let me stress that the areas where we agree are probably the most important. We agree on what needs to be done. There may be a bit of a difference in the diagnosis.

I think GDP is really important and that it is a social indicator and let me tell you why. If you go back to the world 200 years ago – Ms Cassiers, I think you are a professor of economic history, are you not? – I'm going to talk about the historical development and I suspect you have a different interpretation or you couldn't have said the things that you did.

In the year 1820, the standard of living here in Europe, where we are today, according to the very good economic historian in the Netherlands, Angus Maddison, was roughly 90% of the standard of living in Africa today. The world was a very poor place 200 years ago. Most people lived until their mid forties; that was the life expectancy. Most women had seven or eight children, the majority of whom would not reach adulthood. Obviously an enormous number of things have changed in the last 200 years, in particular here in Europe. What you find today is a very different standard of living. You find a very high standard of living in the industrial part of the world. You continue essentially to have a standard of living in Africa that is roughly the same as it was here 200 years ago. They have not made progress in the same way that we

have here. The main difference is growth, and GDP in particular. Let me just say that when I say that I'm not standing up for any economic interest, quite the opposite. It's GDP, it's the strength of our economy that has allowed us to invest heavily in public health, that has given us this thing that we call the European social model that we find so precious, that pays for an enormous number of social advances. I think you ignore GDP as a social indicator at your peril. It is one thing to sit here in Europe or perhaps in a country like Sweden and say GDP no longer matters. But go and say that in Botswana and you will hear a very different explanation of why this process is important.

We can talk about inequality in the world in a moment, which is related, but I'm going to set that aside for now. I do think there is a very big problem with GDP, and not simply with GDP but with the entire range of indicators that we use to think about the economy today. The problem is that those indicators are stuck quite firmly in the industrial era. It is still essentially based on the assumptions that the world had in the 1930s when these indices were created.

So what's different between that era and ours? I would argue that there are three things that are very important:

- The first one is that in the 1930s we didn't think of the earth's resources as limited. Now, anyone who is honest and reads the newspapers and follows the public debate understands and accepts that we have a very serious problem with the way we are using the world's resources and are going to have to make important, vital changes in precisely that area in the next 20 years. By the way, they are going to be hard but that doesn't mean that we don't have to make them.
- The second big difference is most of us are no longer working in manufacturing. Manufacturing is still about 20-25% of our economy, but it no longer drives jobs. That's

been the case for three decades now. If you look at the statistics, you'll see I'm correct. Long before any of us heard of the word 'globalisation,' we were losing jobs in manufacturing. We've been taking on jobs in the service sector and that is why our economy continues to expand. We've also been losing them in agriculture. The three principal sectors of the economy: agriculture, industry, and services are moving in different directions. Losing jobs in agriculture and manufacturing, gaining them in services.

- The third area that I think is profoundly different now, and we can discuss this if you like, is that we no longer have a very clear division between labour and capital. I think that 60 years ago we absolutely did. There was much less access to education, there was very real poverty here in Europe. We still have it but not like we did 60 years ago.

A couple of things have changed. One of them is home ownership. You have much broader home ownership throughout Europe and indeed the industrial world right now. Those home owners – are they labour or are they capital? And also pensions. Because whether we like to admit it or not, a lot of our pensions are tied up in the global capitalist system. They are invested out there in various ways. The point I'm trying to make is that the distinctions that used to be fairly clear to us 60 years ago are no longer so clear. Where we have unclear distinctions, it leads in my view to shabby thinking.

Let me give the six areas where I think that we do need to work on statistics. I hope and believe that there will be some consensus around this area even if there is not on the diagnosis.

The **first** one is green growth. I think that to say that we will solve any of our problems, in particular the social ones, without growth is simply incorrect. There is a wealth of evidence to support that. But that doesn't mean that we can afford the same type of growth that we have had. We need to find a way of looking at our statistics and forcing it – as a bare minimum – to give us the cost of carbon. We cannot continue growing by treating our atmosphere, as Al Gore put it quite memorably, as a giant sewer. It is in many ways up to the statisticians to help us understand that. To help us understand the cost of carbon and the cost of excessive use of environmental resources so that we can track it and improve.

The **second** is inter-generational accounting. There is an awful lot of very interesting work going on in that area right now. I would argue that if 60 years ago we did have a very clear division in our economy between labour and capital, the principal division we have today is between generations. We have a generation alive right now that is frankly consuming the resources of the generation right behind it. That's true in the environment where we have a generally clear understanding but it's also true in our social system too. There has been a real delay in reforming social systems in ways that are putting genuine strain on their ability to deliver equity in the 21st century. We need to pay much more attention to the way that generations manage the earth's resources, one for the other.

The **third** would be the nature of our workforce. I mentioned the three sectors, and people often throw out the statistic that 70% of our population is working in the service sector. I don't think we know or understand the service sector nearly well enough. It lumps together far too many things ranging from architects and engineers to janitors and what we sometimes call McDonalds jobs. There are very good jobs in the service sector and we need to try a lot harder to understand better what the service sector means, because as I mentioned a moment ago, the service sector is the only sector of our economy where we have been adding jobs for 30 years. If – we want to attack our employment problem, it means we need to add jobs there not in McDonalds jobs, but in good jobs in the service sector.

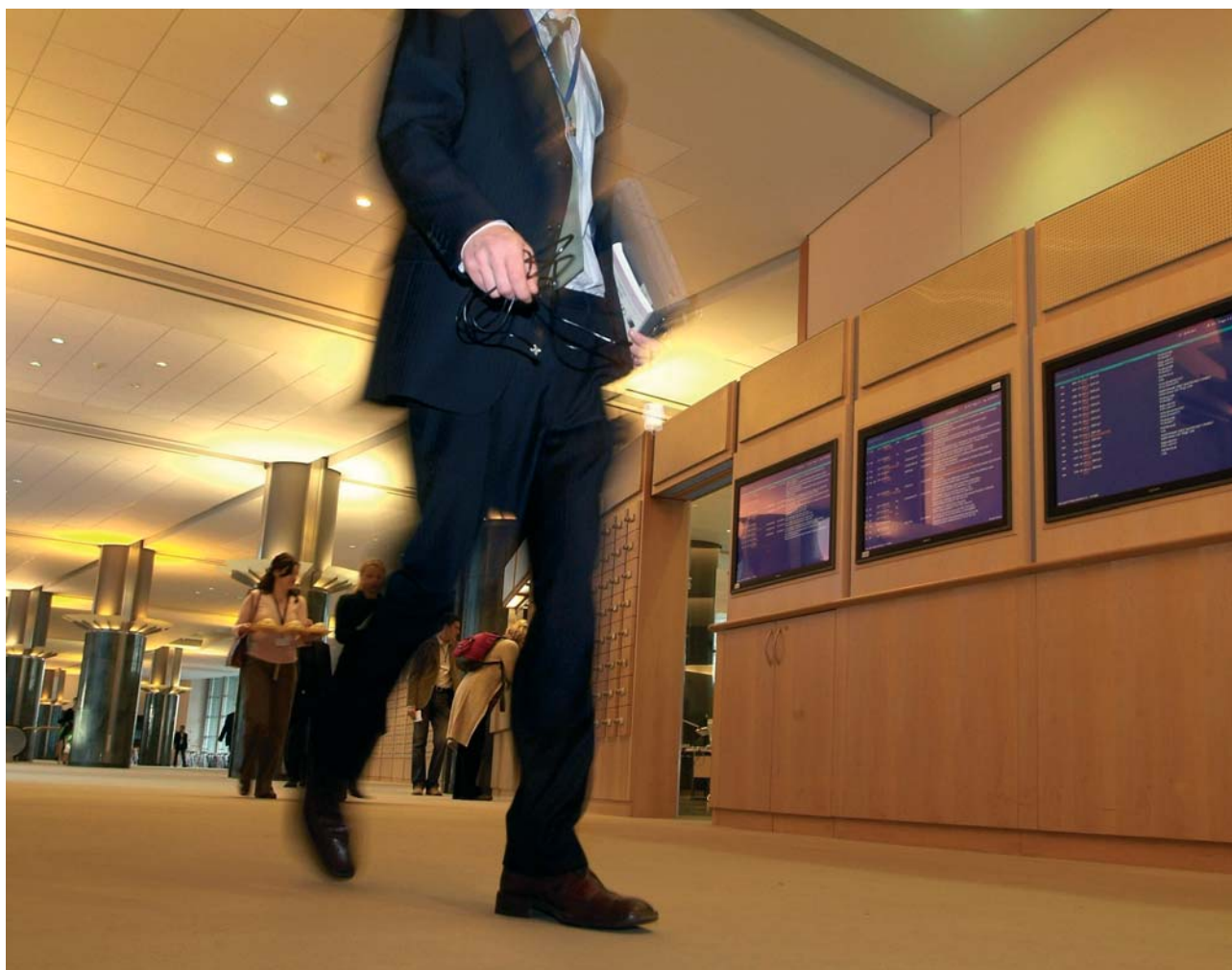
The **fourth**, an area in which the Lisbon Council has been quite active, is human capital accounting. In an era of globalisation, if we are going to go to our population and say that this transition is important, you are going to have the highest wages in the world, you are going to have the most generous social welfare system in the world, and you're going to do it by high value-added work, we need to do much more to develop people's minds to give them the capacity to develop themselves. Not just as children but through life-long learning throughout their lives and anything that statistics can do to help us understand that is useful. We have a project at the Lisbon Council called the European human capital index where we have been trying to measure this as a way of shedding light on it in the public policy domain.

The **fifth** area is benchmarking. We can do an awful lot more there, including some fairly simple things. In particular, benchmarking where we stand versus the values that we profess. A perfect example is

Kyoto. We talk about Kyoto all the time and it's a source of pride that we have signed it and embraced it, but very few European countries will meet their Kyoto targets by the year 2010. In fact, there are only two, according to two studies that have come out from the IPPR and the European Commission. The two are Sweden and the UK. The reason is particularly interesting is that Sweden and the UK are also two of the four countries that will likely reach their Lisbon targets on employment. There is a fair amount of evidence out there that if the policy mix is right, there needs not be a trade-off between jobs and environmental standards. That may sound obvious to you, but read the newspapers. Quite often environmental standards are being attacked as job destroying. They are not. We can use statistics to settle that argument.

I was going to say something about Pisa and what's happening in education. We have a tendency to talk a lot about social inclusion whereas our statistics tell us that we are doing very badly on that, in particular in immigrant communities. Pisa tells us that when immigrants come here, first generation immigrants do better on their Pisa than second generation immigrants.

Last but not least, is something that my colleagues mentioned and with which I totally agree. Gini coefficients. It's a very important area of analysis. The problem with Gini coefficients – this sounds strange – is that the analysis behind it is important and we need to find a way to get better measurements of inequality into the public domain.



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- **Aldo Ravazzi**

Ministry of Environment, Italy,
Chairman of Workshop Session 3 Panel 2

My name is Aldo Ravazzi. I happen to be an economist lost in the jungle of the Italian ministry of environment. I also happen to be chairing the OECD committees for national environmental policies and for taxation and environment.

The reason I have been asked to facilitate our discussion here, I imagine, is because Italy has recently moved forward an important 'delegated law' as we call it, on environmental accounting and budgeting. This means that the Italian public administration at all levels – state, region and city – must include environmental accounting and greening of the budget in national accounts. We have about 24 months to establish a national system. A very advanced draft has been passed through government and parliament, and requires only one last passage through parliament, which is planned during the next few weeks. Then we will have 24 months to establish this system.

The problems and challenges are quite clear – but not the answers. We have a number of good statisticians, economists, and environmentalists and we hope to bring good news in the near future. This is a rare attempt to have a specific law on environmental accounting and budgeting go forward.

Our organizers have asked us to discuss together and to come up with some ideas, some convictions that we can try to share together here, and then in the general conference this afternoon and tomorrow morning. We have a number of specific questions:

- What are the key opportunities for going beyond GDP?
- What is feasible in the short and in the medium term?
- How can implementation be improved?
- How to engage policy makers, key institutions, business, media, the broader public, and stakeholders in general?

There is a general consensus that a lot of work has been done by a few people, who deserve our admiration for their efforts and capacity. Now, we have to try to transform all the efforts of research and institutional capacity-building which have been attempted in recent years into policy and decision-making which is effective and recognized.

To help our discussions we have speakers who have been invited to share their views with all of us. We

will open the floor at the end for comments, and, if we have time, the speakers will come back with comments on the comments.

This is a session, like the two other parallel groups, trying to find ideas to see where we are and how we can go forward. It will be an open discussion. Professor Anil Markandya has been asked to be our rapporteur in the plenary. I have also asked him to give us his opinions since we cannot lose this opportunity to have him with us and hear what he thinks.

With your permission, if the rules of the game are clear, I would like to give the floor to Isabelle Cassiers who is teaching at the Catholic University de Louvain.

For the speech of Professor Isabelle Cassiers, see page 180.

- **Aldo Ravazzi**

Chairman

Thank you very much Professor Cassiers. Quite interesting points, reminding us that GDP never pretended to be a measure of welfare although it has very often been interpreted as such. And the balance between technocratic and democratic processes is another very key issue. How do we prepare the world for the future? We probably need technocracy to have data available, but then we have to be able to make the decision-making process effective in order to have useful indicators and measures of welfare and production.

For the speech of Professor Jean Gadrey, see page 182.

- **Aldo Ravazzi**

Chairman

Thank you very much Professor Gadrey. It is not easy to synthesize years and years of work.

It is interesting to see the problem of social and environmental aspects integrated into economics. That is one of the major challenges we are working on at European level. The Lisbon and Gothenburg strategies are trying to push forward in this area. The use of indicators for Lisbon and Gothenburg at the Spring European Council may be also a point for reflection.

I would like to give the floor to Mr Hofheinz of the Lisbon Council.

For the speech of Paul Hofheinz, please see page 183.

- **Aldo Ravazzi**

Chairman

Professor Markandya, would you like to share your key views with us?

- **Anil Markandya**

University of Bath, UK, Rapporteur

Just a few points on what has been said.

There are differences of opinion which are emerging, but the first thing is that if we are talking about 'beyond GDP', we are going to look at something which will be an indicator at a national level. A number of the points made by the first two speakers are relevant and important, but perhaps they will apply at the level of a region or a project, or to identify something which is more appropriate to show the change in welfare of a particular group. That is very valuable, but it is not a replacement for the kind of national level indicators that we are trying to focus on when we talk about 'beyond GDP'.

In that context, what can we do to have something that will be a headline indicator which people will take as seriously as they take GDP? One of the things that has been suggested and pointed out is to play the same game and to give values to the other impacts, which GDP doesn't do very well. The previous speaker suggested some of these. My own work has been concerned with trying to determine the value of the externalities, of the damages to the environment that are taking place relative to GDP. That doesn't mean we have to add it to GDP, but it gives some idea of their importance so that policy-makers can see that yes, we are doing damage here and yes, these are things of importance. Like it or not, monetary values do come up and are useful for decision-making.

The other element that is useful here in going beyond GDP is wealth accounting. Wealth accounting is accounting not for the flow of goods and services, but for the stock of our assets. The stock of our assets is not just physical capital but, as has been pointed out, also human capital, natural capital, and social capital. We have made some attempts to try to measure these different forms of capital in some work in

which I was engaged with the World Bank but we are still not very well advanced. Our measures are very imperfect, but this is an important line to develop. It will tell us things about where we are losing certain forms of capital, which are a useful indicator of some of the things which will be going on in the future.

Yes, we do need to understand our growth rates more carefully. We need to understand them in the light of the environmental costs that we impose. The idea of green growth would be very useful. Our early work on that didn't have as much impact on policy-makers as we thought it would. In Indonesia, when we showed that the growth rate fell from 7% to 6% when you allowed for these kinds of factors, the Indonesians said 'so what?' The fact is that we may need to have a bigger impact. We need to show that they are actually losing capital. They are losing some important sources of their capital and maybe that form of accounting would be useful.

We can't do everything with the GDP indicator. It isn't perfect. As the first speaker said, it isn't a measure of well-being. Of course it's not a really good measure, it is not a measure of my well-being or your well-being and it will never be that. But in some comparisons, if made judiciously and over time, it is perhaps not a bad indicator of the relative well-being of different societies. As the previous speaker said, compare 200 years ago with now and GDP may not be a bad measure. It won't be a good measure to tell you if GDP has gone up 3%, that welfare has gone up 3%, no, but it will be useful in some contexts and for some purposes. So, let's try and improve that quality and use it judiciously and supplement it with all the other things that we have talked about: measures of inequality and measures of wealth, and some of the other social indicators that have been mentioned.

- **Aldo Ravazzi**

Chairman

Please give short reactions to the questions put to us:

- What are the key opportunities for going beyond GDP?
- What is feasible in the short to medium term?
- How can implementation be improved?
- How to meet the needs of policy-makers and other stakeholders?

- **Viveka Palm**

Statistics Sweden

I'm working at Statistics Sweden with environmental accounts, so obviously I'm going to talk about what I think we could do with environmental accounts.

We're using the system for national accounts as a basis and we're adding in environmental data and giving it to policy-makers. All the questions you've been addressing are things we also discuss.

However, what has not been said here, but what I think is one of the main things that our policy-makers use, is that we are tracking what type of economic instruments or institutional instruments that are being used to actually change what is going on.

Swedish society knows that we have a problem and we don't really need a measure to tell us that we have a problem. We rather need to know how we can get out of it and move towards development that is better.

What we are doing is looking at where we have environmental taxes, how they are working, where they are not working and what type of carbon emissions, for example, are not taxed at all.

We are also looking for the regular investments that are being made in the economy to understand what type of environmental damage you get from them so that you can change your perspective on what you should invest in, preferably using technology that will take you further on.

That is something I would like to add to this debate, to actually look at what we're doing right now and see how we can invest differently.

- **Maria-Paola Dosi**

Emilia-Romagna Region, Italy

I am Maria-Paola Dosi from Italy. I am the coordinator of an INTERREG IIIC project that involves the issue of this conference, i.e. the implementation of the Lisbon and Gothenburg agendas by means of international projects and sub-projects that transfer actions on the ground by local authorities and local organizations, universities, etc.

In particular, one of these sub-projects deals with the implementation of the NAMEA matrix at the regional level. Using Eurostat guidelines on air emissions, in particular greenhouse gases,

at the regional level, we have created a tool, a prototype.

There are many problems with implementation, but the main problem is to find the key words to disseminate the results to our policy-makers. Our work is very hard but also very fruitful, because there has been a lot of interest in the work, in the four corners of Europe from southeast England to North Brabant in the Netherlands, Emilia-Romagna, and Maloposkie in Poland.

The team did good work, but the problem was to transfer the results and the process we implemented to the policy-makers. Those involved in disseminating the results also question how to interest the media.

Another issue is to achieve more of a mixture between institutional statistical offices at the national level and this kind of 'experiment.' Because our statistical office debates with the person concerned but does not want to be directly involved. There seems to be some concrete dividing wall at local level.

One last thing, a colleague of Mr Markandya, University of Bath, Allister Hunt, was involved in one of our conferences in Bologna.

- **Aldo Ravazzi**

Chairman

It is very interesting that the challenge is at the same time local, regional, national, European, and probably beyond.

- **N.N.**

I'm involved with sustainable development indicators.

I was interested to hear the number of panellists mention the different types of capital that are behind the generation of well-being. I'd be interested to have your individual views on the last type that Anil Markandya mentioned, social capital, and whether you think that has anything more than metaphorical value compared to the other types of capital, and whether you could really measure it in a meaningful sense, in an accounting sense.

You also mentioned as an avenue, giving value to the different types of capital. Do you think it would also be possible to give a monetary value

to social capital? And given the limitations on monetarizing all four types of capital, would it make any sense to really focus too much on one aggregating measure, monetary value or otherwise, given that substitution possibilities between the different types of capitals are limited and so even with one measure you would have to measure this aggregating measure in any case. Is there not a risk in focusing too much on one aggregating value and forgetting that you do need to measure the different types separately in any case?

- **Raynald Létourneau**

Human Resources and Social Development, Canada

I'm heading a group which works on the development of social indicators related to human resources and social development.

I have a question that is more about the conceptual framework behind the social accounts. What should we measure? We need more analysis there just to understand better what well-being really is and what matters. If you use the analogy with GDP, the yardstick is currency and there are no weighting issues. As we saw this morning weighting issues create problems in terms of value. Should health have greater weight than human capital, for example? You have all these discussions about those terms.

Coming back to the point raised by the first speaker, Professor Cassiers, the notion of technocratic versus democratic processes. We need both, but we need to have a very good grasp of what should be measured.

- **Janos Zlinszky**

Regional Environmental Centre for Central and Eastern Europe

I certainly agree that the indicator has to be linked to the vision and the process. We have certain anchors as far as vision is concerned, at the UN, EU, and national levels. We can talk about the constitutionality of indicators that are frequently used in national discourse or at any level of political discourse. As far as the most important goals and values are established in documents that can be summarized as of constitutional value to a society or community, it would be important to take them into consideration when revisiting indicators.

My second point is that for the comprehension of any indicator, be it a simple one, a comprehensive one, a synthetic one or a set of indicators, a minimum threshold of literacy – you could call it scientific literacy – is necessary. And by scientific we mean humanities, arts, social sciences, natural sciences, and technical sciences. This is a point we cannot avoid raising again and again. If we divide society into experts and politicians, and forgive me for being very rough and rude and undiplomatic, but I just want to make a point here, that secondary education has tremendous importance in this sense and a tremendous responsibility, and we talked about human capital in this respect.

If we have such scientific literacy, then we would only have half the problem of GDP because GDP itself would be understood. I venture to say that the electorate does not understand GDP. What it is for really. I think that a new initiative to bring in other indicators to have a fuller set of information about achieving or not achieving our constitutional goals should have, beside the new indicators, a parallel effort in getting a better understanding about the GDP.

Finally, I have a very brief question. It struck me that Mr Hofheinz said that the GDP is a social indicator, and I would love to have a bit elaboration on that.

- **Laszlo Pinter**

International Institute for Sustainable Development, Canada

We've been looking at indicators for about 15 years. It's interesting to see that the whole field has really mushroomed into a very diverse community where initiatives are taking place on multiple levels from communities up to national. We have to realize that there is a movement out there that is very decentralized. When we try to discuss here what we are going to do, this will have only a partial effect, because there are a lot of autonomous processes out there: communities, sectors, companies and so on, are doing their own thing. Managing that level of energy, which is real energy and will continue injecting good and practical ideas, is going to be important.

We do have a big problem, by the way. The problem is in some degree with the way GDP is constructed, but even more with the way it is used. Several speakers referred to that. I agree

also with the previous speaker that we have to do work on that front. I do agree on incremental change, but at the same time we also have to be clear that any adjustments to the GDP system along the lines of Markandya's comments counting the uncounted adjustments will take significant amounts of time. Despite the progress we have made in keeping track of physical accounts, our monitoring systems are still not strong enough, particularly if we want to base a solid economic valuation on them.

And that is my last point. For a while we will have to live with both working with physical accounts and making better use of new types of physical accounts in decision-making, and at the same time build up economic valuations and learn how to use them better.

- **Aldo Ravazzi**

Chairman

Thank you very much for reminding us how much GDP has evolved through time (since it was introduced after the '29 crisis) as well as the debate on 'beyond GDP' in the last 10-20 years. We all know the debate among experts on how to define the GDP, finding international agreements: the national accounts experts have been fighting for a very long time and are still fighting on a large number of issues, like the rate of unemployment, how many definitions we have in different countries and how delicate the debate is.

- **Pasquale De Muro**

University of Rome

I work at the University of Rome. Currently I am working on a European research project that deals with these issues.

I want to make a point about the approach that we are following. We cannot limit our discussion to a mere statistical, ecological, or even political problem because there are a lot of theoretical problems that are in the background and that we cannot avoid. A relevant entry point from this point of view was made by Amartya Sen: we cannot avoid distinguishing between means and ends. Of course we cannot consider GDP not useful. It is a very important tool, but it is just a tool. That is its job. We cannot consider growth per se as negative or positive. It is just a means to an end. But to which end? It is the way we use resources for well-being, which is the central problem of

societies. Some societies with the same GDP have different outcomes.

The problem is how society uses GDP to produce well-being. This is the central issue. The problem of what is well-being, what are the ends, is a democratic and political problem. We should not put indicators of outcome and means on the same level. They do not have the same importance. We cannot mix means and ends of development in a composed indicator. We should be very careful how we decide which indicator to use.

From this point of view I agree that a very long list of indicators where we mix together means, ends, resources and the end results of the functioning of society is not a good approach. We should prioritise. We should have a democratic discussion about the prioritisation of outcomes that we want to pursue to create a good life for people. We should not mix together the means to get a good life and the outcomes of a good life.

My last point is about subjective indicators. I am very worried about the mix of means and ends. Subjective indicators are another category of indicators. They are very attractive and fashionable now, but there is no real theoretical discussion about the real meaning of subjective indicators. The subjective perception of our lives is important, but sometimes, for the poor especially, the perception and the reality are very different.

We need objective conditions and subjective perception as well. But we should consider the fact that the private sector especially is very good at mental adaptation and will not reflect real conditions in their survey because they adapt very strongly to hardship and tough circumstances. It is very dangerous to take for granted that subjective indicators are very good.

- **Jörg Mayer-Ries**

Federal Ministry for the Environment,
Germany

I work with the federal ministry of environment in Germany. I'm also an economist lost in this bureaucracy, but only for a few weeks. This is a new position.

We are working on the general aspects and strategic questions around sustainable development and the role of accounting in this context. Let me make a more general comment.

I thank the panel for making clear that there is a lot of linkage between accounting and statistics in society, and the particular perspective or interest from which you look at society and make a social indicator.

The last two speakers made it very clear that we need to talk about GDP on a national level. This is a very important aspect and should not be mixed with other levels.

My experience as an economist was that when I studied economy, there was no history of national accounting available. I think before we look beyond GDP, we should look before GDP and what was decided in making GDP as it has been conceptualised since the 1930s. It was wartime, and the specific macro-economic theories as well as the level and interest in society, and what was going on, opened up different possibilities. The whole discussion about beyond GDP is one about looking from new perspectives. We should look at making a benchmark and a comparison between the different ways and then we can learn by that.

It makes no sense to create a new GDP and try to convince society to use it. On different levels, from different perspectives, it will not be interesting. This will persist as a problem. Now is a good time for politicians and scientists to work on alternative perspectives on how society is interlinked with ecology and not only pure economy but also with societal questions.

For example, we should create new curricula for economists, journalists, and politicians to show that GDP is not a neutral natural scientific result but a social indicator – as you said – but a special social indicator.

All the questions and tasks you listed are wonderful – green growth, human capital – but there will be economic interest in trying to keep the old things. This is a political discussion and it is a wonderful opportunity. This is a plea for different perspectives and to carry out experimental projects and then look for linkages.

If you would like to have a picture for yourself as an individual of whether you are destroying the environment or not, you do not read in the newspaper about GDP. If you had an indicator in your household, to show what you are actually doing with the environment, this would be a wonderful thing. Not only on the national level.

- **Georges Menahem**

CNRS, France

I come from the CNRS in Paris, France. My topic is what should be accounted and what should not be accounted. My first point is that we have to understand what GDP means. GDP has implicit goals and aims. The main implicit aim is to value everything that makes a profit. What makes profit is valued and what doesn't make a profit is not valued. For example, domestic tasks do not create profit so they are not valued. I can give other examples. Our first aim is to better understand what is implicit behind GDP.

The other aim is to know what should and should not be valued. For example, you say that greenhouse gas does not have to be valued, so it has to be devalued. It has to be a negative value. It is a democratic task to decide what will be devalued, what will have a negative value. For example, greenhouse gas, advertising, and so on. Advertising is a service but it is a service that entails more inequality and even if it makes a profit, even if it is valued by the GDP, it should not be valued for social goals.

- **Aldo Ravazzi**

Chairman

My thanks to all those who have shared their views with us. A last round from the speakers now, choosing some key issues because time is very limited.

- **Isabelle Cassiers**

University of Louvain

Unfortunately, there is not time enough to try to react to all the comments. The first thing I would say is that I totally agree with the last remark. Before going beyond GDP, you have to decide and understand what are the implicit valued items in GDP. What are the goals pursued through this measure? It is very important to know before you change or keep it, and to decide which items have to receive a negative value, because they put the society or the planet in danger. This is an important point.

I would like to react to some points of the panellists and say that I'm very surprised to hear Mr Markandya say that GDP should be kept as an indicator of relative well-being of societies, because I thought that the background of this

conference was the fact that we want to establish clearly now that GDP is not an indicator of well-being of societies and so it cannot be used in a comparative way.

Along the same lines, when Mr Hofheinz takes Maddison's long-term data to show that we have succeeded in so much more welfare today than 200 years ago, again, this is through GDP data, reconstructed for 200 years. This is probably total nonsense, although Maddison is a very great economist and produces the best known and most solid data we can use for long-run studies.

It is only one component. All the work in this conference should show that GDP is not all of progress and maybe not only progress is in GDP. Suppose that in 20 years, if we succeed in establishing another global index that really represents what people understand as well-being, and that - as Maddison did - reconstructed this index through time to go back - 200 years, I'm not sure that we would have the same image of the progress accomplished. Probably we have very different ideas of economic and social history. In my view, we cannot have a linear interpretation. We have to have a systemic interpretation. For instance, when we compare our level of growth today with that of Africa, we have to understand how the West built part of its wealth on slavery and colonization and how it hampered Africa's development.

- **Aldo Ravazzi**

Chairman

The debate between ecological economics and environmental economics is reaching a very high level with refined elements, but we have to go forward. Professor Gadrey, you have the floor.

- **Jean Gadrey**

University of Lille

First, trying to answer Paul Hofheinz, we may or may not disagree on the fact that unlimited growth is possible in our rich countries with respect to ecological constraints. I don't know, but I'm sure that we can agree to adopt indicators that allow us to better measure sustainable well-being and to see if continuous growth is and can be a long-term contribution to sustainable well-being, which nobody can say today.

Second, responding to Anil. Personally, I don't want any suppression of GDP. I don't think that many

people do. I just want - like most people here - to put GDP in its rightful place as one of the means to an end which is something like having happy people in harmony with nature. No more, no less.

Today, many economists are trying to save GDP as being a proxy of well-being. Not perfect, but not too bad. It is going to be more and more difficult as the ecological crisis will concern more and more people. But we should save GDP as a good measure of what the founders of national accounts built in their time without any confusion with well-being. No less and no more.

- **Paul Hofheinz**

Lisbon Council

Just listening to the debate, it strikes me that this is a little bit of a medieval conclave. That we are arguing over the fine points and that actually we agree broadly. I sense more consensus than disagreement on all of the points that have been made, including the ones that the panellists have just made.

The gentleman here asked to hear more about what I said about GDP as a social indicator. This is exactly what I said. I said it is a social indicator. I did not say it was the social indicator. There are quite a few other things we can look at, but GDP does tell us something about well-being, in some ways, in different parts of the world. I used the example of Botswana; if you go there it does mean something that their GDP is as low as it is compared to what GDP in Europe means.

Just to give an example of an area in transition, I would mention China. We are all seeing very serious problems with China's growth both environmentally and socially. But let's not overlook what lies right behind it, which is that their country has come out of a situation only four decades ago where many of them were on the verge of famine. These aren't statistics that I'm disputing, I've been to China and talked to people about it and that is how they see the difference between the social market they have today and Chairman Mao's time.

Briefly about what the lady said about measuring the different types of capital. Thank you for that question. Bring it to a lot of other conferences. You are absolutely right. We need to do more of that. We have tried to come up with a way of measuring precisely what you said, in accounting terms, human capital. I'd be happy to talk to you about it later. It's been problematic, but what we're trying to do is to get the debate moving in that way because if

we can measure it, we can change it. And that's what we're trying to do with that.

- **Anil Markandya**

Rapporteur

Just briefly, the debate really is focusing on two ideas:

- One is how we can modify GDP or improve it as an indicator, perhaps not a perfect indicator, but as a useful indicator of well-being and of sustainability. Some of us have been working in that direction.
- The other direction has been what new indicators can we produce which would complement or do this job better.

I think there is room for both. Both things can be done. I certainly believe from the discussions, from the table, that the audience also feels that there is scope for both these actions to be taken.

What the appropriate new indicators are is not going to be easy to determine. In my role as rapporteur, I can sense that there is a feeling that the appropriate indicators and the appropriate weightings need to be determined in some kind of democratic process. At the same time, we are not absolutely sure what should go into that synthetic indicator. While I do sense that one or two people felt that some of these subjective indicators had some problems, there wasn't a sense that these might be able to be used with the same degree of confidence, that we might be able to use modified or adjusted sustainability indicators.

Somebody asked about the valuation of wealth. In the accounting that we were doing at the World Bank, social capital was measured as a residual. In other words we defined all the other forms of capital relative to the discounted present value of consumption and then picked up the residual. That's not the only way to go and more work can be done to improve on that.

To reply to the comment from Ms Cassiers, I wasn't saying that we should not go beyond GDP because GDP is perfect. I didn't say that. We have done work to look at the elasticity of poverty reduction with respect to GDP and there is a strong correlation. You increase GDP by 10% and you reduce poverty by 6-7%. Not the same amount everywhere. It depends what kind of growth

you have. Of course, that's why it is important to understand what the elements of growth are and to go beyond GDP in that context, but GDP is linked to key social indicators. It may not be a perfect indicator, but the correlations are there.

- **Aldo Ravazzi**

Chairman

You will have the pleasure – and difficult job – of reporting on these things in the plenary, Professor Markandya.

One minute just to close. We had a number of key issues from very different communities of experts. It is good news that so many communities are involved in reflection on 'beyond GDP', in other words using GDP as far as we can use it as a production measure and trying to find indicators, complex or not, which help us understand wealth and well-being.

The European Parliament and the European Commission together with OECD, World Wildlife Fund and Club of Rome have given us a very good opportunity and we must be very grateful that they have brought together all these experts from the different communities, public administration, NGOs, enterprises, research centres, and universities. This could be another good step in the right direction.

May I also mention the good work done at the OECD on these issues that may help us to go forward, which is work on material flows and resource productivity, and on sustainable materials management, as well as the work that the Japanese are pushing forward with the 3 R Initiative (Reduction of waste, Recycling and Reuse of waste and resources). The latter is in the area of the G8 but grows larger and larger. From these areas of work good results and good contributions can also come.

Finally, my last point is that our friends in the European Commission and all the other organizers are asking us to help them and to help ourselves to find ways to move forward by institutionalising indicators, measures, and so on; i.e. finding ways to profit from all the work done at the research level and in public affairs and to not waste all this important work that many of us are trying to do together.

Thank you very much. It is time to go back to the plenary.

Stuart Bond

WWF, UK



I would like to start by suggesting that the scientific evidence shows – and we heard a lot about it this morning – that the human economy has gone beyond limits. It's very clear that the scientific evidence is very strong. We can measure it in many different ways. There are a lot of measurements out there. They can be in ecological footprints, carbon footprints, and water footprints. They can be in the very stark realities of greenhouse gas emissions and of climate change. All these unintended consequences from our past endeavours are becoming very difficult to address: soil degradation, water stress, biodiversity loss and so on. Many of the issues that we all hear are very close to our hearts.

What we really need is not just a step change, but a whole-scale revisioning, an evolution in our economies, our patterns of production and consumption. Most crucially, what we are here to discuss today is the tools that we use to measure the successes or otherwise of that market transformation.

If the human economy has now gone beyond limits, the rules of the game have simply changed. While we keep a very detailed track of the stocks and flows of money, we need to keep just as strong, or even stronger, track of the stocks and flows of materials and energy. I'm not suggesting that we supplant traditional monetary accounts. I think that they do a very good job in the right place. But if we are to preserve and improve upon our stocks of natural capital, clean air, fresh water, and the soil to grow things in, we now need to invest heavily in a programme that measures and tracks materials and energy stocks and flows.

We also need to measure stocks of material and energy flows both on a production basis and on a consumption basis. For a globalised economy we need measures that transcend G8 political boundaries. The footprint approach is one way of doing this. It reallocates to what economists would call 'final demand.'

Much work has already been undertaken in producing a whole series of accounts in a number of dif-

ferent ways, looking at carbon ecological footprints, greenhouse gases, and a range of environmental indicators.

In the UK, we've used an input/output-based approach largely because it talks the language of economists. It allows us to be able to talk to economists as well as to environmentalists. This is a statistical base for the foundation of a lot of the work we are involved in. I would recommend that a comprehensive multi-regional input/output model is developed for the EU, and if money allows, a true system that integrates country accounts in a complete multi-regional input/output framework.

This statistical base is almost nothing unless we get policy-makers and decision-makers to start using and interpreting it and to start making decisions based upon it. Hand in hand with an evidence base, we need applications and we also need to build capacity. As part of an ongoing work programme on the one-planet economy, I have been working on an integrated solutions approach that is based upon a resource flow model as the underlying dynamic of society. Increasingly, this turns the costs of climate emissions into opportunities for supply chain transformation.

A one-planet economy is not just an idea from WWF UK, it is also an idea from the UK government itself and is enshrined in the sustainable development strategy. However, there is no definition of what a one-planet economy is, so the programme of work that we've been espousing is starting with this evidence base, moving on to applications, and building capacity. As part of that, we've developed a definition we're calling 'an economic system of production and consumption', which respects all environmental limits while being socially and financially sustainable.

Clearly such a whole supply chain transformation strategy is not possible overnight. We need to tackle slow structural changes first if we have any chance of success. So far, most policy is based on quick easy wins. We haven't tackled the systemic issues.

I would like to direct your attention to a couple of facts and figures to highlight the size and the scale as well as the urgency of the challenge. We can define the target rate for change by setting a one-planet target at a strategic point such as 2050, which is the current horizon for climate policy. This would mean a year-on-year reduction in total resource use of 3-3½% per year as measured by the ecological footprint. By 2020, the reduction of the total footprint will be about 35%, and by 2050, 75%. If we factor in economic growth at an average of 2¼ -2½%, it's all country dependent, then the required rate of decoupling or improvement in the resource efficiency of footprints of the Euro GDP would be a reduction of more than 5½% year-on-year for the next half century. This is about twice the rate that we've seen in the recent past.

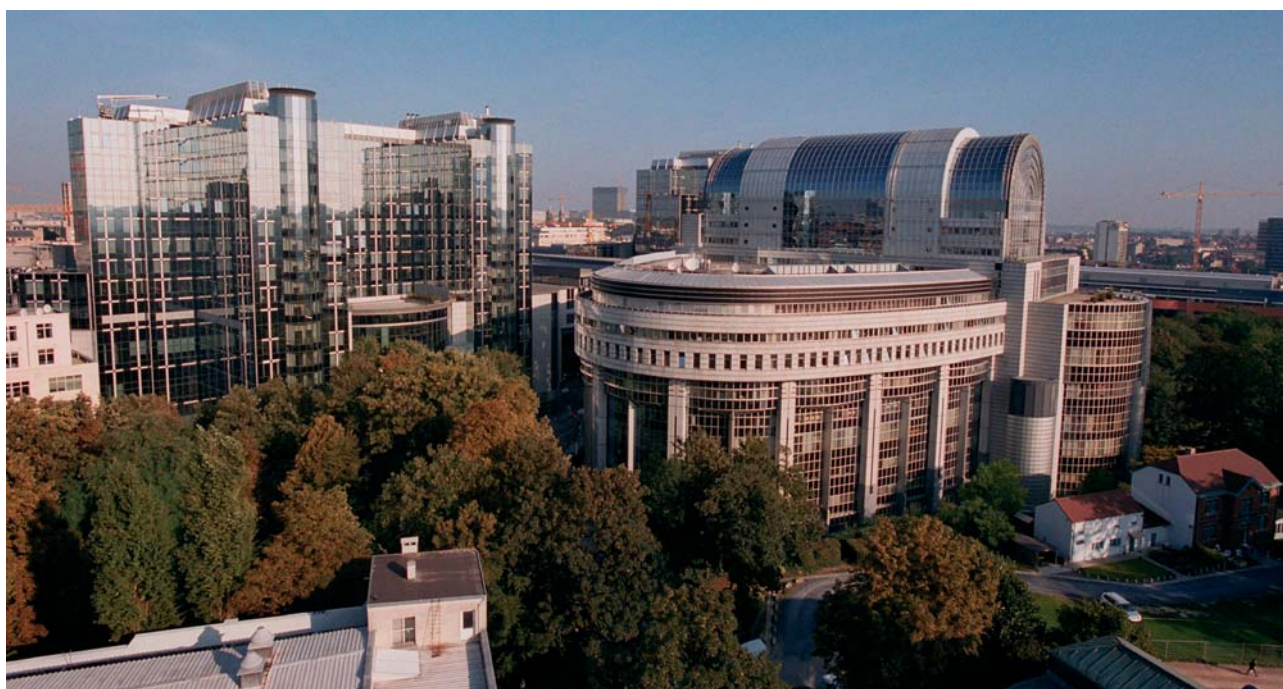
This one-planet target of 3-3½% absolute resource use and 5½% in relative decoupling is the ultimate benchmark for a pathway to environmental sustainability. It is also a guide to the long-term policy framework for public policy and business performance that enables organizations to plan ahead. It can then translate easily into schemes such as the cap and trade principle of the EU ETS, using the cap as a ceiling on emissions, and this should be reduced by 3-3½% per year.

Aside from the technical case, what is clear, and this is really where I started, is that we know something is wrong. So far we have done very

little about it. We've been tinkering at the margins. While this produced some reductions in emissions with some increases in resource efficiency, it is not going to produce the large-scale systemic transformation that is required. A 75% reduction is a massive number in 40 to 50 years. It's a very short time. The time scale is compressing our needs to be able to act and to act very fast.

We need to follow this up. Not only with measures and metrics that go beyond GDP, but with commitments, real political commitments for tenacity to implement a vision – a key vision – over a 40-year time scale. It will take courage and leadership to start now on a long and complex journey. Metrics that lead beyond GDP are an important start but they need to be clear, transparent and robust, and they need to transcend boundaries between environmentalists and economists and to be trusted by both camps.

This strategic programme of transformation in markets, of governments, technologies, and consumer behaviour will also require political maturity that accepts the principle of multi-level and multi-lateral governance. This will help to secure a one-planet agenda that works across every sector from food and agriculture to public services, to business and manufacturing, to consumer lifestyles. We can produce the metrics. As we heard earlier, it is not just about producing the right sort of metrics for the right sorts of people; we also need the political leadership to be able to take this forward.



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Teresa Fogelberg

Deputy Chief Executive, Global Reporting Initiative

Measuring by reporting

I will share with you a method whereby, through a system of global voluntary reporting bottom up, mutually inter-validating information can be publicly communicated on issues which are traditionally not covered by GDP but are key to measuring and assessing the economic and sustainable health of main actors of society, namely and particularly the business community.

If you look at the list of these issues, we all agree that most of them are not included in the traditional GDP indicators, and that we all think that they are important for us to cover today. If you look at the sources of information on these indicators, we have to look at all kinds of different sources mentioned here on the slide. In order to fully capture that we need three kinds of innovations, three changes.

First of all, the nature of the indicators.

Secondly, we should not look only at the geographical entry point such as nations, states or municipalities, but we should also look at actors that borders, i.e. global players, such as the corporate sector, that go beyond national borders and have operations in many countries of the world.

Thirdly, we also have to look at how the information is actually reaching politicians, those who make decisions on investments, such as financial analysts. Therefore we have to look at a variety of actors who provide these data and information and who share them in an inter-subjective interplay and interaction, what we call a 'naughty stakeholder process.'

All of these approaches can be found going beyond national borders using information on environmental, social, and economic performance and using information from different stakeholders and actors in what we call the 'sustainability reporting approach.'

About ten years ago, an organization called the Global Reporting Initiative (GRI) was formed

and is now officially part of the United Nations Environment Programme. It has some 25,000 network members and is based in Amsterdam. It has a board comprised of business, governments, academics, labour representatives, and international accountancy specialists. Together, they have developed and negotiated a reporting framework and principles on how reporting should happen with 70 indicators, both economic, and environmental, and including all kinds of labour practice, human rights, society and product responsibility indicators. All of these indicators have been commonly negotiated between all these civil society, business, and government representatives and are in that sense owned by them. There is agreement on them and they are also formulated in an easily understandable and usable fashion.

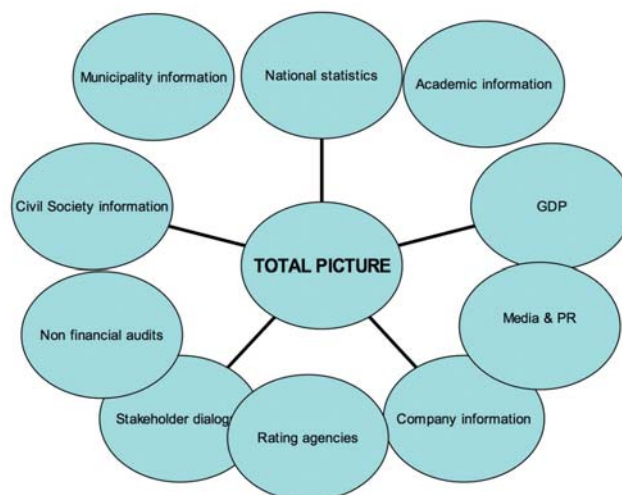
Now there are 1,200 organizations issuing annual reports where they give information on both their financial performance but also specially on these sustainability indicators. Of these, 600 are based in Europe, but the majority are multinational companies and therefore they also give information on their presence in other parts of the world.

What I would like to end with is the question: 'What is feasible in a few years?' and if I go back to the question of the early plenary this morning: 'Where would we be in 10 years from today?' We could easily manage to have 75% of multinationals producing these kinds of sustainability report. It may be a bit more difficult to reach, 75% of public agencies, and here I mean ministries or organizations like the European Commission, to also produce reports on their own sustainability performance. And about half of SMEs will be doing so. In order for this to happen, civil society has to continue to be very critical and watchful of the content of these data and policy-makers should make it happen through their regulatory framework, either by making this kind of reporting mandatory or by creating stimuli to do it on a voluntary basis.

key issues we need to know

- Environmental footprint
- Water use & availability
- Energy use
- CO2 and GHG emissions
- Waste
- Biodiversity: habitat
- Income generation
- Equal pay
- Diversity and equal opportunity
- Child labor
- Impact on local economy
- Innovations?

Reporting is key to get total picture



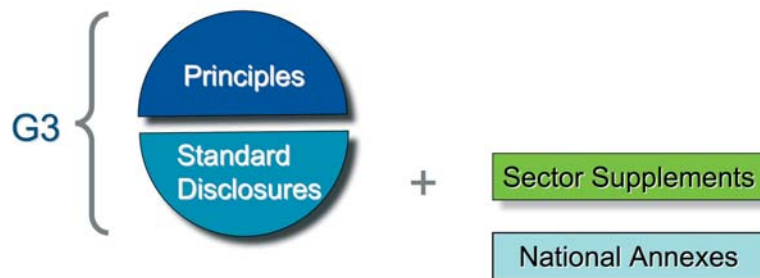
Sustainability reporting



GRI: Network Organization



The Reporting Framework



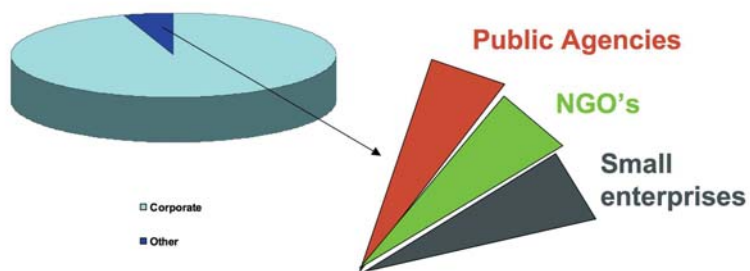
Performance Indicators



Globally > 1000 organisations report



Majority large impact multinational enterprises



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Forest and trees?

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[Calvert-Henderson Quality of Life Indicators \(USA\)](#)
[Canadian Index of Well-Being](#)
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[EU Lisbon Strategy structural indicators](#)
[EU sustainable development indicators](#)
[Genuine Progress Indicator](#)
[Happy Planet Index](#)
[Human Development Index \(reports, UN\)](#)
[Human Development Index \(HDI\), Human Poverty Index \(HPI\), Gender Related Development Index \(GDI\), Gender Empowerment Measure \(GEM\)](#)
[Sustainable Society Index](#)
[Index of Sustainable Economic Welfare \(ISEW\)](#)
[Living Planet Index](#)
[Measure of Domestic Progress \(NEF\)](#)
[Natural Capital Index](#)
[Sustainable National Income \(SNI\)](#)



Andrea Saltelli, Jochen Jesinghaus and Giuseppe Munda

European Commission, Joint Research Centre, Italy

Well-being stories

Disclaimer: The opinions are those of the authors and not of the European Commission.

First story

The index of sustainability of fiscal and ecological development.

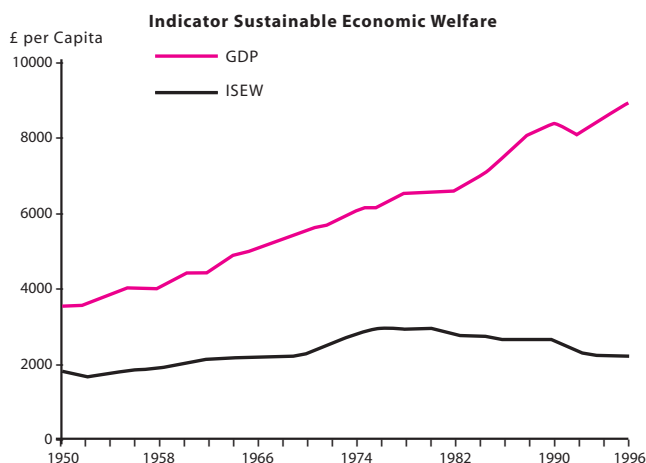
“Russia is outpacing the US, UK and Germany in securing its population's long-term economic and environmental future, according to a new study”.

Thus incipit a piece of the FT (September 13 2007) looking with polite disbelief at an 18-country index of **“Sustainability of fiscal and ecological development”** developed by Economists at Germany's **Allianz Insurance** and **Dresdner Bank**. The index ranks Russia sixth in, ahead of the UK (placed seventh), Germany (ninth), and the US (17th).

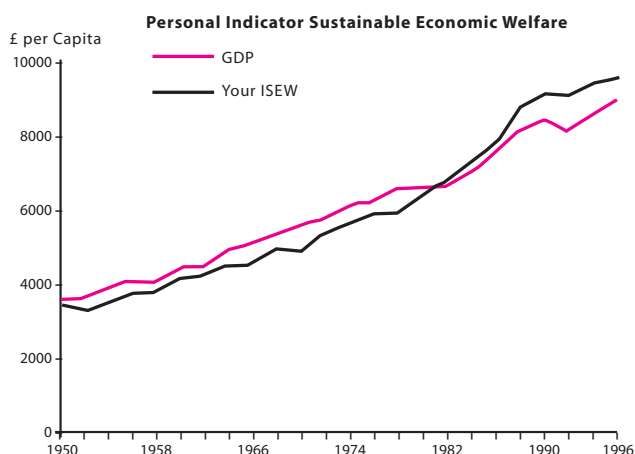
The index is a composite of five indicators: public debt, current account and net borrowing balances, carbon dioxide emissions and energy use per unit of gross domestic product.

Second story

The Index of Sustainable Economic Welfare, ISEW – also available as Genuine Progress Indicator, GPI.



Here is the UK ISEW as we all know it: GDP is rising steadily, while the ISEW reaches its peak in 1975, shortly after the First Oil Crisis (1973/74), and shortly after the publication of “Limits to Growth” (Meadows & Meadows & Randers, 1972) – here is The Scientific Proof that we have already exceeded the environmental limits, and that we urgently need to change course to Save The Planet.



Here is a slightly modified purely environmental ISEW: we eliminated all “social”, i.e. inequality, Gini, household work etc. corrections but kept the environmental, i.e. air pollution and climate change items. The result: GDP is still rising steadily, but the ISEW outperforms GDP from 1982 onwards!

Third story

The Ecological footprint

Carrying capacity of ecosystems including humans are difficult to compute as humans' footprint depends on population density, consumption levels as well as on technology. What are the policy implications of the remark that

Netherlands occupies 15 times its actual size in E-footprint? Would the impact of Netherlands' people for the world be better if they were spread thinly over free spots on the planet? How would the EF capture the practice of exporting production and pollution abroad? Can we trust EF data when we know that trees absorptive capacity depends on age and location and that world averages are used? These are but some of the most common criticism to EF heard in Ecological Economics Circles.

The Ecological Footprint, while an excellent advocacy tool, suffers from the same weakness as GPI etc., i.e. from the attempt to aggregate disjoint indicators on the basis of "acres". Neither dollars nor acres are neutral enough to be applied to a wealth of indicators that do not always fit neatly into the metaphor (try using "acres" for the fragmentation of landscapes, or to subtract "dollars" from GDP for correcting gender inequality). This is indeed a strong narrative underpinned by a weak model.

Some Inference

First suggested inference. The metric fallacy.

In our opinion ISEW and the Ecological Footprint suffer from the same problem: "*Incommensurability, i.e. the absence of a common unit of measurement across plural values, entails the rejection not just of monetary reductionism but also any physical reductionism (e.g. eco-energetic valuation). However it does not imply incomparability. It allows that different options are weakly comparable, that is comparable without recourse to a single type of value*". [Joan Martinez-Alier, Giuseppe Munda, John O'Neill, 1998, Weak comparability of values as a foundation for ecological economics, *Ecological Economics*, 26, 277–286]. One of the most widely quoted paper in the Ecological Economics literature is "The value of a songbird", by Funtowicz and Ravetz. One can imagine the argument from the title. The same considerations apply to other attempts to 'adjust' GDP, e.g. by satellite accounts.

Satellite Accounting is an excellent tool for modelling the interactions between the economy and the environment. It is an essential tool for energy use, greenhouse gases, and a handful of other indicators; however, we fear that non-practitioners misunderstand "environmental accounts" as a generally applicable methodology for calculating a "Green GDP". It is in the interest of the concerned services of the European Commission fostering the

use of these accounts to give a crystal clear message what satellite accounts are good for.

Second suggested inference. The danger of reductionisms. Only economy and environment matter.

As the stories of the index of the Allianz-Dresdner Bank (sustainability of fiscal and ecological development) and the Ecological Footprint show, reducing well being (in the sense of Eudaimonia) to economy and environment runs two major risk:

1. to yield a measure scarcely informative for both dimensions. What, implications for policy can Russia draw from the Allianz-Dresdner Bank index.
2. to leave an entire universe of dimensions uncharted. Would anyone like to live in a country which is prosperous and ecologically minded under a dictator? Would we accept therein the existence of slaves? Incidentally Aristotle would. How can we build a measure of well being in dollars or acres forgetful of equity, cohesion, education and culture? Who would be convinced of it across disciplines and in society?

The environment has an important role in politics, but assuming that economists (including the National Accountants whose GDP someone wants to modify), social scientists and others can be treated as "optionals", is a tactical error that will not promote the good cause of the green community that is so active at "Beyond GDP".

Third suggested inference. Where to go

There is a long path ahead toward a model for well being - while we do not know what the final model will be, we know that the initial input variable set will include as a point of departure what statisticians have painfully collected.

A look at Eurostat's "key" indicators shows that the environment does indeed play a significant role among the 250 Sustainable Development and Lisbon (Structural) indicators present there. But any attempt to go "Beyond GDP" must recognise the complexity of the task to measure societal progress (wellbeing, sustainability, eudaimonia or whatever label one wants to adopt). Picking a dozen of environmental variables, adding a handful of economic and social fig leaves, and aggregating them on the basis of some magic but unfortunately not so transparent unit is clearly not bound to be a successful strategy when trying to challenge GDP growth in its role as key policy guidance indicator.



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on the SDI headline 13 as it played with the Structural Indicators 12!

Clearly our still unknown model will aggregate, and here the trite arguments of the apples and oranges which would be added and the even more trite one of the arbitrary nature of the weighting process. If one were to see how CO₂ emission are converted in dollars by reduction-ists (a 4 orders of magnitude uncertainty range is considered by practitioners) then some carefully and transparently negotiated aggregation may seem a better option.

If we are to indicate a good practice, then Yale/ Columbia Environmental Sustainability Index and Environmental Performance Index are egregious measures of environmental stewardship and we would have liked to see more of them at this conference.

A careful modelled aggregation performed by respected academic or international organisations can bring to page 1 of the literate press issues as diverse and at time specialised such as university ranking, good governance, and the freedom of press which would otherwise be lost on page 14.

Here what the Financial Times says about the World Bank sixth annual Worldwide Governance Indicators (July 12).

Economists are often accused, justly, of thinking that what cannot be counted does not count. In this case, economists are trying to count what - many would say - cannot be counted. The alternatives, however, are worse. Either we ignore this fact or we make subjective guesses. For all its weaknesses, the Bank remains best-equipped to crunch the numbers and deliver the judgment, however unpalatable.

By the way, NOT aggregating a battery of indicators is also not a viable option; neither the 13 Sustainable Development headline indicators, nor the 12 Lisbon headline indicators are sufficiently simple to be understood by ordinary citizens not to capture a headline. In 2004 the Commission 'published' the 12 SI headline indicators and the Financial Times produced itself the aggregation to slam the story in page 3! See Saltelli, A., 2007, Composite indicators between analysis and advocacy, *Social indicators research* 81(11), 65-77. Further these e.g. SDI 13 variables can generate monsters. FT would be surprised to find Romania first if it played

<http://composite-indicators.jrc.ec.europa.eu/>

OPENING AND DISCUSSION OF WORKSHOP

- **Ivo Havinga**

United Nations Statistics Division,
Chairman of Workshop Session 3 Panel 3

I would like to welcome you to this breakout session. It is a pleasure having this large audience to help us get going on this particular topic. We have a list of excellent speakers but before doing that let me just briefly introduce myself.

I am Ivo Havinga from the United Nations Statistics Division, UNSD, responsible for economic statistics in a broad sense and environmental accounting. I know, we all have opinions, but it's not for me to speak. My job is to moderate this meeting. I do that with pleasure.

We have excellent speakers. Let me introduce them.

- We have Stuart Bond, he is sustainable development officer from the WWF, a pleasure, Stuart, to have you here;
- We have Teresa Fogelberg; she is responsible for the global reporting initiative. She's deputy chief executive and has an extensive background in sustainable development and she has also worked extensively in development aid. A pleasure, Teresa, to have you here;
- We also have, Mr Andrea Saltelli; he is an applied statistician at the Joint Research Centre in Italy. Andrea, welcome;
- Then we have Marcel Canoy; he is economic advisor from the European Commission of European Bureau Policy Advisers, and he is our Rapporteur.

In terms of organizing the session, I will take the speakers as I have introduced them to you. That is first Stuart Bond, then Teresa Fogelberg, and then Andrea Saltelli. Basically what I've been asked to do by the organizers is to concentrate on three particular questions. I will read them to you so that you know that I will try to focus discussion on these issues, because this discussion will lead into the next session.

The questions are:

- What are the key opportunities for going beyond GDP?
- What is feasible in the short to medium term and how can implementation be improved?
- How to meet the needs of policy-makers, key institutions, business, media, and the broader public, i.e. how to meet the needs of the stakeholders?

I would like the presenters to concentrate on these three questions.

With that, I would like to give the floor to Stuart.

For the speech of Stuart Bond, please see page 194.

- **Ivo Havinga**

Chairman

Very succinct and very clear. You make a couple of points about opportunity and feasibility. You say we have to have clear policy goals and we have to communicate them very clearly, and you say by 2010 and 2020, 2050. You talk about overall transformation in terms of looking at production, consumption and accumulation.

With that, Teresa, can I ask you to continue?

For the speech of Dr Teresa Fogelberg, please see page 196.

- **Ivo Havinga**

Chairman

We know that the global reporting initiative is a *prima facie* case of moving forward in a terrain at international level, at UN level. Thank you for making that clear. Thank you also for explaining feasibility, because feasibility was also created under the UN auspices and also in terms of the way forward by setting clear goals.

With that, I would like to ask Andrea to take the floor. Thank you.

For the speech of Andrea Saltelli, see page 201.

- **Ivo Havinga**

Chairman

I enjoyed listening to some of your fallacies. You have strong views on the single metric that is used. You don't want to compete between the social dimension and the economic and environmental dimensions. These are strong points.

Laurs mentioned that also from Eurostat he is very optimistic. I hear the same thing from you. So much is already being done and we could

capitalize on what has been done and maybe improve our communications.

Thank you, panellists. I would like to open the floor, more systematically if I may. Maybe you can take the questions one by one.

First question: what are the key opportunities for going beyond GDP?

- **Friedrich Schmidt-Bleek**

Factor 10 Institute

I have very few points, Chairman, that relate to all three.

The first is that without a functioning environment, without healthy nature services, we cannot have an economy and we cannot have any social development. In that sense, it is the guardrails of the laws of nature that are the limiting factors for what we can do in our societies. It has been said that the human economy has gone beyond limits. I fully agree. The question is what are the limits? If we take this seriously, we have to look at what are the profound impacts of the human economy on the environment. We have two choices basically.

One is a symptom-oriented choice. That is on the output side. There is a lot of concentration on CO₂ right now. This is one of the symptoms. There are many others that we could regard. We have learned in the last 30 years of environmental policies that if we relate our thinking only to symptoms, we usually do not do the right thing.

If on the other hand we take a systems approach, we are really thinking about the input side, and resource productivity per unit output. You can take any indicators you wish. It is a question of decoupling against what we do to nature. That is resource productivity on the systems side. That is true on a micro level for products. What can we do? The key issue is to begin to save resources and the most economic way to do that is to increase the price of resources. In other words, to internalise the external effects that we have through resource use. Our policy advice in Germany is to shift taxes from labour to resources. There are some other ways to do that, but this is a key issue as far as I am concerned.

- **Ivo Havinga**

Chairman

What I hear is that you want to bring the effects of human society on to the market and get the prices recognized.

- **Friedrich Schmidt-Bleek**

Factor 10 Institute

To save resources, you have to make them more scarce, that's part of it.

- **Jochen Jesinghaus**

European Commission,
Joint Research Centre

I'm Jochen Jesinghaus from the European Commission's, Joint Research Centre. Andrea Saltelli talked about the various measures that are on the table and we took the ISEW as one of the striking examples of how misleading it can be not to look at the detail, into the methodology. Everybody goes around with this famous ISEW graph showing the gap that opens and tells us how we are on the wrong track, but if we look into the detail we find that it's household work and it's income inequality. It's not the doomsday scenario that we are currently hearing from the IPCC. I agree, we have a doomsday scenario. We have to act and we have to avoid the big catastrophe. But to do that we would have to introduce environmental taxes. We would have to increase the oil price to 200 dollars per barrel, not 100 as we have currently. So we would have to add a tax of about 100 dollars per barrel. In the ISEW, there is CO₂. It's somewhere in there. It's one of the most important indicators, so it has to be in this green GDP measure. Go and check. You will find that it is valued at about 25 US dollars per tonne or so. Maybe it is 40, I'm not sure. But it is only 1/100th of the sum that we would have to impose on CO₂ to get the action that WWF is asking for.

I just want to highlight how misleading are these black boxes that are on the table under the general heading 'green GDP' or whatever. Going for green GDP is just not the right way, unless we rely on a public that is easy to cheat. It is not a sustainable strategy to cheat the audience.

- **Hans Diefenbacher**

Institute for Interdisciplinary Research,
University of Heidelberg

I belong to the Institute for Interdisciplinary Research, University of Heidelberg. I'm one of the young fossils of this debate because I'm one of those who made the time series of the ISEW for Germany about 15-18 years ago.

I completely agree with you. This is just another figure and not a better figure. But the GDP is a single measure as well. And everybody looks at it. This is the problem. The problem is how do we get rid of the one single measure that is misleading us. Maybe it is a good idea to have such a measure, the GDP, and another just in a tiny box on the same page of the publication? So every time you look at the GDP, there might be another truth that is worth a debate. As long as we are not able to get rid of the GDP, I would like to at least raise the idea of another single measure. I completely agree that it is a better to have nice headline indicators. But we cannot get rid of the other strategy for the moment.

- **Marco Malgarini**

Institute for Studies and Economic
Analyses, Italy

In answer to your question of what do we have to do to go beyond GDP, I am more interested in the part related to subjective measurements of personal and national well-being. In this sense, there is some scope perhaps to enlarge the availability of indicators that are on the table right now. If I understand correctly, basically we have indicators that are available over quite a long time span. You've got surveys that try to measure personal well-being every three or four or five years. I wonder, as a question to the audience, if it is worth trying to increase the frequency of this kind of measure. That would be of some interest especially if we are able to look at the individual dimensions of this data. Looking at the individual dimensions of this data may allow us to measure the impact of different policy measures on subjective well-being. In this sense, we could think about developing some high frequency subjective well-being measures.

- **Jean-Louis Weber**

European Environment Agency

I will answer your three points separately because you asked us to do so, but I would have preferred to start with the last one which is the answer to the questions of the stakeholders. But I will take them in the order you propose.

The opportunities of going beyond GDP. I take it as a producer of information for policy-making. First of all there is strong political demand. This conference is one example. The Potsdam Initiative of the G8+5 is quite high-level. I don't know if there is a higher level of demand in the world, and they clearly expressed the question about the cost of not taking care of biodiversity. Like it or not, but the question is there. As professionals we have to answer these kinds of questions.

There is a millennium ecosystem assessment that will be revised now and will be updated by UNEP by 2015. The question of accounting for the economic costs and benefits of the ecosystem and ecosystem services is now on the table. It was not that clear in the first millennium but it is now. You can say that you also have several initiatives in Europe at country level. Several countries are engaged in ecosystem assessments and in ecosystem accounting, including with monetary valuation. You also have initiatives at local level, and last but not least, at company level. Companies are interested in having complete accounting of their environmental impacts. Not only the direct impacts of their use of materials and emissions of residuals, but the indirect impacts linked to their degradation, maybe involuntary degradation, of the environment. Politically, this is a huge opportunity.

Technically, we now have access to a huge number of databases. Maybe the problem is to find one's way through all this data. We have a lot of statistics available. A lot of scientific knowledge. A lot of software to process the data. You have AGS now, very common software on your desktop. What we are missing is some framework to organize the activity of various communities of statisticians and scientists of various domains. We have one framework which is not perfect, but which is under revision and will be perfect by 2010. It is a system of economic environmental accounting. This system is candidate framework to help in organizing the necessary multiple activities.

- **Andreas Siegel**

Council of Europe

If we want to make an impact we need to have a consensus on the indicators. What kinds of indicators are we using and for what purpose, in particular, the so-called subjective ones?

And the question of process management, how do we actually follow up indicators? How do we get politicians to translate the knowledge into action? It is indeed true that we need a complementary approach to different areas, sectors and methods, and to use the best practices available.

To comment on what the Council of Europe does, this is precisely a model where we combine regional and sectoral approaches with a policy management process. We have a total cycle from the beginning, with civil society experts discussing indicators and needs for certain purposes. This is translated into conventions, common benchmarks decided by governments. This is then verified by monitoring mechanisms that then issue recommendations on follow-up. Then again, targeted mechanisms exist to build capacity to reach these indicators. And the whole cycle begins again. This is a sectoral approach, which has worked for 47 countries with 800 million citizens. This is one of the things one could look into as a method to control the whole process.

- **Ivo Havinga**

Chairman

Before you start, I would ask you, if possible, to concentrate on the third question, how do we meet the needs of the policy-makers? We're coming very close to understanding what the key opportunities are and the short and medium term have been cued by Marcel on that, but he feels that we also have to concentrate on the needs. Apart from your own thoughts, maybe you can add a reflection on the needs.

- **Roshan Di Puppò**

Social Platform

I'm the director of the Social Platform, which is a broad coalition of European social NGOs.

To concentrate on the last question. Relation to policy-makers, you first have to see they have a need. As social NGOs, we would be very keen to have alternatives to GDP. For the moment we don't see where is the critical mass of actors that could bring this change. Ideally, you would think of a European initiative. At the global level, it could be a very strong signal that a region decides to adopt this alternative way of measuring.

At the same time, at the moment we don't feel that the Commission is in a position to do it. But now, all the evidence is that they are not really pushing very hard for this kind of alternative approach, because at the moment the discourse is very much about both: a traditional approach to both and everything that was done on CSR has really slowed down in the opinion of the NGOs.

For us, when we talk about the needs of policy-makers, at the moment we have a group of policy-makers who we don't feel need this alternative. They are happy to continue the good old way. I'm really wondering if we could start working with a group of Member States that are ready to take this kind of approach. A new presidency of the EU could take it. All these are important, but at the moment it is difficult to work in a context where the key EU strategy is on growth and jobs. That is the relative worth of NGOs.

- **Tanja Srebotnjak**

Yale University

I feel that the third question can partly be helped by statisticians. We now have a recent study by the UNDP that shows that there are more than 300 indicators that relate in some form or other to the measurement of human well-being and so, while that is a positive development, because it relates closely to the increasing attention that we give to perhaps one of the leading problems of our time, it makes it very cumbersome and overwhelming for policy-makers to sift through and make the appropriate decision for the measure they need for their purposes.

So I think statisticians have an important role to fill by helping policy-makers with decision-making, by providing the index most suitable for their needs. In part we have talked about many measures, but so far very few of them come with uncertainty assessments, confidence intervals, anything that gives the user an idea of how valid and reliable and how variable a measure really is. So that was just what I wanted to add to the debate. It has only come forward in the margins so far.

- **Mathis Wackernagel**

Global Footprint Network

What does it mean that Holland uses five times their own resources? Essentially, to use more than you have, you have to either deplete your own assets or you have to import the difference from somewhere else. So that exposes you to the risk of overshooting. It also means that other countries that try to imitate Holland should probably think twice, because it may be difficult to import that much from other places.

I think it's an important indicator, which leads to your third question: How can we serve stakeholders? Essentially I think we have to focus on how do indicators frame the key question? I think the key question for the 21st century really is as Professor Schmidt-Bleek said "How can we live properly on one planet?" So, rather than having one Holy Grail indicator, we need to have indicators that look at tension. We need indicators that look at how well we live but also, to an extent "Do we live within the budget of one planet?" And it's through this tension that we manage both the interest of stakeholders and the innovation that is necessary to overcome this tension rather than just look away from it.

- **Pavle Sicerl**

University of Ljubljana, Slovenia

I just want to say a few words about how to meet the needs of the stakeholders. I will link it to what Andrea was saying. There is a lot of work done in collecting indicators. So we have a good start from that point of view. But I think that there is also an important aspect which I call "human interface", and that is understanding information and communicating that information. So what I want to say is that when we have indicators, we should take up what OECD is suggesting from statistics to knowledge to policy, and for that we don't just need new indicators and new ways of thinking, but also to see the results of statistical measuring.

I will not dwell much on that, I will just give you an example, the time distance method, which is on the virtual indicators' expo, so you can see it there. But basically it means you can reach new conclusions, for instance, in the European Union, if you are comparing two time series, one is life expectancy male and female. If we compare it statistically, it's 8% higher. If we compare it over time - this is my measure - looking for the same level of the indicator at two times, believe it or not: 29 years, what is the policy conclusion? That you have to have both measures, because if you wish to find out if it is a difficult problem, you use time distance. If you wish to say it's no problem whatsoever, you use 8%. So we need different uses of data, which are already there, better utilisation of data, because otherwise the interest groups, which would like to put it one way would use one measure, and the other interest group would use the other measure. So, I would simply suggest that we don't look for new perspectives on indicators but at the way we discuss, interpret and communicate them.

- **Ivo Havinga**

Chairman

Wonderful. It is good that you brought it out. You know, it's not just statistics. It's also that we have to build knowledge out of your two analyses. Thank you for this intervention.

- **Richard Walton**

European Central Bank

To answer the third question, I can only say that, of course, the needs of policy-makers will undoubtedly vary with the political orientation of the policy-maker concerned.

I would rather address the first question: key opportunities for going beyond GDP. In that I see a limited set of undisputed core indicators, which are linked by an accounting system. Frameworks of national accounts and environmental accounts have been mentioned. This is nothing new, because we already have important target variables like inflation, monetary aggregates, the unemployment rate; so the challenge in answering the first question is to supplement the list of policy indicators with a few social and environmental indicators that are easily incorporated into forecasting models. Examples include life expectancy, adult literacy rates and greenhouse gas emissions.

- **Ivo Havinga**

Chairman

Basically you're saying, keep it simple, but communicate well.

- **John Hontelez**

European Environmental Bureau

I'm Secretary General of the European Environmental Bureau, which is a federation of environmental organisations working on the EU level. As for our needs, it's very clear that environmental organisations need an indicator that becomes as influential as GDP to influence the minds of politicians to determine their priorities. We have a lot of information about environmental decline. We have very good reports from the European Environment Agency. Next year the OECD will come out with a new environmental outlook 2030, which does not only - and this is important - give information about the state of the environment, but also predicts trends. I think the complication with environmental indicators is that GDP is just about growth. When growth is higher, people are happy, when it isn't, people are not happy. But with environmental indicators, we always have to link to an agreed objective, an agreed goal. With climate we have IPCC, with other indicators we lack that a bit, and I personally feel that with footprints now there is too much focus on CO₂ and this may in the end give too little information about other very important things like soil deterioration, water scarcity and so on. But take the view that when environmental indicators are being discussed, we tend to, we can only be believed when we are perfect. But is GDP a perfect indicator? I think the ecological footprint is gaining more importance. If you look at EU contributions to sustainable development commissions and so on, this is being recognised. The only thing is, it doesn't have the same type of recognition yet as GDP. The EU should not seek something instead of GDP, but should rather look at things like ecological footprint, and maybe accept it as a proxy for the time being about questions such as is the quality of economic growth bad for the environment, or are we making improvements.

We do need a main indicator like ecological footprint next to maybe another one that better reflects social indicators like employment, which is the second thing politicians are very impressed with, because when we talk about

the Lisbon process, we need a kind of inherent critique of the quality of economic development in the EU.

- **Pascal Wolff**

European Commission, Eurostat

To come back to your issue on opportunities for going beyond GDP, one big push should be the sustainable development strategy, which is recognised in the European Union as the overarching goal of policies. This issue of sustainable development has got more and more attraction in the general public meaning that it is a clear driver for policy actions.

At the European level, we see that in many countries. So I think it is a great opportunity to use this big policy framework to push other measures of well-being. And the link between sustainable development and well-being, I think, is very clear. For instance, in EU strategy it is defined as maintaining and enhancing the well-being of present and future generations. So we see clearly this link between the two.

There were several speakers this morning talking about the fact that we have different users. Certainly we need different kinds of indicators to address these different users and it is particularly true when targeting policy needs. Large sets of indicators have their limits. They are interesting, because they cover a large variety of topics - objective, subjective and various kinds of measure of economic, environmental, social developments. But we should certainly expect indicators to be more attractive, and this is perhaps the case with some well established composite indicators. But in doing so, we have to recognise that those kinds of indicators cannot go alone, even if, *a priori*, they are more attractive. We cannot talk to policy-makers and tell them, for instance, that they have to decrease the ecological footprint by 5% in order to be sustainable. What does it mean for them? In order to deliver a more efficient message, we need different kinds of measures.

- **Ivo Havinga**

Chairman

I would like to turn to the panellists, simply because we have to stop by 12:10h to go to the other session. I'll give you all one minute to wrap it up. Andrea, can I ask you to start?

- **Andrea Saltelli**

European Commission,
Joint Research Centre

Mathis Wackernagel has done a fantastic job. No other indicators I know of have had the power of advocacy that his indicator has had. Jochen Jesinghaus, who knows these things better than I do, tells me that the ecological footprint can do a great job, especially in efficacy of development, when you talk about official development aid in global partnership studies. That is when you want to make sure that we do not deplete the resources of developing countries.

I was just making an argument about the metrics, which is something I feel strongly about. The careful, cautious aggregations of a variable done by an institution, which has the legitimacy to do this aggregation and is done with extreme care, is the way to go and Tanja's work here is a good example. Look at the environmental sustainability index and environmental performance index produced by Yale and Colombia Universities for the World Economic Forum. EPI as a measure of a country's stewardship to uphold the environment is a very good example of how far you can go.

Of course, at the same time you have to be detailed and parsimonious. You can do that with statistical methods nowadays. I cannot go into this now. And of course you must also be transparent, because if the users and stakeholders cannot understand how you have reached some kind of aggregation, this will not be useful. Finally, of course, you must be able to assess the uncertainties, because if we know beforehand that CO₂ 'numeraire' is uncertain by orders of magnitude, we won't go very far with it. Then we will have a model which is totally qualitative.

One last point and here I return to the question by the Chairman: the media. Now, I argue that you can get even the most abstruse topic on page 1 of the Financial Times by careful aggregation of the nature which I discussed just now. Two days ago, the Times supplement review of higher university ranking (THES), was on page 1 of the Financial Times. The title was "Heidelberg only 60", so all the Germans readers opened the journal and go to page 4 and read the article on university ranking. You know it's done carefully and well by a reputed institution, so it made it to page 1 of the Financial Times. This is what we have to do. I could give examples of global governance and other examples, but this is enough for today.

- **Teresa Fogelberg**

Global Reporting Initiative

I also wanted to refer to the gentleman from Heidelberg, but not because of the ranking of his institute, but because of the remark that he made about trying to endeavour to use maybe two main indicators for the general public. Having said that, listening to this discussion, there has been an overall focus on the environmental. Somebody said, you should not over-focus on climate change issues, CO₂ reduction, but I think if you are trying to make a third very important indicator, I would again like to draw attention to issues of social empowerment, social inclusion, emancipation, equal pay, to that whole grouping of social rights, which maybe in Europe we have already attained to a large degree, but we should have the ambition to have these indexes at a global level. So that's my first reaction to your point. Yes, simple, but let's not forget about these very important social ambitions that we also have as a global community.

The second point is the remark of Tanja, about the validity of data. I think it's a very valid point that you made, but I would say, let's not listen only to statisticians, listen also to civil society, which also has a critical role in following data. And ask the question, are these the right data, and if they are, is the content valid?

I would also like to draw your attention to a whole new profession, and that is the professional assurers. Now that companies are coming up with their own data, of course, we have the financial; we have the accountants, who are all following Sarbanes-Oxley and all the European laws on financial reporting. But the more important environmental and social accounting becomes, the more important it also becomes not only for civil society to critically watch those figures, but also for professional assurers. For instance, the International Assurers Standard Board has now developed very concise methods in order to validate the data being produced by companies. So you get a whole new profession of sustainability assurers; for instance some universities already give Masters degrees in that very specific new profession.

My last comment is that some speakers indeed spoke about the importance of the corporate sector. We should not forget that the corporate footprints of some individual companies in terms of annual budget and turnover, bypass by far the GDPs of national economies. That disappeared a little bit in the discussion, and that was part of my presenta-

tion in the beginning when I talked about the global reporting initiative.

I think that policy-makers cannot afford to ignore the data and the information being produced now by these - at this moment. I was talking about the future, but at this actual moment, the majority of these companies (Fortune 500 companies). And I met Vice-President Verheugen this summer, and he sees it as a competitive advantage for the European corporate sector that they actually go through the discipline of providing these kinds of statistics and data on their own footprints. Therefore it's not only of statistical importance, but it is also important for policy-makers both in terms of the environment, and also in terms of competitiveness.

- **Stuart Bond**

WWF, UK

Can I just pick up on the father of time series comments? Do we need new indicators, or do we need new perspectives? I think that we can measure things to the n^{th} degree, but does that preclude action, and I think there is a time, and climate change is one of those big driving forces that is really, really compressing time, and it is forcing us to take action, to make choices. We really need to move beyond simply measuring. The point of measuring is to actually create change. We need to produce relevant measures and the measures need to be communicable. That is partly the power of the ecological footprint: people understand what we're talking about, and even though they don't get the ins and outs of it, they can get the concept. And so not only indicators. We don't have to keep on measuring, we need to keep on communicating, and communicating not only to consumers, but to business, and to government. This is the idea: to create an economy that lives with, and works with environmental limits, and that also has a sense of achieving some very key objectives – millennium development goals, biodiversity goals and so on. There was a gentleman who talked about oil prices and so on. We could get to a stage where peak oil drives oil prices up well above 200 dollars a barrel. Do we want to get to that stage or are we collectively intelligent enough to move somewhere smarter, somewhere better? Somewhere where you get to work less and where you get to live more. All of us think we would like to get there, but we're not really taking action.

I'll just pick up on your point about the media. Indicators are readily picked up by the media. We've done a lot of work recently on the ecological footprints of cities, which was picked up well across the media all the way through the UK. You know, my footprint is bigger than yours, all that sort of stuff. What is useful is that we can communicate it, we can make it relevant for policy, and it measures something that we want to know. And the media will happily pick up on key issues that say, I'm bigger than you, I'm smaller than you – whatever. That's a media story. For us, we want to know: Is it useful for policy? Is it going to measure what we want to know? Is it going to help drive change? Because if it's not driving change, it's not moving us in the right direction.

And then just to finalise, we've had some talk about business and there was talk earlier about households and so on. It's very clear that consumers can't measure, nor can they get increased resource efficiency from car manufacturing and so on. That's something business can do. But it's also clear that current business models are predicated on the fact that growth is good, and that "growth is good" model actually derives from a collective will, largely from a sort of governance perspective. It also seems to be very clear that it is governments that have the ability to pull together the right sort of multi-level, multi-lateral partnerships across the board, from consumers, from interest groups, from business, to lead a sort of key sectoral transformation to take us from the place where we all know we are now to a better place where we want to get to.

- **Ivo Havinga**

Chairman

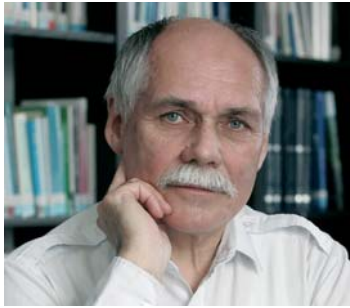
I would like to thank the panellists for this discussion. I would like to thank the audience for their interaction and the succinctness which they have been willing to stick to in the one or two minutes which they had. I think it was an excellent meeting. I thank you all and I look forward to the continuation.



Session 4

Collaboration opportunities





Bedřich Moldan

Professor at the Charles University, Czech Republic

I will try to summarise my recommendations in 5 points.

My **first point** is that I would recommend focusing on modifications and supplements to GDP, and not replacing it. In fact it was said here too and I think that after all, GDP itself and its use, is modelled that approach, because we are all talking about GDP as an overarching indicator. But if you look at what the statistical offices are reporting regarding economic performance, there are other indicators which are also very important and which supplement GDP from the economic point of view, like labour productivity, like unemployment, etc. So we should not forget that GDP does not stand alone. So we should not go the way, in my view, of having a 'magic bullet' just replacing GDP.

My **second point** is – and here I quote Oliver Zwirner, who said this morning and I think it was very important – is that our approach should also include timeliness. I think that it is extremely important if we are about to really supplement economic indicators like GDP, like unemployment, all that, that it should be developed in such a way to be equally timely, and it is up to the statistical offices to find ways as to do it. We environmentalists who are monitoring and measuring have so many online systems, it is a pity and it is a shame that we are not able to deliver timely information like economists. In fact I don't understand the reasons for that.

My **third point** is that we should rely more on indicators and measures which respond to specific policy requirements. Look at climate change, for instance. We should focus on reliable, good and

salient indicators to answer this issue. There are certainly many other policy issues with concrete targets, so we should really respond to that and develop indicators which are adequate for these purposes.

My **fourth point** is that certainly you can cite many features which good indicators should fulfil. I would focus on just one and that is the indicators should be scientifically robust. I would prefer simple indicators with units based on concrete measures and I am afraid that I personally do not believe too much in democratic weighting and the like. By training I am a natural scientist and I would prefer simple, robust indicators like material flow analysis, which is quite a straightforward approach and is very telling. It could be a model for that.

My **fifth point** is that when we are talking about environment especially, I would recommend three things:

- First to my mind the most reliable and fruitful approach is to focus on pressures, because this is something very concrete and very instructive.
- Second, and again I quote one of the previous speakers of the morning, Jacqueline McGlade: try to develop indicators on eco-systems services, because this is something which is really very important.
- Third, focus on linkages, and one typical linkage is decoupling indicators, try to compare and economic performance and pressure on the environment. This is an example which I would very much recommend to develop further.



Willy de Backer

3E Intelligence

I am of course first and foremost a journalist now, an independent journalist after having worked for about 8 years as a chief editor for Euractiv.com, the policy portal that probably a lot of people in the room will know. But my background, as you said, has been in politics. Anders Wijkman started this morning by saying that there was a similar debate about ten years ago in the parliament. I know, Anders. Back in the eighties already I was in a similar debate in the UK called the Other Economic Summit, I think where also Hazel Henderson was present. So it is not something that is absolutely new or only from the last ten years.

What is the problem? If it was already discussed in the eighties, why hasn't it reached politicians yet? There seems to be a problem between the good instruments, the indicators that you have, how to communicate it, and then after you have communicated it, how to get it into policy-making. And I would like to try to address these kinds of things.

First of all, I think the problem is that we do not see that GDP has become what I call a "hegemonic myth." And when we try to tackle it, when we need to come up with something new, you will have to come up with another hegemonic myth. Otherwise you will not be able to get it into politicians' heads. What does that mean? It means it has to be simple. It has to be comprehensive. I know it has been said several times already, this is not a beauty contest about what is the best indicator. So in a way you do not need to make a decision on should we use this one or that one, or should we concentrate more or put more money into this or that one. But you should find a communicatable narrative on the basis of some of the indicators. If I look at all the different indicators that I have been following over all these years, I think there is only one up to now that has really reached the awareness of the media, and probably also the awareness of some parts of citizens. And that is the ecological footprint. That is the only one. As for the happiness index, if I talk to friends

of mine, they do not know what it is. It maybe fantastic, it may be very good, but ecological footprint, they know what that is. And now - and there is a bit of a problem with it - it is even being "hijacked" by others, by business. I was listening to CNBC last week, where some businessman was saying "we have a big footprint in Asia." He means of course a presence in Asia, but he calls it a big footprint. You see, it has filtered through, to the businessmen, which is an important thing. I think the ecological footprint is something that we should build upon, and maybe in a way we can "ecologise" GDP by trying to combine them and then creating a new hegemonic myth.

The use of media: that is the next point I would like to tackle, having been in the media myself and being a journalist. I think you will have a very difficult time working through traditional media to get your new alternative indicator of this new hegemonic myth across. There is, on the other hand, another system, or another instrument now, which is blogging. As a journalist, I have moved from traditional online media to professional blogging. I can give the example of the Peak Oil Community. I do not know if lots of people know about it here, I am not going to go into details, but it is about reserves of oil, gas, etc - this Peak Oil Community has actually managed - in about three years (using blogging) to create a community and to start influencing the politicians now. So you can use that, and I think it is something to pick up for this conference as an instrument later. See if you can actually create a "beyond GDP blog" community and just not have this kind of meeting every ten years.

An other point. It was said that we have no lack of data. I would like to contest that. In the area of resource depletion, there is a big lack of transparent data. Even the International Energy Agency - I was in London when they presented their last outlook - was very clear on this, and next year they want to concentrate on bringing more transparency into the data on

resource depletion, because it is not clear at all what our oil reserves, our gas reserves, and our coal reserves are. So let us also make sure that we get transparency there.

And then one last question. There is one institution where we also have lots of statistics, and where it actually goes into policy-making. That is the European Bank of course, and national banks. They use statistics to make policy. The difference is that actually when they monitor monetary poli-

cies, etc. They have sort of become independent from politicians, so that the whole lobbying process and all that does not come into play anymore. Maybe we need, and this is my question, like the European Central Bank, a kind of independent sustainability institution that looks at policies and can, like the bank does, feed in their ideas and say to politicians "Sorry but this is the wrong way to go, because of these and these data." I think that is what I wanted to say broadly. I have a few more ideas, but I'll keep it to this.



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Johannes Blokland

Member of the European Parliament

In the seventies we had in the Netherlands a long debate about employment and unemployment. Different institutions all had their own indicators. Some of them used mainly employment whereas some of them more used unemployment. And so you saw that there were different indicators. For each goal there was an indicator about employment and unemployment. This gave rise to a lot of discussion between politicians. It was not very helpful. So in the end, The Netherlands took the decision to give the job of employment and unemployment figures to the statistical office, an independent institution. Ever since we have no discussions about the figures. That was fine.

Two years ago, we had a debate in this parliament, and also in the Netherlands, about the figures on air quality. And each party, each partition had its own features. There were different measurement methods, different models and different correction factors. What was the conclusion? That it is not very helpful for politicians when each organisation has its own features. So what we have to do is to find conditions for the development of indicators of progress through wealth and well-being which are broadly accepted.

I have some criteria for that:

- First, we need harmonised measurement methods.
- Second point: reproduction is very important. Each scientist must be able to see how the others have developed their figures. When that is impossible, and each scientist has his own figures, then we are on the wrong track.
- A systematic approach is very important. Comprehensibility of the system is very important, as well as comparability and objectivity. We also need time series. We have to see what the development in time is, and what we have to do with the figures is also to make prognoses. We have to see what will happen in the future if we continue in the same way.

My last point is that we already had an accepted accounting system. More than ten years ago, the European Parliament and the Council accepted a system of economic accounts, environmental accounts and social accounts as a basis for thinking. Therefore we can go further along that path. What is fine with this system is that it meets all the conditions. So it is objective, we have time series, we can make prognoses so I think that we have to go further in that direction. I am very afraid when each party has its own indicators. Then we just fight each other with indicators and have no common basis to go further. And this is ten years after acceptance of the accounting system the Parliament established. This is a pity.



- **Pieter Everaers**

Director, European Commission,
Eurostat, Chairman of Workshop
Session 4

My name is Pieter Everaers. I am Director at Eurostat, responsible for agricultural statistics, environment and statistical cooperation.

I have the pleasure to chair this session number 4, "Collaboration opportunities". We have the big challenge to give a message to Anders Wijkman so that he can this evening take the output of the expert workshop to the large conference.

Next to me I have the three rapporteurs and on my left I have two of the panellists. We are still waiting for Johannes Blokland. We have about 30-35 minutes. I have asked the rapporteurs to be brief and to focus on the main points. I will give them each about 4 minutes and then I will ask the panellists to discuss the steps forward. The main questions - just to repeat them – are: *What are the key opportunities for going beyond GDP?* *Second question: What is feasible in the short to medium term? And how can implementation be improved?* And the third question: *How to engage policy-makers, key institutions and business, and other stakeholders?* I think that is the summary and I am sure (I was watching and listening to panel number 1) that it is not easy to summarise along the lines of these questions, but I hope that you will give some provoking statements to which the panellists will be able to react. So let me start.

Mr Blokland, welcome. Let me start by asking the rapporteurs to react. I am starting with the rapporteur for Panel 1, Fulai Sheng. He is an economist working for UNEP, focusing on integrated policy-making. Previously he worked for the World Wildlife Fund, actively involved in taking nature into account. I am ready to listen to the report from panel 1.

- **Fulai Sheng**

Rapporteur Session 3 Panel 1

I just wanted to report to you that in Panel 1 we had a very interesting discussion, and we heard a diversity of views on how to move this work forward and how to address the questions raised. Let me try to summarise some of the key streams of thoughts that came up from the panel discussion.

Number one. I would describe it as the issue of empowering people to use indicators. In this stream of thinking, I just wanted to identify some of the key points or phrases, not always in complete sentences. There is a point that people at different levels should be able to use the indicators. People from different groups need to understand each other better, what indicators mean to them. Also very importantly: how do we translate indicators into meaningful policy actions? Of course in terms of empowering people, that would really take us to the next stream of thinking.

Number two. I would describe it as really the emphasis on a bottom-up approach, which means that in order to be able to use the indicators to initiate actions, to be able to understand each other, we really need to build indicators from the bottom, from the grassroots level, because we need to know what issues are important to people. And what are the issues that people really care about? In this regard, there has been a lot of emphasis on communication, how we could utilise communication techniques and communication tools, different ways of communication to engage people at that level, or rather at different levels. In this regard, as far as communication is concerned, there was some discussion on the role of statisticians, whether statisticians have done their job once they have compiled the data and statistics, or should they be doing a little more. Certainly the role is not of course confined to statisticians. Other players have perhaps an even more important role to play, in other words, to take the results from statisticians and then to communicate really to different levels of communities. I also wanted to emphasise that there is a question of integrating data users, indicator users, from the beginning, from the beginning of a process, to compile meaningful indicators.

The third stream of thinking from the group is something I would describe as the diversity of ideas. Diversity of ideas, or perhaps it is rather a plea, a plea for cooperation, a plea for tolerance, for the diversity of ideas. And certainly we did hear a number of ideas here. We heard for example that in France there was an idea to put environmental

price on products. But there were some different perspectives in terms of avoiding multiple prices and rather to include ecological cost into the pricing mechanisms directly through taxation and other instruments. There are ideas of taking the role of environmental certification into account in the valuation exercise. There is the idea of really including public services, very importantly, in the compilation of indicators, because people's well-being is significantly influenced by the kind of services that are provided.

So there are various streams of ideas and different ways of articulating what should be in the indicators. There are also ideas for using the data we already have, the kind of indicators we already have to do some projections, to make use of existing indicators to project into the future trends, linking in to several major global and environmental outlooks that are being released this fall or next spring.

In a nutshell, in this stream of thinking, there are these different ideas, but one issue that seems to stand out is that it may be very difficult to really measure the individual preferences for well-being or what each individual considers to be well-being, or sustainable development. That remains a major challenge, but the concluding remark on that stream of thinking is that a lot of these ideas are not mutually exclusive. We should really try to identify synergies and build on the synergies rather than try to compete with one another.

The final stream of thinking coming from this group is really an emphasis on how to move the technical part of this work forward. There is an emphasis on having a limited number of indicators. There is emphasis on the importance of linking the indicators to national accounts, and to achieving international comparability. There is also an emphasis on the importance of having indicators from authoritative bodies, to be published by authoritative bodies. There is also an emphasis on a stepwise approach, on trying not to rush into this exercise.

Finally there is a plea for simplicity. Again, back to the first point of using the indicators in order to be able to communicate, to mobilise different communities of people.

- **Pieter Everaers**

Chairman

I am now giving the floor to Anil Markandya, who is working at the University of Bath. I'd like to ask him to report from Panel 2.

- **Anil Markandya**

Rapporteur Session 3 Panel 2

The discussion showed more convergences than I thought would emerge when we started. The first point was that most people accepted that GDP is certainly not a perfect, or even a very good measure of well-being and sustainability, but that it is linked to some important aspects of well-being and there are modifications possible to improve it. These modifications are possible, and the work in this direction is useful and important. In this context there is also ongoing work in terms of sustainability using wealth accounting and wealth indicators. As to how good – or imperfect – a measure it is, there was some difference of opinion. Some thought it was pretty useless, others thought maybe it has some saving graces and can be saved.

The second broad conclusion was that it is worth trying to develop some other synthetic indicator of well-being which can complement or run alongside the modified GDP indicator. The exact determinants of such a synthetic indicator were not provided in the discussion we had, but most people's comments suggested that a lot of work needs to be done to develop such an indicator. A few points were made which are relevant to this. One was that the process of selecting the components and the weightings should be democratic. There should be some degree of public accountability, public discussion as to exactly what goes into such an indicator. It is important, agreeing with the previous rapporteur, that issues of information and knowledge about the indicator are also important and need to be stressed. The issue of where and how to apply these indicators, and when to use them and for what purposes, needs to be clarified and discussed. This, of course, applies also to the modified GDP indicator. Even with these modifications it will not be the appropriate indicator for all policy purposes, but it will be for some, and where it is appropriate and where it is not, are issues that need to be worked on. As to the areas that we need to cover in developing or modifying the existing structure or developing new structures, one that was raised was the distributional question: how

issues of the distribution of well-being in society are picked up; and obviously issues related to changes in the environment, green growth and especially of course greenhouse gas emissions; questions of sustainability more generally and questions relating to the development of human and social capital. Are we able to pick these things up in our indicators? In some of the discussions there was brief mention about the use of subjective indicators, indicators of happiness, and things like that. Some doubts were expressed on that front.

The last point I would make is that a number of speakers noted that the indicators that we need of course have to be linked to what use is made of them. But not only are those indicators relevant at national level, it is also important to have indicators that are appropriate for decision-making at a regional and local level. The structure between the regional, local and the national also needs a degree of clarification.

- **Pieter Everaers**

Chairman

We are now going to Panel 3, and I am happy to introduce Marcel Canoy, who is working at the Bureau for European Policy Advisors, which is the think tank advising President Barroso.

- **Marcel Canoy**

Rapporteur Session 3 Panel 3

In selecting the input from the group as a rapporteur I have decided to concentrate on the more concrete results, because there is always a certain risk in this type of conferences that everybody agrees more or less. Environment is very important, social stuff is important as well, and we share the experience almost like Hare Krishnas and everybody goes home with a warm glow. So I think the purpose of this conference is not only to go beyond GDP but also to go beyond warm glow as it were. I will just go through the three questions and take them one by one.

First one was: what are the opportunities or challenges? Starting with what are not opportunities or challenges according to the group: there is no lack of data. There is no lack of indicators. We really have a lot of information available, more than at any other time in the past. So the opportunity then comes not from gathering extra data, but grouping it together in a meaningful way. We all know that aggregation has its problems, but we also

know that aggregation is needed. Somehow the first opportunity is there: how can we aggregate data in a meaningful way to get a limited set of indicators? We know that there are problems with aggregation but as long as we know what is behind there, communication can continue. So that would be the first opportunity.

The second opportunity is that we know that we live in a world of wasteful usage of resources, but we also know that there are many countries with high GDP who are much less wasteful than other countries with high GDP. And the same applies for countries with low GDP. So how can we decouple growth and GDP with more efficient resource allocation? This is a very important opportunity.

The third opportunity has nothing to do with measurement. It is well known by most politicians by now what to do about certain aspects of well-being, for instance, in particular about the climate. So how can we use these instruments, in particular pricing instruments, which every scientist knows is the thing to do, but every politician knows is difficult to implement? So these are the groups of opportunities.

Then there was another question related to what are the short-term and medium-term goals that we can achieve. Here again, I did not look for consensus. I just picked up a couple of interesting thoughts because they can steer the debate. One thought was very concrete. It says: OK, in 2020 (or you can have another date) 75% of all multinationals should report on sustainability. Now, this is a different way of approaching things. First of all it focuses on business, which is an important aspect which is sometimes neglected in the debate, and it is very concrete. Similarly, not only 75% of multinationals should report but also government bodies. Governments can report on their own impact, and not another policy report which states that we want to do this and this, but what is the ministry of finance in Germany's imprint? How much paper does it use? Just to give you an example. SMEs, similar story. So this is a very concrete idea, to which I would add: policy-makers when they draft policy papers should also target themselves: a minimum something percent and they should mention indicators other than GDP. Then they are setting a good example. I mean leading by example is always a good thing.

Still another very concrete idea that came up was that by 2020 we should achieve a 3% reduction in resource usage (you have other ways of calcu-

lating this). This is also very concrete and this is something that policy-makers can aim at.

Another totally different type of target would be that whenever there is a report in, say, the Financial Times, or other equivalent outlets, it would be great if every time they report something, they give GDP and then another number showing a different truth. This is also something that can be worked on.

That was the strand of questions on targets, and I have just picked out a few concrete results. Another question that came up was: how can we convince policy-makers or other stakeholders to actually use the rich material that is out there? Because we started by saying there is a lot of material but apparently it is difficult to get the message through to the levels where decisions are taken.

Three types of proposal were mentioned.

First: can we not go for what I call a sort of European human development indicator, a simple aggregate index, which we know has flaws, like the human development indicator, which Fulai Sheng himself called “a vulgar instrument”. Human development, may not work for Europe because the countries are all the same more or less, but there could be an equivalent to it, a simple indicator, in which we know at least what is behind it, so if there are debates, we can always go back to what is behind. But this would be one way of getting politicians on board.

The second one is that looking at the European Commission, there was somebody who said: OK growth and jobs is all very well, but other dimensions of well-being are not there. I think what could help us, is if European politicians, whether from the European Commission or elsewhere, articulate very clearly what they need in terms of indicators. Society will deliver them. And as long as the core message is growth and jobs, maybe this other message gets pushed a little bit into the background.

Finally, not only is it important to articulate these alternative indicators, but also having a thorough debate on how to overcome this tension between wasteful usage and GDP could really help to steer the debate.

• Pieter Everaers

Chairman

In listening to the rapporteurs, at least for me it is clear that we have a very good panel on this side. What came up is clearly that there seemed to be enough data. Integration, or working via a certain direction, composite indicators, integrating systems, a step-by-step approach were terms used by the panels.

If I look at communication, an important point from at least the first two panels was communication with the general public. Democratic approach was mentioned: “empowering” was a term which was used. I think there are also possibilities to react to that, not just from a communication perspective but also from a political perspective where democracy and cooperation with politicians, but also down to a lower than national level, could be interesting issues to discuss.

I think for the panel this is enough food for thought, but I would like to ask the panellists to concentrate on just one of the issues. I think listening and looking the persons, I would like Bedřich Moldan, who is university professor and director of the Environment Centre of the Charles University in Prague, to concentrate maybe on the more technical issue.

I would be very happy if Mr de Backer would concentrate on the communication issue, and I could imagine that Mr Blokland would focus on the political issues. So I am giving the floor first to Bedřich.

• Bedřich Moldan

Charles University, Czech Republic

In fact, I was planning to say something from a more technical point of view, because I have been in this indicators business for something more than 10 years. We have published some books, so I may share some experience and some views on that, also from listening to the debate this morning which was very rich and useful.

For the speech of Bedřich Moldan, see page 214.

- **Pieter Everaers**

Chairman

Thank you, Bedřich, for these very concrete recommendations. When introducing you, I forgot to say that you, of course, have been for many years the chair of the scientific board of the European Environment Agency in Copenhagen, and I think this experience is very much appreciated in this context.

For the second part, I would like to give the floor to Mr de Backer. Willy de Backer is as an independent businessman, working on environment, energy and economy. He has worked for the Parliament, even been in the Parliament, but that is ten years ago I understand. So you also have some links to politics.

For the speech of Willy de Backer, see page 215.

- **Pieter Everaers**

Chairman

Thank you very much, Willy, for these ideas, some – in the context of statisticians – quite innovative ideas. The word is now for politics, for the Parliament. Mr Blokland, please.

- **Johannes Blokland**

Member of the European Parliament

Before I became a member of the European Parliament, I had a long history as an economist in different institutions, and also as an environmental economist. So I am not only a politician. I will give you some small experience from the past.

For the speech of Johannes Blokland, see page 217.

- **Pieter Everaers**

Chairman

I think as a statistician you are speaking from my own heart, I would almost say. Being responsible for the system of economic and environmental accounting in Eurostat, this is a way which we naturally see as one of the options, and the option on which most of the emphasis can be put. Anders, I think it is your turn, to try to summarise what came out of this expert workshop. We invite you to tell the audience.



Session 5

Workshop conclusions





Anders Wijkman

Member of the European Parliament



Conclusions by the chair

It has been a rich discussion, in all three working groups. I will now try to summarize what I heard this morning, both from the working groups and from the five speakers in the first session. I will not be able to cover everything, but I hope to capture the main points.

Firstly, there seems to be total agreement that GDP is not sufficient as an indicator of welfare and well-being. Some people even think it is useless. Others say: let's keep it and let's complement it in important policy areas where we face particular problems. There are some of you who dream of or aspire to a corrected GDP, call it sustainable national income or whatever. Others, and that seems to be the majority, say let us instead use parallel indicators and present them in a way so that the linkages are well understood.

There seems to be a general impression, particularly from the point of view of statistics that we have good data in many areas. How to package and present the data then becomes the critical issue. Also, it was pointed out that in some areas there are statistics available for each quarter or annually, while in other areas we do not have the same kind of precision when it comes to time limits. It appears to be very important to get a balance here.

Now we have also heard that in several areas we do not have information, we do not have the data required. One such area, obviously, is ecosystem services and natural capital. We need ecosystems accounting, at local level, national level, and global level. We have heard a lot of discussion about bottom-up approaches and participation, and the need for people at local level to be informed.

That being said, I would submit that if I go to a small village in Sweden, and start discussing these issues, they will have difficulties understanding the global linkages. They will not be able to understand by themselves what outsourcing in China or India

means for the economy, for development, for the ecology and for the atmosphere. So we need accounting at different levels, and I would suggest we need a combination of a top-down approach and a bottom-up approach. We cannot manage with one *or* the other.

Another area where we need more information and better understanding concerns the interlinkages between different areas, including the unintended consequences of various policy decisions, as Jacqueline McGlade put it. And that of course goes to the heart of policy-making. In the European Parliament or in the European Union, we have three parallel processes ongoing, with high relevance for the theme of this Conference:

- The Lisbon Strategy, which aims at strengthening jobs, growth, competitiveness, etc;
- Parallel to that there is the Sustainable Development Strategy. A few of us said early on, in 2001 – when both strategies were being launched - let us merge them. Very few listened to that message and it did not happen. Today the argument in favour of a merger is even stronger, if not overwhelming. But we still have two parallel tracks, although I see a “narrowing trend”;
- The third strategy, of course, is climate change mitigation.

How we are organised in relation to these three objectives is critical! Of primary importance, of course, is for the experts to tell us about the interlinkages between these policy areas. But then it is up to us, as politicians, to draw the right conclusions when it comes to the way we are organised. And here we still have a long way to go!

Yet another area where information has to be improved concerns information to consumers about the consequences of the choices they make in their daily lives. There was a representative from

France, referring to recent debates in France – which obviously have been interesting compared with the past – where consumers call for information both about the market prices of products, but, as well, about the “shadow prices”, in order to obtain information about the hidden environmental cost. Obviously we don’t have enough data to do that properly today, but it’s an interesting approach and we have to improve whatever we do in the field of consumer information - whether we call it eco-labelling, information based on lifecycle analysis, etc. The European Commission is coming out with some proposals early next year, one on sustainable consumption, one on sustainable production and one representing a review of the European Ecolabelling System.

Then, from a social point of view, I was struck by the plea to understand better – at a disaggregate level – what is happening at household level, both in terms of income but also about access to public sector services. It goes without saying that a lot needs to be done here in order to respond to people’s needs, to improve their well-being.

We also touched upon the apparent tension between leisure time and time with your family on the one hand, and the fact that all governments in Europe now want as many grown-up people to work full time as possible. There is a tension here and many families experience a lot of stress, a lot of unhealthy living, etc. These are dimensions of measuring welfare and well-being that have to be better captured.

I also picked up, that when it comes to human capital – education and investment in education, knowledge and skills – we need to improve the statistics.

One comment made early on shows how difficult it may be to agree on a precise definition of well-being and happiness. It was a lady from Brazil who said, that *‘in my city, Rio de Janeiro, probably the most important thing for happiness is to feel secure.’* In my country, Sweden, I can say that most people feel secure. So for us “security” would come ‘way down’ whereas in Brazil it comes ‘way up’ on the list of priorities. That is just one example.

Lastly but not the least, let me make a general point with regard to the interface between growth and the environment. I am a little bit hesitant regarding this notion of “decoupling” economic growth and resource use. I do understand and



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appreciate that in Japan for instance they are much more efficient in their resource use than what is the case, for instance, in the United States. The difference is almost a factor of three.

On the other hand, if we start describing “decoupling” as **the solution**, we give the impression that you can somehow grow without using energy and resources and you cannot. Of course, we can and should make resource use much more efficient, but we cannot separate the economic model from the natural world and this notion does not seem to be well understood by people in general. There are limits to growth!

Finally, how do we package information once we have all that beautiful data? Information and knowledge result in very little action unless they lead to better understanding – so that is of course a very important challenge. One of our speakers shared some experiences from the media world and we all know how difficult it is. When asked to comment to the media on issues related to growth and the environment we are asked to express things very briefly – normally ten, fifteen seconds – whereas what we are called upon to explain is very complex and can hardly be done in the form of “sound bites”.

We need better information for policy-makers like me, but also for people in general and this is a huge challenge. I think we should employ some of the best marketing companies in the world to help us do this, because otherwise we will fail.

There were a few interesting suggestions from the discussions in terms of information. One was to put pressure both on governments and companies to spell out more clearly how they are using resources and how the trends are going in terms of efficiency. That's a very simple message that would help us to elevate the discussion on these issues.

Another important suggestion was: set clear goals on where we want to be in five and ten years. Maybe the conference could try to address some of those goals tomorrow afternoon.

Then, finally, a few personal comments. I strongly think we have to take a fresh look at how taxation is being organized. Finance Ministries depend on the system we have in place today and they are normally dead scared of changes in the way the economy is organized – so here we need specific studies.

I also think that we have to take a fresh look at education. If we don't give people a better possibility to understand how things are interlinked, how can we then expect them, in their professional capacities, to address those linkages with a view of policy integration?

I would particularly single out economists. I trained as an economist. I would submit that in most schools of economics in the world, it is not compulsory to learn anything about the atmosphere and the biosphere and the interconnections between economics and the natural world. To me this is an unacceptable situation! How can it be like that?

The market economy is said to be good at dealing with scarcity. This may be true for products traded in the market, but it is definitely not true for environment scarcity. Here we need an instant reform of the economic model to help us address the depletion of natural capital and ecosystem services.

Let me close there. Once again, many thanks for your active participation and many valuable contributions. I am looking forward to seeing you all at the Conference, starting immediately after lunch!



Virtual Indicator Exhibition



Adjusted Net Saving

by **Alexandra Sears** and **Giovanni Ruta**, The World Bank

What is Adjusted Net Saving?

Adjusted net saving measures the true rate of saving in an economy after taking into account investments in human capital, depletion of natural resources and damages caused by pollution. Adjusted net saving, known informally as genuine saving, is an indicator aiming at assessing an economy's sustainability based on the concepts of extended national accounts.

Positive savings allow wealth to grow over time thus ensuring that future generations enjoy at least as many opportunities as current generations. In this sense, adjusted net saving seeks to offer policy-makers who have committed their countries to a "sustainable" development pathway, an indicator to track their progress in this endeavor.

Adjusted net saving is derived from the standard national accounting measure of gross saving by making four adjustments:

- (i) consumption of fixed capital is deducted to obtain net national saving;
- (ii) current public expenditure on education is added to account for investment in human capital;
- (iii) estimates of the depletion of variety of natural resources are deducted to reflect the decline in asset values associated with extraction and depletion;
- (iv) deductions are made for damages from carbon dioxide and particulate emissions.

Gross national saving – Consumption of fixed capital = **Net National Saving** + Education Expenditure – Energy depletion – Mineral depletion – Net forest depletion – Damage from carbon dioxide emissions – Damage from particulate emissions = **Adjusted net saving**

The indicator is measured in percentage by dividing ANS by GNI.

The Need for Adjusted Net Saving

Saving is a core aspect of development. Without the creation of a surplus for investment, there is no way for countries to escape a state of low-level

subsistence. Resource dependence complicates the measurement of saving effort because depletion of natural resources is not visible in standard national accounts. The same is true for pollution damages to existing assets.

Adjusted net saving overcomes this problem by measuring the change in value of a specified set of assets, excluding capital gains. If a country's net saving is positive and the accounting includes a sufficiently broad range of assets, economic theory suggests that the present value of wellbeing is increasing. Conversely, persistently negative adjusted net saving indicates that an economy is on an unsustainable path.

In addition to serving as an indicator of sustainability, adjusted net saving has several other advantages as a policy indicator.

- **It presents resource and environmental issues within a framework that finance and development planning ministries can understand.**
- **It reinforces the need to boost domestic savings, and hence the need for sound macroeconomic policies.**
- **It highlights the fiscal aspects of environment and natural resource management, since collecting resource royalties and charging pollution taxes are basic ways to ensure efficient use of environmental resources.**

History of the Indicator

The publication of the Brundtland Commission report in 1987 introduced a critical new dimension to our conception of economic development by raising the issue of sustainability of development. The United Nations Conference on Environment and Development (the Rio Conference) in 1992 helped to cement this understanding and prompted most countries to commit to achieving sustainable development. Achieving sustainable development is at heart a process of creating and maintaining wealth.

Wealth is more than the value of produced assets. It includes natural resources, healthy ecosystems, and human resources. The measurement of com-

prehensive wealth falls entirely in the realm of integrated economic and environmental accounting or *green national accounting* – and suggests that expanding our traditional national accounting measures of savings and wealth could be an important step in guiding policies for sustainable development.

The idea that saving, or changes in wealth, is crucial for sustainability is already present in *Blueprint for a Green Economy* (Pearce et al (1989)). But it is in Pearce and Atkinson (1993) that the concept is introduced formally.

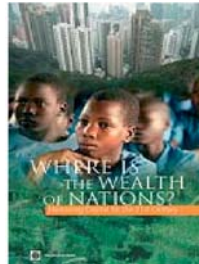
Pearce and Atkinson combine published estimates of depletion and degradation for 20 countries with standard national accounting data to examine true savings behavior. By this measure many countries appear to be unsustainable because their gross savings are less than the combined sum of conventional capital depreciation and natural resource depletion.

Hamilton and Clemens (1999) provide a theoretical foundation and empirical evidence showing that levels of saving are negative in a wide range of countries when the environment and natural resources are included in the savings measure. Negative genuine saving is more than a theoretical possibility, therefore, and the evidence is that many countries particularly in Sub-Saharan Africa are being progressively impoverished as a result of poor government policies.

The World Bank has a 35-year time series of ANS estimates which has permitted empirical tests of whether net saving today does in fact translate into future increases in wellbeing. Ferreira and Vincent (2005) show that this relationship holds if the sample is limited to developing countries only; Ferreira *et al.* (forthcoming) show that these results can be extended to incorporate the wealth-diluting effects of population growth.

Today, the World Bank publishes two important sources of indicators that provide an annual snapshot of progress in the developing world: *The Little Green Data Book* and *World Development Indicators*. These indicators allow us to assess the scope of the problems we face and measure progress in solving them. Both set of publications feature the ANS indicator.

As part of this reporting effort, the World Bank launched, *Where is the Wealth of Nations?* (World Bank, 2006), which offers new estimates of total wealth, including produced capital, natural resources, the value of human skills and capabilities, and updated measures of saving.



Challenges

We should be cautious in interpreting a positive genuine saving rate. Some important assets from the analysis are omitted for methodological and empirical reasons, which may mean that saving rates are only apparently positive. Challenges include:

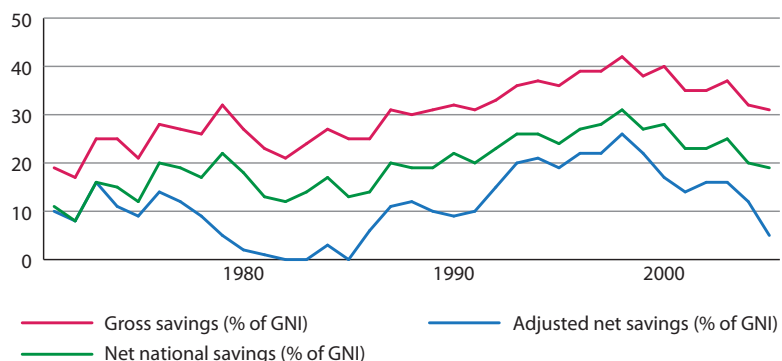
- Lack of data (i.e. underground water, land degradation, fish stocks, diamonds)
- Lack of methods (i.e. how can we put a value on biodiversity)
- Measurement errors

The Path to Sustainability

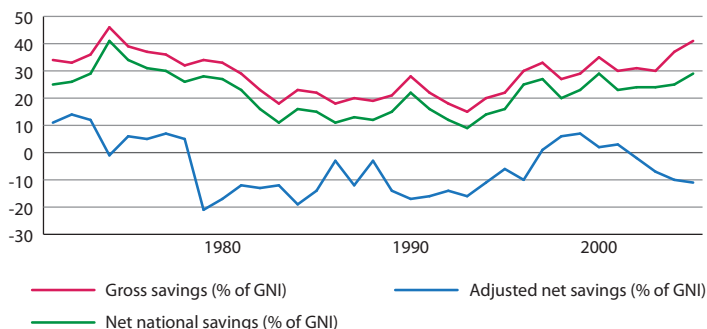
The following graphs illustrate the directions Malaysia and Venezuela are taking on the path to sustainable development.

In Malaysia, positive saving has been associated with substantial growth leading the country to become an important example of success in East Asia. In Venezuela, negative saving rates have been associated with a poor rate of economic growth. Between 1980 and 2006, the country has experienced one of the slowest growth rates in Latin America.

Adjusted Net Saving for Malaysia



Adjusted Net Saving for Venezuela



* For an Interactive Tool on obtaining the ANS for every country, please go to <http://go.worldbank.org/7QFHSRIE40>

Next Steps

A number of efforts are currently underway to strengthen the measurement of adjusted net saving. These include:

- Updating methods to estimate energy and mineral extraction costs and their evolution over time. This is necessary to correctly measure the value of energy and mineral resource depletion, which constitute a major deduction to saving and a large source of rents for many developing countries. Extraction costs are not usually available and must be estimated using scattered data from extractive companies.
- Adjusting for population growth. While negative saving rates are an indication of unsustainability, positive saving rates may be masking a potential source of unsustainability if population is growing fast enough. Population growth dilutes the effect of capital accumulation as it increases the number of people that share the country's total wealth. Estimates of changes in wealth per capita are presented in World Bank (2006). Numbers for Ghana, for example, show that it is possible to have positive genuine saving but declining wealth per person.

Areas for which future work is needed include the improving of estimates of the investments in human capital. Genuine saving treats public education expenditures as an addition to the saving effort. However, current expenditure of \$1 on education does not necessarily yield \$1 of human capital. The calculation should capture the varying effectiveness of education expenditure, include private expenditure, and value the depreciation of human capital.

Additional Resources:

- Adjusted Net Saving Web Page (World Bank) (find everything from tools, papers, and data to manuals) <http://go.worldbank.org/3AWKN2ZOY0>
- For a full set of publications on Green Accounting please visit our Publications Site

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Canadian Index of Wellbeing (CIW)

by **Lynne Slotek**, CIW National Project Director

The Canadian Index of Wellbeing A Transformational Initiative

The Canadian Index of Wellbeing (CIW) is a new and transformational initiative that will report on the quality of life of Canadians. It is our hope that it will one day become Canada's principle means of measuring genuine progress.

The CIW will chart and provide unique insights into how the lives of Canadians are getting better or worse in areas that really matter to: our health, our standard of living, the quality of our environment, the way we use our time, our education and skill levels, the vitality of our communities, our participation in the democratic process, and the state of our arts and culture. Most importantly, the CIW will shine a spotlight on how these important areas are interconnected. How, for example, changes in income are linked to changes in health, or how community engagement and living standards are connected.

The CIW is being built by the CIW Network – a partnership of national indicator experts and practitioners together with business and civic leaders, and representation from government and grass roots organizations across the country in consultation with international experts. Our goal is to help refocus the political discourse in Canada, reshape the direction of public policy, pinpoint policy options and solutions that will genuinely improve the wellbeing of Canadians, and give Canadians a tool to promote wellbeing with policy shapers and decision makers.

Why Canada Needs National Indicators

In Canada, as in much of the world, the most commonly cited measurement of progress is the GDP but there is a growing awareness among Canadians that the GDP focuses on a narrow set of economic issues. By relying on such a limited perspective, it fails to capture many of the things that really matter to Canadians. As the natural environment is depleted, the gap between rich and poor grows, chronic diseases skyrocket, life for Canada's Aboriginal peoples fails to improve, and the pressures of time stress

drive people to distraction, it's no wonder that so many Canadians are feeling that the rosy economic picture presented in the news is at odds with what they know to be our everyday reality.

Even within the limited scope of the economy, the GDP fails to distinguish between economic activities that are beneficial and those that are harmful to our overall wellbeing. The sale of cigarettes and trans-fat-loaded fast foods, for example, causes the GDP to go up, but no one would really argue that this is good for our wellbeing.

The CIW will treat beneficial activities as assets and harmful ones as deficits. It will, for example:

- distinguish between good things like health and clean air, and bad things, like sickness and pollution;
- promote volunteer work and unpaid caregiving as social goods, and overwork and stress as social deficits;
- put a value on educational achievement, early childhood learning, economic and personal security, a clean environment, and social and health equity; and
- encourage a better balance between investment in health promotion and spending on illness treatment.

Description of the CIW Model

The CIW will track changes in eight quality-of-life domains. The development of each domain is under the leadership of world-class experts and backed by rigorous Canadian and international peer review and public consultation.

The following are the working definitions that have been adopted for each of the domains:

Living Standards measures the quality and quantity of goods and services, both public and private, available to the population, and the distribution of these goods and services within the population.

Healthy Populations measures the physical and mental wellbeing of the population — experiencing disease, disability and delaying death, lifestyles people lead, and care people receive.

Educated Populace measures the literacy and skill levels of the population, including the ability to function in various societal contexts and plan for and adapt to future situations.

Community Vitality measures the strength, activity and inclusiveness of relationships among residents, private sector, public sector and voluntary organizations.

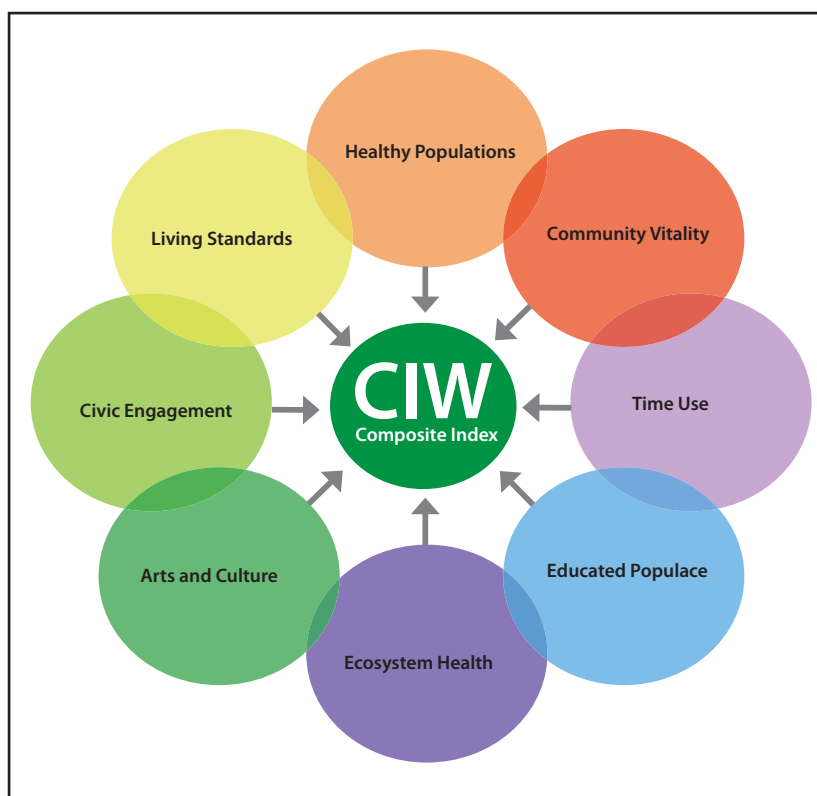
Ecosystem Health measures the state of wellbeing and integrity of the natural environment. This includes the sustainability of Canada's natural resources and the capacity of ecosystems and watersheds to provide a sustained level of ecological goods and services for the wellbeing of humans and other species.

Civic Engagement measures the health of Canadian democracy. It addresses three aspects of public life and the governance of society: How engaged are citizens in public life and governance? Do Canadian governments function in an open, transparent, effective, fair, equitable, and accessible manner? And are Canadians, their governments and their corporations good global citizens?

Time Use measures the use of time, how people experience time, what controls its use, and how it affects wellbeing.

Arts and Culture (working concept and not a definition) measures activity in both the very broad area of culture, which covers all forms of human expression, and in the much more focused area of arts, which includes performing arts, visual arts, media arts, and art facilities and institutes.

The domains will be blended into a composite index that will provide a quick snapshot of whether overall Canadian wellbeing is changing for better or for worse. CIW reports will present detailed information on both the composite index and the individual domains. The CIW's 'basket' of domains will be reported regularly with clarity about trends and interrelated stories (e.g., "While X is on the rise, it is interesting to note that Y is flat, and Z is declining. Possible explanations include...").



A Short History

In 1999, The Atkinson Charitable Foundation (ACF), a prominent Canadian foundation, recognized the need for a credible national voice to measure the economic, health, social and environmental progress of Canadians. The ACF convened a group of index experts from across Canada, including Statistics Canada, to discuss what it would take to create such a voice.

Following a number of years of public consultations, research and development, a pan-Canadian National Research and Development Working Group was established in May 2004, and from 2005-2007 held annual two-day working meetings, and developed the CIW model. In November 2005, an initial model was presented to a workshop led by composite index experts from the Joint Research Centre of the European Commission, and received favourable reviews. The model was further tested through two rounds of cross-Canada stakeholder roundtables in 2006 and 2007, and further modified.

Current Status

The CIW model will shortly be reviewed by independent validation groups consisting of national and international experts who have not been involved with the project. Reports have been pre-

pared on three domains: Living Standards, Healthy Populations, and Community Vitality. These reports will also be reviewed by validation groups and updated for release. Further development and refinement of the models for Educated Populace, Ecosystem Health and Time Use domains is underway. Work on the Civic Engagement and Arts and Culture domains will begin in 2008.

The Future

The CIW will be publicly launched at a high-profile event in the next year or so.

In the meantime, the CIW Network is viewed internationally as a global pioneer in developing a holistic, integrated approach to measuring wellbeing. Because of this position of leadership, we are often invited to partner with experts in other countries and participate in international conferences to help build this important global movement. These connections are important in raising the benchmark of research and data integrity and changing the global dialogue about genuine progress. Our continued contribution on the international scene will not only strengthen the CIW project in Canada, but at the same time, give the project access to the best international minds.

Capability Index

by **Ingrid Robeyns**, Radboud University Nijmegen, The Netherlands
and **Robert van der Veen**, University of Amsterdam, The Netherlands

Need for a *capability approach* to quality of life

Several approaches exist to conceptualise and measure 'quality of life' (as is reflected in the large diversity of indicators in this Virtual Exhibition). What quality of life is, is not merely a philosophical issue. The practical implications of different theories on what constitutes quality of life lead to diverging recommendations on what, if anything, government should undertake to promote it, and also give rise to distinct ideas concerning the design of social and economic institutions. Three theoretical approaches to quality of life can be distinguished that argue for a distinct interpretation of the substantive content of life quality.

The first of these approaches is the liberal *resource approach*: people need access to certain resources, in order to become capable of developing and pursuing their own conceptions of the good life, by deploying their resource shares autonomously within the boundaries of equitable social institutions. An example of an index representing a narrow view of resources is GDP.

In opposition to this view, the utilitarian tradition identifies quality of life (or in effect synonymously: well-being) with a metric of subjective utility – which is often measured as *happiness* or alternatively *life satisfaction*. The happiness indices in this Virtual Exhibition are examples of the utilitarian approach.

The third approach understands life quality as a *set of capabilities*, that is to say of real possibilities for people to function effectively in diverse domains of social life, in accordance with their own views of the valuable life in terms of one's 'doing and being'. According to the capability approach, the government is tasked to make available the resources which are necessary for the capabilities of individuals. This concerns both individual and collective resources. We claim that on theoretical grounds the capability approach is to be preferred as the foundation for a measure of quality of life. At the request of the Netherlands Environmental Assessment Agency (MNP), we have developed initial ideas for a capability index that measures quality of life (see Robeyns and van der Veen, 2007, <http://www.mnp.nl/en/publications/2007/Sustainablequalityoflife.html>).

Situating the *capability approach*

Figure 1 presents the causal relations between the three approaches to quality of life.

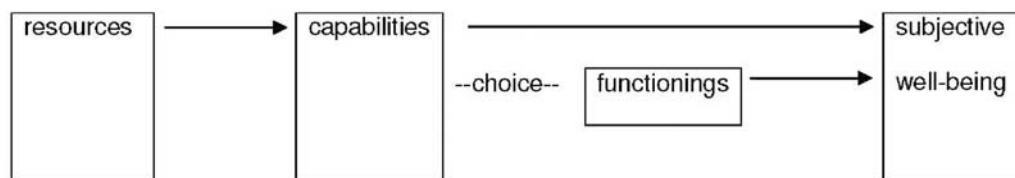


Figure 1: The direction of causal relations between resources, capabilities, and subjective well-being.

The resource-based approach holds that the ‘quality of life’ is what people do with their resources. Questions about the content of the quality of life are not considered to be a legitimate task of the government, which needs to be neutral between the divergent views that people have about the good life. The government needs to restrict its care to guaranteeing access to collective resources and to regulate entitlements to individual resources, and it ought not to impose its own views about the appropriate use of those resources.

The capability approach holds that resources are important *inputs* for the quality of life, but that the quality of life itself is captured by the functionings and capabilities of individuals. In contrast to liberalism, which doesn’t want to go beyond identifying resources that can be used for a wide range of goals, the capability approach argues that a debate about the general and specific opportunities to shape our lives surely lies within the legitimate domain of the government. The subjective well-being approach agrees with the view that resources are means for multiple goals, but in addition holds that the only neutral indicator for judging how well people fare in their achievement of those goals, is their life satisfaction. This is why the subjective well-being situates quality of life at the righthand end of the causal scheme of figure 1. Thus the subjective approach holds that it is the government’s duty to advance ‘happiness’ or ‘life-satisfaction’, even though not all variants endorse giving an absolute priority to the utilitarian master principle of maximizing average life satisfaction. Against this, the capability approach argues, on ontological grounds, that subjective well-being cannot be regarded as the ultimate measure of the quality of life, but should rather be seen as a (undoubtedly desirable) by-product. In the scheme in figure 1, capabilities and functionings, but also subjective well-being,

are presented as *outputs* of the all-purpose means at the resource end. However, there are two differences. First of all, capabilities and functionings are outputs that can be intersubjectively identified

only within a given society, in open discussion. We should debate and discuss their relevance, for the notion of life quality is not interculturally and universally

determinable by philosophical reflection. By contrast, happiness, life satisfaction, or satisfaction on domains, are purely subjective outputs of persons’ resource utilisations. However, secondly, in so far as life satisfaction issues from the way in which people experience their opportunities to function, and their actual functioning levels, it is also a causal output of functionings and capabilities. For as figure 1 shows, functionings and capabilities are situated as *intermediating* between resources and subjective well-being.

Next, it is important to note that capabilities -the real opportunities to function effectively can have a strong effect on life satisfaction, independently of the satisfaction that people derive from their actual functioning. Even the secure knowledge that certain opportunities are open to persons can have a positive effect on their happiness. The presence of these capabilities subsequently produces subjective well-being, quite apart from the choices that citizens actually make to divide their time over political participation and other activities that generate life satisfaction. The capability approach thus allows that causal relations between resources and subjective well-being follow different chains. Thus, even if one ultimately prefers a subjective approach to the quality of life, it may still be important to examine functionings and capabilities, as is in fact being done in some of the literature. A similar observation holds for those who prefer the resource-based approach to life quality. For it is by no means immediately evident what types of resources are actually required for people to realize their own and diverse conceptions of the good life.

Towards a *capability index*

We propose the following list of capabilities in a range of domains that we believe should be included in a policy-relevant index of life quality (see Robeyns and van der Veen, 2007, <http://www.mnp.nl/en/publications/2007/Sustainablequalityoflife.html>):

Table 1: Domains for a capability-index: a first attempt.

1. physical health
2. mental health
3. knowledge and intellectual development
4. labour
5. care
6. social relations
7. recreation
8. shelter
9. living-environment
10. mobility
11. security
12. non-discrimination and respect for diversity
13. political participation

Early attempts at concretising and quantifying the *capability approach*

The literature on the capability approach evolves rapidly: a survey written today may be outdated in six months from now. A recent survey of empirical applications shows that at present, no scholar even has worked out the theoretical foundations of a capability-index of life quality, let alone engaged in the work of operationalizing and testing empirically such a quality index (Robeyns, 2006). Thus in the prevailing state of the art, developing a capability-index is a pioneering task. Nevertheless, current literature does offer two important insights.

The first insight is that we need to distinguish between the design of an index based on existing secondary statistics, versus an index constructed against a background of sufficient time and resources to collect most of the data on the capability-domains. Existing empirical applications are strongly determined by the available datasets, both with respect to the selection of capabilities, as well as the possibilities to measure capabilities rather than levels of realised functionings. Almost all these applications work with datasets constructed with other purposes in mind. This is a disadvantage. If we are limited by available datasets, then it is likely that we will

remain far removed from an adequate capability-index of life quality. Since in this chapter we are primarily interested in a conceptual exploration, we assume that there are no constraints on the data that can be gathered.

Another insight from the existing literature concerns the character of the index itself: at what level of abstraction and aggregation would one like to construct an index? One of the criteria an index should meet is that it be useful for policy design and evaluation. A capability-index which seeks to inform governmental policies should be formulated at a lower level of abstraction than the very general dimensions that have typically been worked out in the literature.

State of play and work left for the future

If we consider all advantages and disadvantages of the different approaches that were discussed in this chapter, our conclusion is that *on theoretical grounds* the capability approach is to be preferred as the foundation for a measure of the quality of life. However, it must be kept firmly in mind that the *empirical* development of the capability approach is still in an early stage. It is possible that further research will reveal disadvantages of a capability-based life quality-index that are insufficiently appreciated at present. The full construction of a capability-index will still involve a lot of hard and detailed work.

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Comparing welfare of nations

by **Hans-Olof Hagén**, Statistics Sweden

Why it is necessary to use composite indicators and make sensitivity test of them:

In my paper ¹ I have done an attempt to show how a complex reality can be illustrated using different statistical methods. The purpose of this report was not to exhibit the actual results of analysis, but rather to show the methods used to arrive at those results. The example chosen for analysis was a comparison of the level of welfare in OECD countries and the efficiency of these countries to create a high economic standard and welfare for their citizens. Because welfare is an extremely ambiguous concept, it is very difficult to measure. There are no given answers on the meaning of the concept of welfare, nor any explanations on how to measure it. Attempts to do so are thus much debated. In simple terms, a composite indicator is a way of putting apples and oranges together in order to decide which fruit basket is the most attractive. But this indicator can be problematic. For example, to someone who only likes grapes, it doesn't matter how many apples and oranges there are in the baskets. Furthermore, many statisticians also believe that only single variables can be reported in a satisfactory way. But neither decision-makers nor the general public wants a report that looks like a huge catalogue where variable after variable is listed page after page as a base for their understanding. Even though subjectivity is inevitable, they prefer to find out which fruit basket is probably the most interesting, rather than a list that states how many twenty or so different kinds of fruit each basket contains.

In this analysis, the composite indicator that is created is an attempt to measure welfare in the OECD countries. A sensitivity analysis of this chosen example has been conducted to study how the results are affected if certain partial components and extreme values are excluded. In addition, the significance of different valuations of variables is tested. The correlations between these components have also been studied, as well as the correlations between them and the measurement of welfare. A composite indicator for the input has also been created. The significance of different valuations of the various inputs for the ranking of the countries has been studied for this index as well. The ability of the input indicator and the factors that are

included in it, to explain the differences between countries in economic standard and welfare has also been tested. Finally, it has been studied which countries are most effective in creating economic standards and welfare, respectively.

The indicator

The first part of the indicator is of course the economic resources in a country. I have argued that GNI is a better measure of that than GDP. But work is not everything why I did try to assess the existing labour input in the different countries by determining how much has been set aside for leisure time in the form of shorter work weeks, longer holiday leave, early retirement, housewives and other reasons that people of working age are not part of the labour force. However, other factors affect one's well being besides consumption space and leisure time. Of employed persons, Koreans take the lead by far in working the most hours per year, and the Icelanders have the highest proportion of people of working age that are employed. However, people from Netherlands, Italy and France have on the whole chosen to give up a significant share of their potential economic standard by using a large share of this potential in leisure time.

Not everything can be bought with money, even though economic resources are very important in many areas. Health is one of these other factors. How to measure people's health is justifiably a debatable subject. However, nearly all illnesses and health aspects affect length of life. In principle, we can maintain that there is another dimension to health other than survival and that dimension is suffering. Of course, no international statistics exist on such a subjective occurrence as reducing pain and increasing comfort, even if these occurrences would be of great significance for well being as well as for welfare. In addition, these measures most likely also increase length of life indirectly, just as many other factors that increase quality of life. The environment is also significant for welfare. In the end, the environment is also a question of survival and affects all aspects of health. But the effects on health may only be visible a relatively long time afterwards, so it is a good idea to also include the environment in the concept of welfare.

¹ http://www.scb.se/statistik/OV/OV9999/2004A01/OV9999_2004A01_BR_X100ST0415.pdf

This section discusses suitable indicators for the environment. The selected indicators show that the geographically large countries with heavy industry such as Australia, Canada and the US have by far the highest emissions of environmentally hazardous gases per inhabitant. However, New Zealand and the Czech Republic are at the other end of the scale.

In the end, the environment is also a question of survival and affects all aspects of health. But the effects on health may only be visible a relatively long time afterwards, so it is a good idea to also include the environment in the concept of welfare. The state of the environment will then be a kind of early warning of health aspects and the quality of life in the future. Besides, the threat of a worsening environment usually affects how we regard quality of life, long before it can be traced as an effect on length of life. Besides health risks, a worsening environment can also deteriorate quality of life in other ways, while a good environment can be seen as quality of life in itself. All in all, it is preferable to include the environment in the design of this welfare indicator.

Sensitivity analysis, importance of choice of indicators

A sensitivity analysis of the welfare index has been done by studying the effects of removing

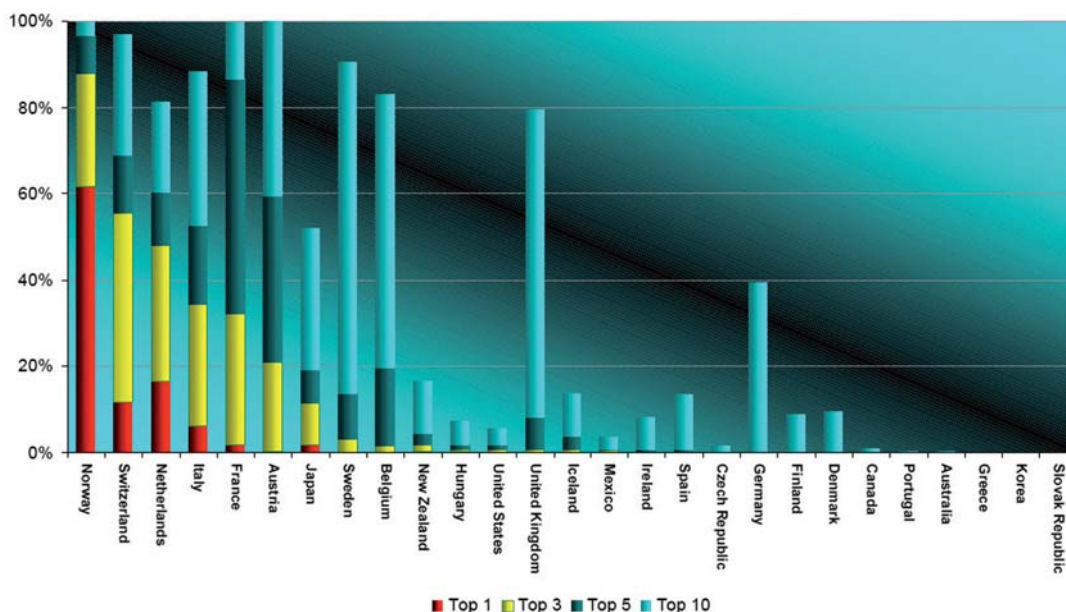
components, sub-components and extreme values. An attempt to find correlations between the different indicators is also made. Here it is only room for showing how robust the ranking order of countries is for changes in the weight system. To analyse the importance of which weight that has been given to the different factors, a comprehensive sensitivity analysis has been done. In this analysis, the 8 different standardised indicators have been weighed with random weights, after which of the different countries have been ranked according to the value on their welfare index. This has been done for a million alternative weights.

The program generates a list of the number of times each country has been ranked with the highest value on the welfare index, the second highest value etc. down to the 27th place and the lowest value. To obtain an overall picture of the results, a figure has been made showing how often each country has come first, among the 3 best, among the 5 best, and finally the 10 best. The choice of these limits is based on how the structure of the actual results looked.

What is the cost of welfare?

A composite indicator for the input factor has also been chosen. Sensitivity for selected weights is tested in the same way as for the welfare index. Further, the correlations between the

The robustness of the ranking of countries according to the welfare index for different weights for the sub-indices



different components are analysed. The correlation between the components that can be said to form indicators on the knowledge society; quality of the labour force, formation of knowledge and IT use are strongly correlated. However, the quantitative input of labour is independent of all these other indicators. To determine if a country has succeeded in producing welfare effectively, the results must relate to the resources a country has invested to obtain welfare. The vital resource is labour, and since there is comparable data for the share of the population of working age, which is the relevant measure in this case, the choice is simple. However, in addition to quantity, quality is also significant. The broadest available measure of quality of the labour force is the level of education of the labour force, measured in a number of ways.

Besides the level of education of the labour force, other formation of knowledge is also important. Therefore, other indicators such as research and development innovation activities are often included among the selected input indicators. In this example, R&D costs per inhabitant, adjusted for differences in cost levels among countries (PPP adjusted), have been used. Another area of growth is IT development. The IT revolution is very important for development in many areas, even though it is not directly evident that IT investments have led to larger production profits. This applies on a more aggregated level, but studies of individual enterprises or smaller groups of enterprises have

shown clear effects of more developed IT use. Combinations of organisational changes and IT investments have produced results.

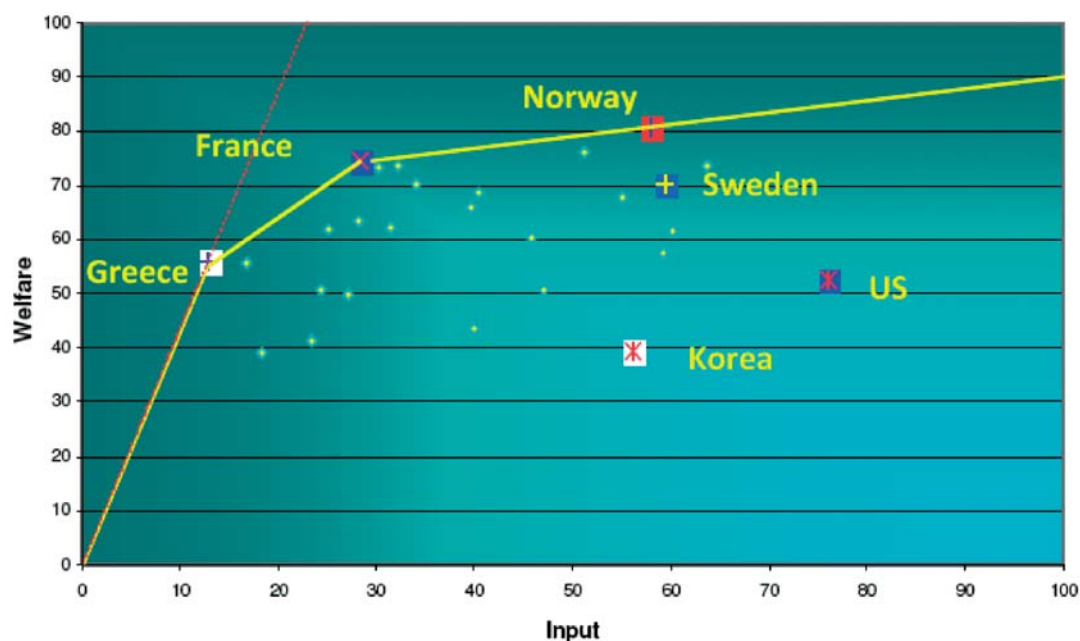
There is a considerable variation in values of the welfare indicator between different countries, even if they have about the same value on the input indicator.

Korea, Iceland and the US are among those countries that have high values on the input index, but considerably lower values on the welfare index. Meanwhile countries such as Italy and France have high values on the welfare indicator with low inputs. Those countries that have obtained a relatively high welfare with small investments can be regarded as efficient in this respect. An effective instrument to find out which countries belong in this category (and how far behind other countries are) is known as the frontier production function.

The general conclusion

The general conclusion of this analysis is that if we want to compare the complex concept of welfare in different countries, we must be ready to evaluate and compare factors of very different character. Since there are no undisputable choices, different evaluations and access to data can lead to more or less separate conclusions of analyses of the same phenomenon. For this reason it is very important for credibility of results that the data that is used

A frontier production function with the welfare indicator as the production variable and the input indicator as the input variable



and choices that have been made are openly reported. It is also important that a comprehensive sensitivity analysis has been carried out and is presented together with the main results. Furthermore, it is worthwhile to point out that the technique with random weights is a very relevant and effective instrument in the sensitivity analysis of the weight system. Concerning comparisons of efficiency, the frontier production function is also a good tool.

Finally, even if the composite indicators provides a valuable base for preparing basic information for political processes, we must realize that these results only give us an overview of one area. When forming concrete political measures,

a more detailed analysis of separate phenomena is required. Then what has the analysis of the chosen example of a welfare index and the attempt to illustrate this measure in different ways provided us with? First, a general reservation must be made, namely that the conducted analysis has in no way shown what the consequences would have been if other factors had been included. It is of course possible to justify with very good reasons why many other aspects of welfare should be included in this example. In general, it is also apparent that other factors besides those that create economic standard are important to study, if the goal is to obtain a high level of welfare (as has been defined in this example).

Corruption Perceptions Index

by Transparency International

Aims and Objectives

The Corruption Perceptions Index (CPI) is a composite index – a survey of surveys – that assesses and compares perceived levels of corruption among public officials and politicians in a wide range of countries around the world. The CPI is produced annually, reflecting the views of business people and country analysts from around the world.

The overall objective of the CPI is to provide a global assessment of corruption and enhance comparative understanding of levels of corruption worldwide. It is an influential advocacy tool that stimulates worldwide media coverage, promotes public debate and drives demand for change. The CPI was the first successful attempt to measure and compare corruption levels in a wide range of countries, and has continued to do so since 1995. It has proven that corruption can be measured with a sound methodological instrument and has opened the way for further corruption research of all kinds.

CPI Achievements

The CPI has greatly contributed toward putting corruption on national and international agendas. It is widely credited to be the main mea-

sure of corruption worldwide. It is one of the most quoted indices in the social science community and has provided an incentive to conduct complementary local diagnostics. It responds to a need among researchers, policy makers and others for global and comparative data reflecting the views of people who influence decisions. By generating public debate and creating incentive for reform, it has proved to be a powerful awareness raising tool both at national and global levels. Many countries have used the CPI as a starting point for launching reforms, and the worldwide anti-corruption movement has used it as a powerful tool to advocate for change.

The CPI Method

The CPI draws on corruption-related data from surveys of experts and business people carried out by a variety of independent institutions external to TI. The interviewed experts and business people are both residents and non residents of the countries evaluated. A minimum of three surveys have been conducted for each country included in the CPI, which increases the reliability of each individual figure and lowers the probability of misrepresenting a country. In 2007, 180 countries were included in the CPI, achieving the greatest scope for the index to date.

Virtual Indicator Exhibition

The CPI gathers data from sources that span the last two years (for the CPI 2007, this includes surveys from 2007 and 2006). In 2007 it was calculated using data from 14 sources originated from 12 independent institutions. All sources measure the overall extent of corruption (frequency and/or size of bribes) in the public and political sectors and all sources provide a ranking of countries, i.e., include an assessment of multiple countries.

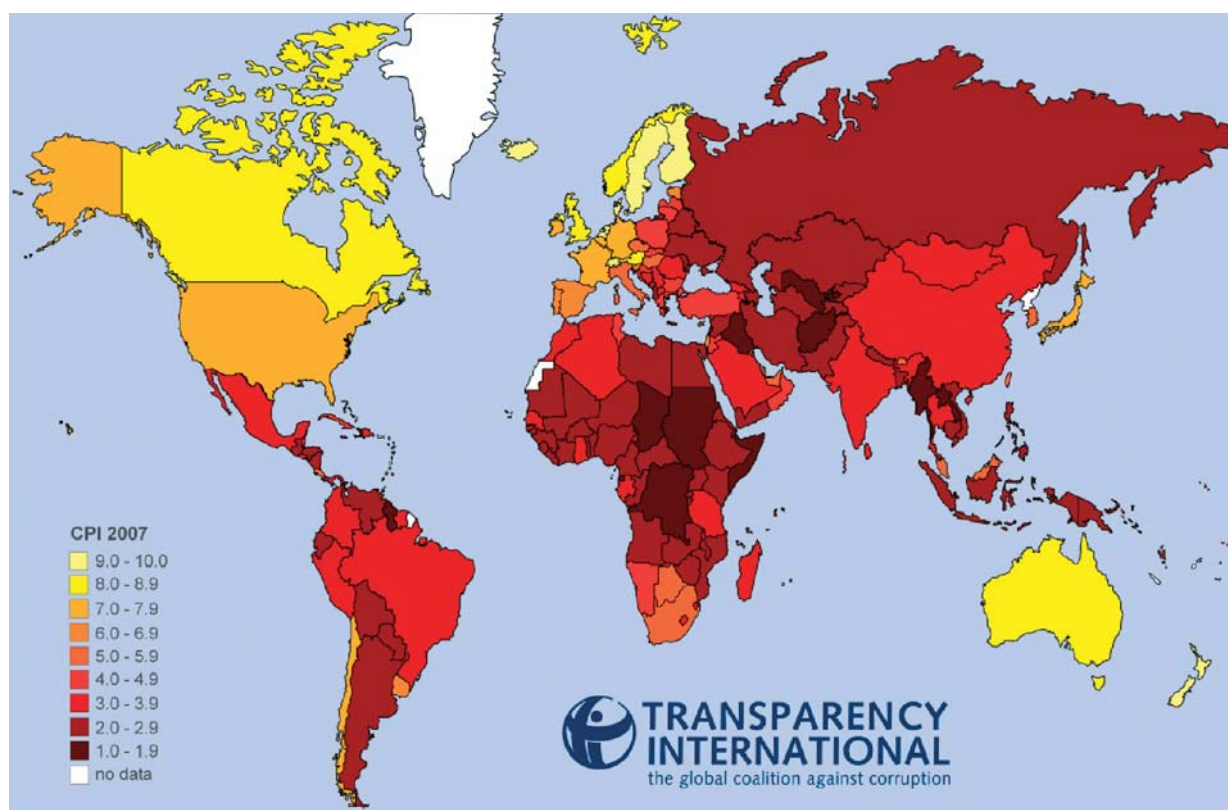
For CPI sources that are surveys, and where multiple years of the same survey are available, data for the last two years are included to provide a smoothing effect. While for sources that are scores provided by experts (risk agencies/country analysts), only the most recent iteration of the assessment is included, as these scores are generally peer reviewed and change very little from year to year.

Evaluation of the extent of corruption in countries is done by country experts, non resident and residents. In the CPI 2007, the non resident evaluations were performed by the following organizations: Asian Development Bank, African Development Bank, Bertelsmann Transformation Index, World Bank - CPIA, Economist Intelligence Unit, Freedom House, Merchant International Group,

United Nations Economic Commission for Africa and Global Insights. In 2007, resident business leaders evaluating their own country were part of surveys carried out by Institute for Management Development, Political and Economic Risk Consultancy and the World Economic Forum.

By combining the sources available through robust statistical methods, the CPI provides a rank of countries according to their level of perceived corruption. For more detailed information on the methodology please visit http://transparency.org/policy_research/surveys_indices/cpi/2007/methodology.

The CPI scores countries on a scale from 0 to 10, with 0 indicating high levels of perceived corruption and 10 indicating low levels of perceived corruption. In order to avoid the distorting effect on scoring that could be caused by recent events such as exposure of corruption scandals, the score combines expert assessments from the last two years. To qualify for inclusion in the CPI, data must be well documented, provide a ranking of countries and measure the overall extent of corruption. This condition excludes surveys mixing corruption with other issues such as political instability or nationalism. All countries with enough qualifying sources are included in the index.



CPI 2007 Results

The 2007 Corruption Perceptions Index looks at perceptions of public sector corruption in 180 countries and territories – the greatest country coverage of any CPI to date – and is a composite index that draws on 14 expert opinion surveys. It scores countries on a scale from zero to ten, with zero indicating high levels of perceived corruption and ten indicating low levels of perceived corruption.

A strong correlation between corruption and poverty continues to be evident. Forty percent of those scoring below three, indicating that corruption is perceived as rampant, are classified by the World Bank as low income countries. Somalia and Myanmar share the lowest score of 1.4, while Denmark has edged up to share the top score of 9.4 with perennial high-flyers Finland and New Zealand.

Scores are significantly higher in several African countries in the 2007 CPI. These include Namibia, Seychelles, South Africa and Swaziland. These results reflect the positive progress of anti-corruption efforts in Africa and

show that genuine political will and reform can lower perceived levels of corruption.

Other countries with a significant improvement include Costa Rica, Croatia, Cuba, Czech Republic, Dominica, Italy, FYR Macedonia, Romania and Suriname. Countries with a significant worsening in perceived levels of corruption in 2007 include Austria, Bahrain, Belize, Bhutan, Jordan, Laos, Macao, Malta, Mauritius, Oman, Papua New Guinea and Thailand.

The concentration of gainers in South East and Eastern Europe testifies to the galvanising effect of the European Union accession process on the fight against corruption. At the same time, deeply troubled states such as Afghanistan, Iraq, Myanmar, Somalia, and Sudan remain at the very bottom of the index.

For more information

For more information on the CPI, please contact Juanita Riaño at the TI Secretariat at jriano@transparency.org or +49 30 34 38 20 417.

Bribe Payers Index

by Transparency International

Aims and Objectives

The BPI assesses the supply side of corruption, targeting policy makers in developed countries and emerging market economies. By measuring the extent to which a state appears to engage in corrupt business practices, it helps identify where reforms and enforcement are needed. In turn, this helps advocates push for change.

The BPI results demonstrate clearly which countries are paying bribes, and where. It provides the views of the private sector (representatives of local and foreign companies) on foreign bribery, based on their experience in a particular country of operation. Given the criminalisation of bribery through laws and conventions such as that of the Organisation for Economic Cooperation and Development, the supply side of corruption in international business transactions implies a shared responsi-

bility between companies operating abroad and their home governments. The BPI highlights achievements and failures of governments to control the corruption by companies headquartered within their national borders when they operate abroad, and indicates, for their part, whether companies have successfully ensured that their employees comply with the highest standards of business practice. Thus, it serves as benchmark for assessing enforcement.

The BPI Approach

The Bribe Payers Index 2006 (BPI) is a ranking of 30 leading exporting countries according to the propensity of their firms to bribe abroad. It is the most comprehensive survey of its kind, capturing the direct experience of business executives with foreign firms paying bribes in their country. It asks business executives about

Virtual Indicator Exhibition

the practices of foreign firms operating in their country, specifically their propensity to pay bribes or to make undocumented extra payments.

The BPI was first released in 1999, with further editions in 2001 and 2006. The first two editions of the survey scored 19 and 21 countries respectively through surveys in emerging market economies. The 2006 edition ranked 30 leading exporting countries by surveying respondents in more than 125 countries worldwide, the largest and broadest sample to date.

The BPI Method in 2006

The BPI 2006 is based on the responses of 11,232 business executives from companies in 125 countries to two questions about the business practices of foreign firms operating in their country. It was carried out as part of the World Economic Forum's Executive Opinion Survey 2006. The combined Gross Domestic Product of the 125 economies covered represents 98 percent of the world total.

The sample of respondents was representative of the national business sector, both in terms of the share of production by industry, the size of company and the range of company types (domestic, foreign and partly state owned). Respondents were asked to rate the countries of origin of foreign-owned companies doing the most business in their country on a scale of 1 (bribes are common) to 7 (bribes never occur). The answers were then converted into a 10 point scale, in which 10 represents the lowest propensity of companies to bribe abroad. The ranking reflects the simple averages of responses.

The countries ranked were: Australia, Austria, Belgium, Brazil, Canada, China, France, Germany, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, the Netherlands, Portugal, Russia, Saudi Arabia, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Turkey, the United Arab Emirates, the United Kingdom and the United States.

The BPI 2006 results

The BPI 2006 shows a considerable propensity of companies from all states to bribe when operating abroad. Companies from the wealthiest countries rank in the top half of the index (indicating less perceived tendency to bribe), with Switzerland leading the ranking at 7.8. However, companies from these countries tend to behave differently when operating in OECD countries than in developing countries, where they still routinely pay bribes. Companies from emerging export countries are perceived to be the most likely to pay bribes in order to win contracts abroad, with India, China and Russia ranking among the worst.

For more information

For more information on the CPI, please contact Juanita Riaño at the TI Secretariat at jriano@transparency.org or +49 30 34 38 20 417. Please visit: http://transparencyorg/policy_research/surveys_indices/bpi

Rank	Country / Territory	BPI Score	Number of respondents	Margin of error (at 95 % confidence)	% of global exports (2005)
1	Switzerland	7.8	1744	0.12	1.2
2	Sweden	7.6	1451	0.14	1.3
3	Australia	7.6	1447	0.14	1
4	Austria	7.5	1560	0.13	0.5
5	Canada	7.5	1870	0.12	3.5
6	UK	7.4	3442	0.09	3.6
7	Germany	7.3	3873	0.09	9.5
8	Netherlands	7.3	1821	0.12	3.4
9	Belgium	7.2	1329	0.15	8.9
	US	7.2	5401	0.07	3.3
11	Japan	7.1	3279	0.1	5.8
12	Singapore	6.8	1297	0.17	2.2
13	Spain	6.6	2111	0.12	1.9
14	UAE	6.6	1928	0.14	1.1
15	France	6.5	3085	0.11	4.3
16	Portugal	6.5	973	0.18	0.3
17	Mexico	6.5	1765	0.15	2.1
18	Hong Kong	6.0	1556	0.16	0.4
	Israel	6.0	1482	0.16	2.8
20	Italy	5.9	2525	0.12	3.6
21	South Korea	5.8	1930	0.13	2.8
22	Saudi Arabia	5.8	1302	0.17	1.8
23	Brazil	5.7	1317	0.16	1.2
24	South Africa	5.6	1488	0.16	0.5
25	Malaysia	5.6	1319	0.17	1.4
26	Taiwan	5.4	1731	0.15	1.9
27	Turkey	5.2	1755	0.15	0.7
28	Russia	5.2	2203	0.14	2.4
29	China	4.9	3448	0.11	5.5
30	India	4.6	2145	0.14	0.9

Global Corruption Barometer

by Transparency International

Aims and Objectives

The Global Corruption Barometer is an opinion survey of the general public that assesses the perceptions of corruption and experience with bribery. The Barometer provides information on the extent of corruption across government and private sector institutions based on the responses of ordinary people, supplementing the views of experts presented in other surveys. It can therefore show the credibility of anticorruption efforts as seen through the eyes of ordinary people. The Barometer is unique in the sense that it is the only worldwide public opinion survey on perceptions and experience of corruption that allows trends to be established over time. It does not rank countries, but instead offers comparative results of countries, regions and institutions as well as information on trends in public perceptions of corruption. Thus, it is a complement to TI's other measurement tools, the Corruption Perceptions Index (CPI) and Bribe Payers Index (BPI).

The Global Corruption Barometer Approach

The Barometer survey is carried out for Transparency International by Gallup International as part of its Voice of the People Survey. It has been published annually since 2003. The TI Global Corruption Barometer is a public opinion survey. That means it is a poll of the general public across the world and in each country

included, a representative sample of the general public has been polled. Respondents are men and women aged 15+ and all samples have been weighted to bring them in line with national and global populations. In 2006, the Barometer survey was carried out between July and September of that year in 62 countries and territories. Nearly 60,000 respondents were polled, including men and women.

The Barometer explores experience of citizens with petty bribery presenting which institutions and public services most affected by bribery, the frequency of bribery, and how much people pay. It also explores the public's evaluation of their government's efforts to fight corruption and assesses which institutions the public judge to be most corrupt and what aspects of their lives – political, personal or business – are most affected by corruption.

Global Corruption Barometer 2006 Results

The Barometer 2006 results indicate that experience of bribery is widespread outside Europe and North America, with the police being the institution most affected (See table 1 and figure 1). In Latin America for example, one third of respondents who had contact with the police had paid a bribe. Bribery for access to services is most common in Africa. The most commonly bribed sectors in Africa are the police, tax revenue and utilities.

Table 1 Countries most affected by bribery

Percentage of respondents that have paid a bribe in the last 12 months	More than 40 %	Albania, Cameroon, Gabon, Morocco
	16-40%	Bolivia, Congo-Brazzaville, Czech Republic, Dominican Republic, Greece, Indonesia, Kenya, Mexico, Moldova, Nigeria, Paraguay, Peru, Philippines, Romania, Senegal, Ukraine, Venezuela
	6-15 %	Argentina, Bulgaria, Chile, Colombia, Croatia, Hong-Kong, India, Kosovo, Luxembourg, Macedonia, Pakistan, Panama, Russia, Serbia, Thailand
	5% or less	Austria, Canada, Denmark, Fiji, Finland, France, Germany, Iceland, Israel, Japan, Malaysia, Netherlands, Norway, Poland, Portugal, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Turkey, United Kingdom, USA

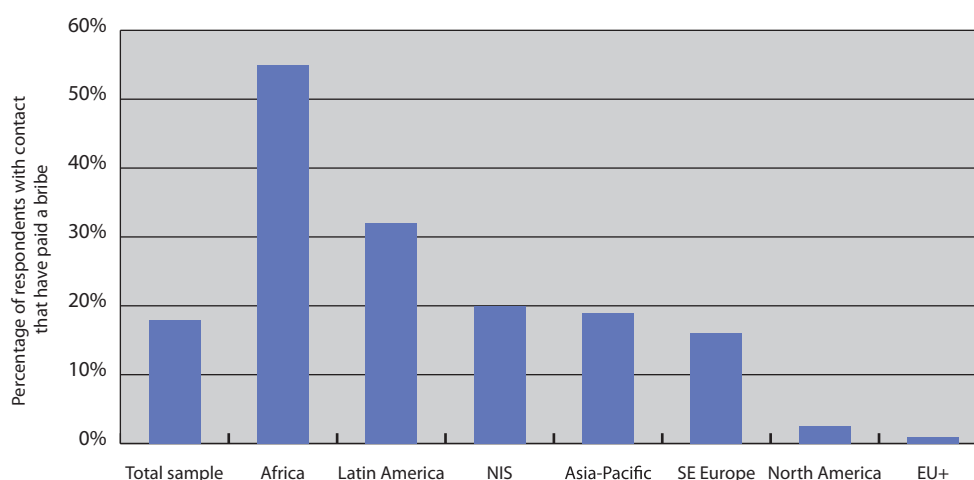
Source: Transparency International, Global Corruption Barometer 2006

As in past years, public perceptions are that political parties and parliaments are the most corrupt institutions, followed by business and police. The public regards governmental efforts to curb corruption inadequate in most countries. Only 22 per cent of respondents worldwide evaluated their government's actions as 'effective' or 'very effective'.

For more information

For more information on the CPI, please contact Juanita Riaño at the TI Secretariat at jriano@transparency.org or +49 30 34 38 20 417. Also please visit http://transparency.org/policy_research/surveys_indices/gcb

Figure 1 Worldwide bribery: respondents who have had contact and paid a bribe, by sector (%)



Source: Transparency International, Global Corruption Barometer 2006

National Integrity Systems (NIS) Scoring System

by Transparency International

What is the NIS scoring system?

The NIS scoring system is a new tool that is being developed by Transparency International. The NIS scoring system will provide a quick summary look at the strengths and weaknesses in a country and will facilitate comparisons within a country over time. It will not produce a ranking of countries, nor will it replace the NIS narrative Country Studies; instead, it will provide complementary information that, in conjunction with the narratives, will be an even more effective tool for advocacy and awareness raising.

Why create an NIS scoring system?

Since TI began producing NIS Country Studies in 2001, the TI Secretariat and many chapters

have considered developing an NIS scoring system of some kind. While the current NIS Country Studies provide important benchmarks for the success of anti-corruption efforts, they offer only narrative analysis that can be specialised and cumbersome to absorb. Scores that rate the different NIS pillars in a country will provide clear, understandable information that will improve the use of narrative NIS studies.

Other organisations already produce quantitative indicators on governance at the country level. Examples include the World Bank governance indicators, Global Integrity's integrity indicators and Freedom House's Countries at the Crossroads. However, TI's network of National Chapters and our focus on anti-corruption gives us a unique niche in this field. We have the opportunity to produce a scoring system that

is generated by and for the countries under consideration, focused on the aspects of a governance system that make it most vulnerable to corruption.

In addition, TI will be responding to the interest among donors in governance assessments. NIS studies are already used by donors in their development work, but countries such as Britain and the Netherlands have recently been commissioning their own governance assessments to meet their own needs. Moreover, donors are increasingly interested in quantitative assessments that enable comparative work and help target reform programmes. In order to stay relevant in this changing landscape, TI needs to capitalise on our knowledge and experience to produce a useful tool that brings our important perspective to the governance debate.

Process for Development

The process for development of the NIS scoring system began in 2006 with consultation across the TI movement. Responses confirmed that Chapters have interest in such a tool, but that the scoring system should be limited to comparisons within a region and avoid a new international ranking. Chapters also stressed that the scores should not be divorced from the narrative reports; the scores and the reports should complement each other.

Building on this baseline, TI-S is working with National Chapters, external experts and a scoring consultant to design a robust scoring methodology that also reflects the priorities and needs of the TI National Chapters. In the latest stage of the process, consultants from the Madagascar office of Pact – an NGO based in Washington DC committed to capacity building of local leaders and organisations – worked with TI to produce the initial draft of the scoring model. The draft will be reviewed by a methodology committee, bringing together scoring and issue experts.

The model will then be piloted in Guatemala and Panama. Subsequent modifications will be made before the scoring system is launched in 2008.

Overview of the Scoring Model

Those who implement the scoring system will use the same methods to obtain the data that are used to prepare traditional NIS Country Studies: a combination of desk research, individual consultation and focus groups. Experience has shown that the very process of doing research in this participatory way can generate the kind of communication and cooperation that in itself can improve the system under evaluation. This process will be enhanced by the introduction of the scoring system, which presents an added opportunity for engaging stakeholders.

The scoring model under development will have two components. First, a standard model will be developed, comprised of broad categories (a derivation of the NIS pillars) that can be applied in any country. Second, a unique country (or regional) model will contain the individual questions for gathering data in the country under examination. Detailed guidelines will help Chapters to develop their own country model according to their national situation. The researchers will assess the country model questions, which in turn will provide the data points necessary to calculate scores in the standard model. Quality control will be done at the TI-Secretariat.

Chapters will also have the option of going further than the guidelines proposed and adapting the country model in a number of different ways. Chapters can include different information and local data sources in their country model, as well as different questions or even new NIS pillars.

The data collected from each country will be stored in an electronic database that will be made public upon completion. This can be utilised to present the data in different ways, such as charts or graphs. It will also facilitate exchange of information.

For more information

For more information on the NIS scoring system, please contact Sarah Repucci at the TI Secretariat
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Promoting Revenue Transparency Project

by **Sophie Buxton**, Transparency International

The Importance of Revenue Transparency in the Extractive Industries

Revenues from the extractive industries are an important source of income for the governments of many developing countries. However, much of this wealth does nothing to reduce high levels of poverty and improve the lives of citizens. Rather than fostering economic growth and development, high revenues from the extractive industries have often fuelled corruption, economic stagnation, inequality and conflict. This paradox has been labelled the 'resource curse'.

There is a growing recognition that the transparent and accountable management of revenues from the oil, gas and mining industries helps to ensure that natural resource wealth is translated into societal well-being and sustainable development. Corruption and mismanagement breed in opacity, and the resulting instability in countries of operation is bad for business, damaging companies' reputations and resulting in lower investor returns.

Transparency can help change the extractive resource curse into a blessing by facilitating and improving the accountability of companies and governments to their investors and citizens. Ensuring access to information about how much money governments are receiving from extractive industry revenues empowers citizens to hold their governments accountable, monitor how the money is spent and lobby for responsible public spending. Greater accountability should limit bad practices and the mismanagement of extractive industry revenues, which all too often fuel corrupt elites and deepen social conflict. If properly managed, revenues from natural resources provide a basis for poverty reduction, economic growth and sustainable development.

The Promoting Revenue Transparency Project makes clear that publishing key data on extractive industry operations on a country by country basis is both in the interests of corporations and supports sound accountability by host governments.

Promoting Revenue Transparency Project

The Promoting Revenue Transparency (PRT) Project supports the transparent and accountable management of revenues generated from the extractive industries as a step towards reversing the 'resource curse' and ensuring such revenues directly benefit society. The Project seeks to raise awareness in both government and the private sector of the various steps required for revenue transparency to be achieved, sustained and mainstreamed. By providing robust standards for revenue transparency and tools to measure progress in this field, companies and governments engaged in the extractive industries are encouraged to improve transparency and accountability to citizens and investors.

The Promoting Revenue Transparency Project has three specific objectives:

- 1. To measure revenue transparency performance and diagnose areas for improvement.**
- 2. To develop broad standards for revenue transparency.**
- 3. To support the use of the revenue transparency standards and measures of performance** by companies, rating agencies, investors, government regulators and civil society.

The project will measure and compare the degree of revenue transparency among selected companies, host countries (resource rich) and home countries (where the companies are based) in the oil, gas and mining sectors. The PRT project will produce the following reports:

- 1) A Companies Report, covering 42 companies and their operations in 21 countries in 2007
- 2) A Host Governments Report, covering approximately 10 countries, expected in 2008
- 3) A Home Governments Report, expected in 2008

These reports will focus on the oil and gas industries. A feasibility study of extending these reports to the mining industry is planned for 2008.

The Project is part of a growing international multi-stakeholder movement of governments, companies, investors and civil society which seeks to

promote improvements in transparency and accountability in natural resource revenue management. Participants of this movement recognize that revenue transparency improves broader governance, strengthens the investment climate in which business operates, and provides a necessary condition for achieving sustainable development.

The Companies Report

The Companies Report 2007 applies a methodology which allows an assessment to be made of revenue transparency policies, practices and management systems of oil and gas companies in their upstream operations. The research is based on publicly available information. The method incorporates aspects of the context of operation that may support or hinder companies' performance on revenue transparency. The framework applied serves as a measurement tool which demonstrates the steps which companies can themselves undertake to further improve revenue transparency.

Multi-stakeholder engagement and consultation has been a crucial elements in the process of producing the report and is critical to the advocacy aspects of the project. The project incorporates multi-stakeholder input through the participants in its Working Group and its broader Reference Group, which include industry experts, company representatives, civil society activists and members of the EITI secretariat. The engagement of the companies covered by this research has been sought by:

- 1) Opening channels for communication and exchange on the PRT project and its progress, including ongoing opportunities for dialogue about changes needed and avenues to address issues and concerns.
- 2) Creating space for companies to provide their input from the earliest stages, including the methodology and framework revision.
- 3) Seeking participation of companies in the Working Group of the Project.
- 4) Providing an opportunity for companies to check the data gathered on them for accuracy.

The Companies Report covers 42 oil and gas companies and their operations in 21 different countries, as listed in full below. The year-long process of research and engagement with the

companies concerned is now drawing to a close and the report is in the pre-publication stage.

Companies covered:

Amerada Hess (USA) • Aramco (Saudi Arabia) • BG (UK) • BHP Billiton (Australia) • BP (UK) • Chevron Corporation (USA) • China National Petroleum Corporation (China) • CNOOC (China) • Conoco Philipps (USA) • Devon Energy (USA) • Eni SpA (Italy) • Exxon Mobil Corporation (USA) • Gazprom (Russia) • GEPetrol (Equatorial Guinea) • Inpex (Japan) • Kazmunaingaz (KMG) (Kazakhstan) • Kuwait Petroleum Corporation (Kuwait) • Lukoil (Russia) • Marathon (USA) • National Iranian Oil Company (Iran) • National Nigerian Petroleum Company (NNPC) (Nigeria) • Oil and Natural Gas Corporation Limited (ONGC) (India) • Nexen (Canada) • Pertamina (Indonesia) • Petro China Company Limited (China) • Petrobrás (Brazil) • Petrocanada (Canada) • Petróleos de México (Mexico) • Petróleos de Venezuela (PDVSA) (Venezuela) • Petroleum Nasional phd (Petronas) (Malaysia) • QatarPetroleum (Qatar) • RepsolYPF (Spain) • Rosneft (Russia) • Shell (The Netherlands) • Sinopec (China) • Société Nationale des Pétroles du Congo (SNPC) (Congo) • Sonangol (Angola) • Sonatrach (Algeria) • Statoil (Norway) • Talisman Energy (Canada) • Total (France) • Woodside Petroleum (Australia)

Countries of Operation:

Algeria – Angola – Azerbaijan – Brazil – China – Congo Brazzaville – Equatorial Guinea – India – Indonesia – Iran – Kazakhstan – Kuwait – Malaysia – Mexico – Nigeria – Norway – Qatar – Russia – Saudi Arabia – US – (and Gulf of Mexico) – Venezuela

The Host Governments Report

The PRT Project is currently working on the initial stages of a *Host Governments Report* which will focus on government transparency regarding extractive industry revenues in countries where extraction is taking place. It is designed to create local ownership and to promote engagement and participation of local stakeholders, particularly governments.

Data gathering and analysis will be performed by country implementers (TI National Chapters, Publish What You Pay (PWYP) coalition members or other organisations) selected according to pre-established criteria in consultation with the Working Group of the project. A pilot project will be first be implemented in 2 countries. The full list of countries to be covered has yet to be confirmed.

History of the concept

Measuring Transparency was first conceived by *Save the Children UK* and developed in collaboration with investors, independent consultants, ratings agencies and other members of the *Publish What You Pay* NGO coalition. In 2005, *Save the Children UK* produced the first reports on revenue transparency, *"Beyond the Rhetoric: measuring revenue transparency in the oil and gas industry"*¹.

The two parts of the report measure company performance and home government regulation.

Promoting Revenue Transparency is the new phase of the project and is being implemented by Transparency International, in partnership with the Revenue Watch Institute. Building on the previous work in this area, the initiative also complements the efforts of the Extractive Industries Transparency Initiative (EITI). It includes those aspects of transparency and anti-corruption relevant to revenue transparency, and contributes to sustaining awareness of the responsibility of both companies and governments to implement EITI commitments and encouraging them to go beyond these.

For further information please refer to Promoting Revenue Transparency at www.transparency.org or address queries to prt@transparency.org

¹ See "Beyond the Rhetoric: Measuring Revenue Transparency -Company Performance in the Oil and Gas Industries". This assessed 25 companies and their revenue transparency performance in Angola, Azerbaijan, Indonesia, Nigeria, Timor Leste and Venezuela. "Beyond the Rhetoric: Measuring Revenue Transparency – Home Government Requirements for Disclosure in the Oil and Gas Industries" assessed the regulatory performance of Australia, Canada, France, Italy, the Netherlands, Norway, the UK, USA, South Africa and Russia. Both are available electronically at: http://www.transparency.org/policy_research/surveys_indices/promoting_revenue_transparency

Core Set of Indicators

by **Ove Caspersen**, European Environment Agency

The Core Set of Indicators

In 2004, the European Environment Agency (EEA) launched a **core set of indicators** <http://themes.eea.europa.eu/IMS/CSI>. This exercise was carried out with three main objectives in mind, namely to:

- Provide a manageable and stable basis for indicator-based assessments of progress against environmental policy priorities;
- Prioritise improvements in the quality and coverage of data flows -improvements that will enhance comparability and certainty of information and assessments;
- Streamline contributions to other indicator initiatives in Europe and beyond.

When establishing and developing the core set, the Agency was guided by the need to identify a small number of policy-relevant indicators that

are stable, but not static, and that give answers to selected priority policy questions. These indicators should, however, be considered alongside other information if they are to be fully effective in environmental reporting.

The core set comprises 37 indicators covering six environmental themes (air pollution and ozone depletion, climate change, waste, water, biodiversity and terrestrial environment) and four sectors (agriculture, energy, transport and fisheries).

Criteria

The indicators in the core set were selected from a much larger set, on the basis of criteria widely used elsewhere in Europe and by the OECD. Particular attention was given to the relevance for policy priorities, objectives and targets, the availability

of high-quality data over both time and space, and the application of well-founded methods for indicator calculation.

Using the core set

The core set, and particularly its assessments and key messages, is targeted mainly at policy makers at the EU and national level who can use the outcomes to inform on progress with their policies. EU and national institutions can also use the core set to support streamlining of data flows at the EU level. Environmental experts can use it as a tool for their own work by using the underlying data and methodologies to do their own analysis. They are invited to look at the set critically, give feedback and so contribute to future EEA core set developments.

General users will be able to access the core set on the web in an easily understandable way, and use available tools and data to do their own analyses and presentations.

Decoupling from main reports

The core set is updated when data becomes available. This is linked to the cycles of the countries' data reporting rather than to the publishing timetable of the Agency's big reports (for more, see the reporting obligations data-base ROD, <http://rod.eionet.europa.eu/index.html>). This means that the EEA has access to an information base that is available for several purposes (e.g. speeches, other reports, briefings) and which can be used at short notice to underpin timely input into policy debates. It also means that the EEA member countries have access to comparative information when needed for their own state of the environment reporting cycles and policy needs.

The other benefit of maintaining an independent information base is that if the official review and acceptance of the data is separated from the assessment - the assessments have more impact as the discussion will tend to focus on what might be causing the trends and results, rather than on whether the data are correct or not.

This was the main reason for the success and impact of the EEA scorecard comparing environmental country performance and progress that was published as part of the report *The European Environment – State and Outlook 2005*, http://reports.eea.europa.eu/state_of_environment_report_2005_1/en.

Information Management

The EEA takes its responsibility as an information provider seriously, emphasising quality assurance of the data used. We also ensure that users know about the uncertainties related to the data and indicators, both in terms of the rationale and concept behind the indicator and when it comes to the quality of the input data. This high degree of transparency enables users to judge the quality of the information. It also adds to the credibility of the assessments made on basis of the data, even when these are made by bodies other than the EEA.

The Agency strives to improve the quality and availability of environmental information and has an ongoing programme of developing tools and support to facilitate use of environmental information, by civil servants, researchers, policy makers and the public at large.

Two examples from the core set indicators

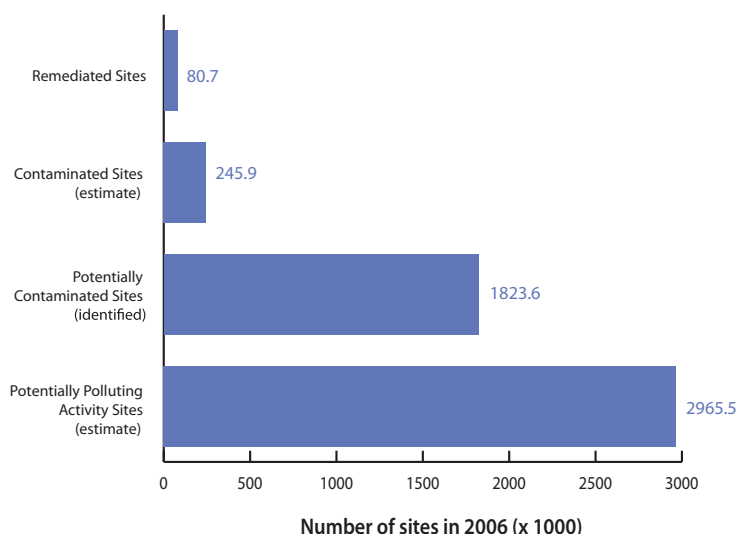
1. Progress in management of contaminated sites (CSI 015)

Key policy question: How is the problem of contaminated sites being addressed (clean-up of historical contamination and prevention of new contamination)?

According to recent estimates, there are presently approximately 250 000 sites with contaminated soil requiring cleanup in the EEA member countries - and this number is expected to increase. Potentially polluting activities are estimated to have occurred at nearly 3 million sites (including the 250 000 sites already mentioned) and investigation is needed to establish whether remediation is required. If current investigation trends continue, the number of sites needing remediation will increase by 50% by 2025.

By contrast, more than 80 000 sites have been cleaned up in the last 30 years in the countries where data on remediation is available. The range of polluting activities (and their relative importance as localised sources of soil contamination) varies considerably across Europe. However, industrial and commercial activities as well as the treatment and disposal of waste are reported to be the most important sources. National reports indicate that heavy metals and mineral oil are the most frequent soil contaminants at investigated sites, while mineral oil and

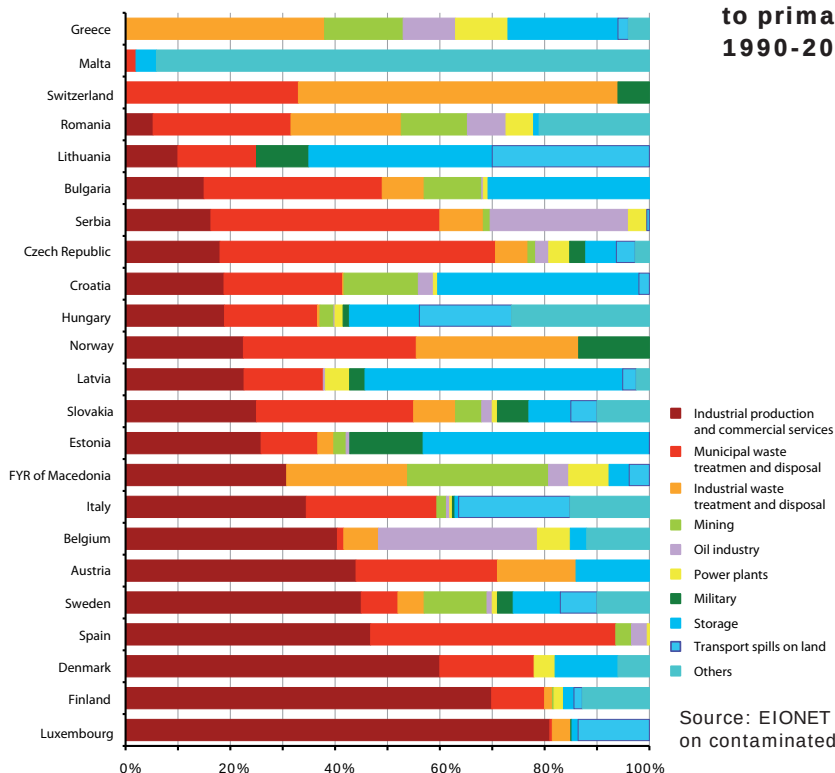
Overview of progress in the management of contaminated sites in Europe (Ver. 1.00)



Source: EIONET priority data flows on contaminated sites, Turkey: NATO/CCMS-Turkey, 2006; United Kingdom: Environment Agency of England & Wales, 2005.

chlorinated hydrocarbons are the most frequent contaminants found in groundwater. A considerable share of remediation expenditure, about 35% on average, comes from public budgets. Although considerable efforts have been made already, it will take decades to clean up a legacy of contamination.

Breakdown of industrial and commercial activities causing local soil contamination



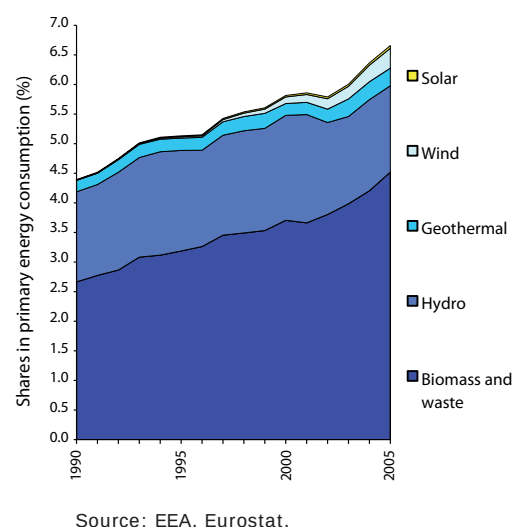
2. Renewable energy consumption (CSI 030)

Key policy question: Are we switching to renewable energy sources to meet our energy consumption?

The share of renewable energy sources in primary energy consumption is increasing slowly in the EU 27 – from 4.4% in 1990 to 6.7 % in 2007. This has helped to reduce otherwise higher greenhouse gas emissions. However, rising overall energy consumption in absolute terms is offsetting some of the environmental benefits from more use of renewables.

The strongest increase comes from wind and solar energy; although their combined share in renewable energy consumption still stands at less than 6%. In absolute terms, about 80% of the increase is accounted for by biomass, which takes a share of more than two thirds of all renewables. Hydropower has been falling in the past years as a result of lower rainfall and its share stands at about 22% of renewable energy consumption. Significant progress will be needed to meet the indicative target of a 12 % renewables share for the EU by 2010. The European Council of 8-9 March 2007 endorsed a binding target of a 20 % share of renewable energies in overall EU energy consumption by 2020.

Contribution of renewable energy sources to primary energy consumption in the EU-27, 1990-2005



Source: EEA, Eurostat.

Source: EIONET priority data flows on contaminated sites

Share of renewable energy in primary energy consumption (%) 1990-2005

	1990	1995	2000	2001	2002	2003	2004	2005
EEA	5.5	6.2	6.9	6.8	6.8	6.9	7.2	7.6
EU-27	4.4	5.1	5.8	5.9	5.8	6.0	6.4	6.7
EU-15	4.9	5.3	5.9	6.0	5.8	6.0	6.4	6.7
Belgium	1.4	1.4	1.3	1.5	1.5	1.9	2.1	3.5
Bulgaria	0.6	1.6	4.2	3.6	4.4	4.9	5.2	5.6
Czech Republic	0.2	1.5	1.5	1.7	2.1	3.4	4.0	4.1
Denmark	6.7	7.6	10.8	11.4	12.4	13.5	15.1	16.2
Germany	1.6	1.9	2.8	3.0	3.4	3.6	4.0	4.8
Estonia	4.5	8.8	10.8	10.4	10.3	9.5	10.6	11.2
Ireland	1.6	1.5	1.8	1.7	1.9	1.8	2.1	2.6
Greece	5.0	5.3	5.0	4.5	4.7	5.1	5.1	5.2
Spain	7.0	5.5	5.7	6.6	5.5	7.0	6.5	6.1
France	7.0	7.5	7.0	7.1	6.4	6.4	6.3	6.0
Italy	4.2	4.8	5.2	5.5	5.3	5.9	6.8	6.5
Cyprus	0.4	2.1	1.8	1.8	1.7	1.7	1.9	2.0
Latvia	13.1	27.5	34.3	34.1	34.5	33.1	36.0	36.3
Lithuania	2.0	5.7	9.2	8.4	8.1	7.9	8.0	8.8
Luxembourg	1.3	1.4	1.5	1.3	1.4	1.4	1.6	1.6
Hungary	1.8	2.4	2.1	1.9	3.4	3.4	3.7	4.2
Malta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Netherlands	1.4	1.6	2.4	2.4	2.6	2.6	2.9	3.5
Austria	20.2	22.0	23.2	22.2	22.2	19.3	20.8	20.5
Poland	1.6	3.9	4.2	4.5	4.6	4.5	4.7	4.8
Portugal	18.8	16.3	15.4	15.7	14.0	17.1	14.9	13.4
Romania	4.2	5.9	10.9	9.3	9.8	10.0	11.7	12.8
Slovenia	4.6	9.4	12.3	11.5	10.9	10.3	11.6	10.6
Slovakia	1.6	2.9	2.8	3.9	3.7	3.3	3.9	4.3
Finland	19.0	21.2	23.9	22.4	21.9	20.9	23.0	23.2
Sweden	24.9	26.0	31.4	28.3	26.3	25.3	25.8	29.8
United Kingdom	0.5	0.9	1.1	1.1	1.2	1.3	1.5	1.7
Turkey	18.5	17.4	13.1	13.2	13.4	12.7	13.2	11.9
Iceland	64.9	67.6	71.4	73.2	72.8	72.8	72.3	73.0
Norway	53.2	48.9	51.0	44.0	51.7	38.3	37.7	40.4

Source: EEA, Eurostat.

The EEA core set is highly structured around the **DPSIR** analytical framework (Driving forces, Pressures, State, Impact and Responses) and is supported by a large information base containing expert knowledge, as well as qualitative and quantitative information. This currently includes about 500 indicators, data viewers for **greenhouse gases, ozone, water and air emissions**. The Agency focuses on providing geo-referenced information that allows people to seek information from their local area, for example in the ozone and water viewers mentioned above and the recently launched **environmental technology atlas**, http://technologies.ew.eea.europa.eu/atlas_map.

The EEA has also developed tools to support environmental education and training, and is committed to developing, testing and communicating new and best practice approaches to creating environmental assessments.

Other information available through the EEA to support assessments.

For more information

<http://themes.eea.europa.eu/IMS/CSI>

European Benchmark Indicators (EBI)

by **Edward Vixseboxse**, Netherland's Environmental Assessment Agency (MNP)

Why we need the European Benchmark Indicators?

With the knowledge that there is a growing need for comparative indicators to measure Member State's environmental performance, MNP has developed the European Benchmark Indicators (EBI) to draw comparisons between Member States.

The indicator database is primarily meant for decision makers, but is also useful for the general public and scientists. Measurement of perfor-

mance in this way, within an enlarged European Union, facilitates the improvement of policy effectiveness in a Member State and stimulates learning from the success of frontrunners.

To sum up, the EBI is a tool by which environmental performance within and between Member States can be measured and compared, on a 100+ indicator environmental indicator database. Datasources are many-sided and include among other organizations: Eurostat, World Bank, the European Environment Agency (EEA) and the World Resources Institute.

Description of the EBI

MNP has composed an indicator set of existing indicators that reflects the environmental performance on different themes and issues within the economic and social setting of a country. Especially within an European Union of 25 there is need for nuance. The environmental performance of countries can be very different because of differences in e.g. demography and economic structure.

Through the EBI the user is able to judge national environmental performance in a better way and within the proper country context. The air quality of the Netherlands is e.g. below average and heavily influenced by, among other things, the high car and population density. Performance judged by the deployment of clean air technology on the other hand gives exactly the opposite result: the Netherlands performs better than average.

Practically speaking, the EBI indicators have been divided into two parts. First a socioeconomic profile, that should put environmental performance into proper perspective. Indicators reflects e.g. countries' economic performance, -structure and social characteristics. Where possible, each indicator covers data on the present situation and a trend from the past.

Second, an environmental profile, that has been based on the OECD Pressure-State-Response (PSR) framework. Within themes as Air Quality and Climate Change, performance is measured on the basis of environmental pressures, – technology –quality and progress towards International Commitments.

Existing aggregated indicators, like the Growth Competitiveness Index (Xavier Sala-i-Martin, Columbia University) and the Ecological Footprint (Wackernagel and Rees) can be and are individual indicators in the EBI. Such composite indicators have the advantage that they provide an overall ranking of a country but also have quite a few disadvantages. The EBI individual indicator scores are not aggregated to a composite index as this is an area of methodological controversy.

Thus, the MNP indicator set is a product of a quite pragmatic method of working and finds its rationale in the creation of a collection of "environmental policy stories", like Climate Change, Air Quality and Biodiversity.

History of the EBI initiative

The first version of the EBI was published in 2006 after 1 ½ years of research in concepts, method's and existing indicators initiatives.

Information and downloads on the EBI webarticle, database (MS Excel) and background article (pdf) can be found at the following web addresses: <http://www.mnp.nl/en/publications/2006/Euro-peanBenchmarkIndicators.html>

Current successes and key challenges for the EBI

Since introduction the EBI tool is getting more and more popular. After media attention in Europe (Ends daily), the US (Crosslands Bulletin) and the Netherlands (Dagblad de Pers 2007, Milieu 2007) the database is increasingly being used by media, general public and scientists.

Foreseen in 2008 is the first major update and revision of the EBI. The EBI will also be integrated in MNP's environmental data-compendium through 7 environmental dossiers. That is to say: biodiversity, air-quality, water quality, climate change, waste, natural resources and 'government & enterprise'.

Future steps, needs and prospects

The main focus for the future is to keep the EBI updated, adjusted to changing environmental policy perceptions and adapted to new availability of environmental data on issues not covered before. A dynamic and challenging task as a structured availability, processing and publishing of environmental data has a far less long history compared to (socio) economic data.

The European Benchmark Database (EBI)

Part 1: Socio Economic Profile

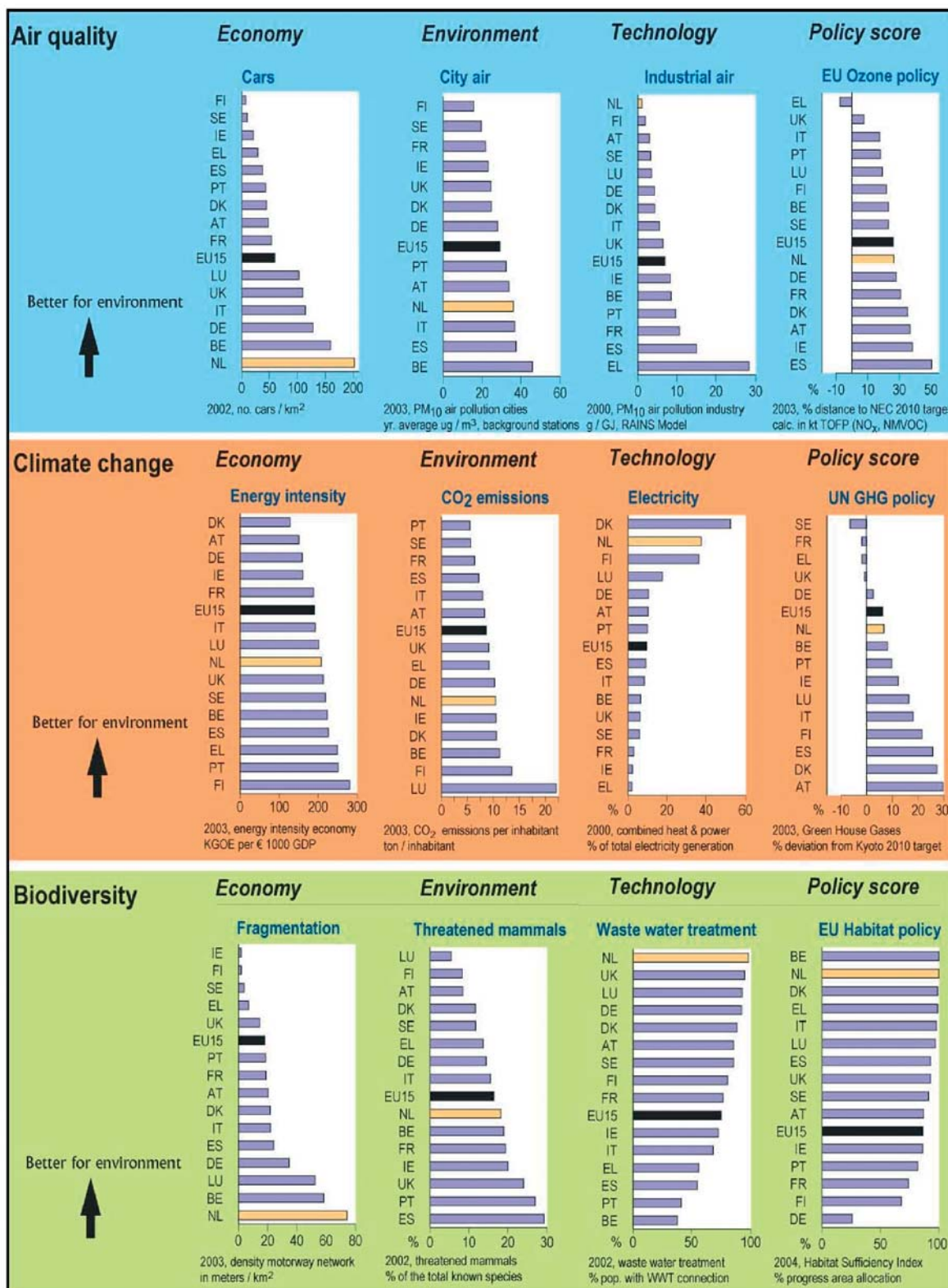
1.1	Economic performance	1.2	Economic Structure	1.3	Human Capital	1.4	Socio Economic Drivers	1.5	Fuel Prices & Taxes	1.6	Law & Public Opinion
1.1.1	Welfare	1.2.1	Economy openness	1.3.1	Education expenditure	1.4.1	Population Size	1.5.1	Diesel Price	1.6.1	Public Policy Priority
1.1.2	Labour Productivity	1.2.2	Sector Structure	1.3.2	Unemployment	1.4.2	Population Density	1.5.2	Petrol Price	1.6.2	Public Env. Policy Priority
1.1.3	Annual Working Hours	1.2.3	Energy Structure	1.3.3	Education Qualifications	1.4.3	Household Size	1.5.3	Electricity Price Households	1.6.3	EU infringement cases
1.1.4	Income distribution	1.2.4	Transport Str. Freight	1.3.4	Health - HALE	1.4.4	Livestock Density	1.5.4	Electricity Price Industry	1.6.4	EU Confidence index
1.1.5	R&D Intensity	1.2.5	Transport Str. Passeng.	1.3.5	Health - Expenditure	1.4.5	Cars per km ²	1.5.5	VAT Rate Electricity	1.6.5	EU Council Country Votes
1.1.6	Growth Comp. Index	1.2.6	Energy Intensity Economy	1.3.6	Ageing society	1.4.6	Cars per population	1.5.6	Gas Price Households		
		1.2.7	Energy Supply Security	1.3.7	Health Risk - Obesity	1.4.7	Tourism Expenditure	1.5.7	Gas Price Industry		
		1.2.8	Direct Material Productivity			1.4.8	Direct Material Input				

Part 2: Environmental Profile

2.1	Biodiversity	2.2	Air Quality	2.3	Quality Water	2.4	Climate Change	2.5	Waste	2.6	Natural Resources	2.7	Government & Enterprise
	Pressures		Pressures		Pressures		Pressures		Pressures		Pressures		Government
2.1.1	Builtup area	2.2.1	Road Transp. NOx Emiss.	2.3.1	Fertilizer Consumption	2.4.1	CO2 Emissions per capita	2.5.1	Municipal Waste	2.6.1	Meat Consumption	2.7.1	Environmental Tax Revenues
2.1.2	Land fragmentation	2.2.2	Road Transp. SO2 Emiss.	2.3.2	Pesticides sales	2.4.2	GHG Emissions per capita	2.5.2	Packaging Consumption	2.6.2	Fish Consumption	2.7.2	Public Env.-Expenditures
2.1.3	Ammonia Emissions	2.2.3	Road Transp. Ozone Emiss.	2.3.3	Nitrogen Balance	2.4.3	Electricity from Renewables	2.5.3	Waste Landfilled	2.6.3	Paper Consumption	2.7.3	Public Env. R&D Expenditures
	Quality		Technology		Organic Manure		Energy Efficiency Industry		Policy Performance		Final Energy Cons. H.-holds		Enterprise
2.1.4	Threatened Mammals	2.2.4	Catalytic Converters	2.3.4	Organic Farming	2.4.4	Heat & Power generation	2.5.4	Recycling Rate Packaging	2.6.4	Electr. Cons. H.-holds	2.7.4	Business Env.-Expenditures
2.1.5	Protected Areas	2.2.5	Diesel Cars	2.3.5	Waste Water Treatment	2.4.5	GHG Kyoto Target	2.6.5		2.6.6	Consumption Gas & Diesel	2.7.5	Eco-Management Companies
	Policy Performance		Quality		Rivers Nitrate		Electr. from Renewables Target			2.6.7	Ecological Footprint	2.7.6	Export of Green Products
2.1.6	Habitat Directive	2.2.6	Age Passenger Cars	2.3.6	Rivers Phosphorus	2.4.6							Policy Performance
2.1.7	Birds Directive	2.2.7	Industry Pollution, SO2	2.3.7	Lakes Nitrate	2.4.7							EU Env.-Infringement Cases
2.1.8	Habitat Sufficiency Index	2.2.8	Industry Pollution, NOx	2.3.8	Lakes Phosphorus								
2.1.9	Ammonia NEC Target	2.2.9	Industry Pollution, PM10	2.3.9	Ground Water Nitrate								
		2.2.10	Urban-PM10	2.3.10	Organic Nitrate Target								
		2.2.11	Urban Ozone	2.3.11									
		2.2.12	Rural-PM10	2.3.12									
		2.2.13	Rural-Ozone										
		2.2.14	Premature Deaths										
			Policy Performance										
		2.2.15	Ozone NEC Target										
		2.2.16	Acidifying NEC Target										
		2.2.17	Traffic Hotspots PM10										
		2.2.18	Traffic Hotspots NO2										

Virtual Indicator Exhibition

Member States' performance on the environmental dossiers: air quality, climate change and biodiversity through indicators taken from EBI



Ecological Footprint

by **Mathis Wackernagel**, Global Footprint Network

Why we need the Ecological Footprint

One fundamental requirement for sustainability is using renewable resources slower than nature can replenish them. Societies who do not meet this minimum condition run ecological deficits.

To know whether we meet this requirement, and to properly manage our ecological assets, we need to measure our use of nature. We need resource accounts that keep track of how much nature we have versus how much we use. Ecological accounting operates like financial accounting: it tracks available capital, revenues and expenditures. As with financial assets, it is possible to spend more of our ecological assets than are being regenerated – for some time. But such overspending depletes the natural capital and cannot be sustained in the long term. Continued ecological deficit spending leads to environmental bankruptcy, eroding economies, lessened quality of life and societal instability.

In short, like any successful business that keeps track of revenues and expenditures, society needs robust accounts of its demand on, and supply of, ecological assets. This is what Ecological Footprint accounts offer.

Description of the Footprint

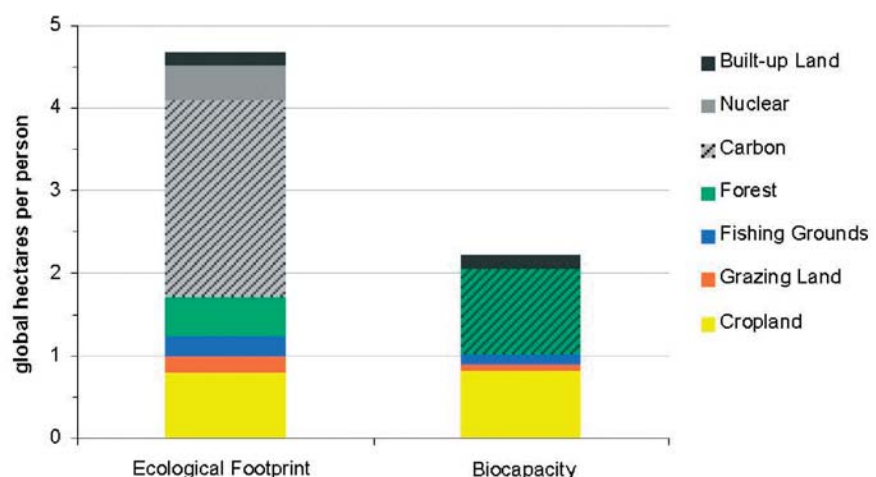
The Ecological Footprint is an indicator that measures people's demand on nature. This demand includes both the resources we consume as well as the waste we produce. We obtain these resources from forests, cropland, fisheries, and grazing land, among other ecosystems. The built environment compromises the land's ability to provide biological resources. Additionally, ecosystems absorb and assimilate the waste we produce as a result of resource consumption. The

Ecological Footprint adds up these ecosystem areas to measure total human demand on nature. In other words, Ecological Footprint analysis builds on "mass flow balance," and each flow is translated into the ecologically productive areas necessary to support these flows.

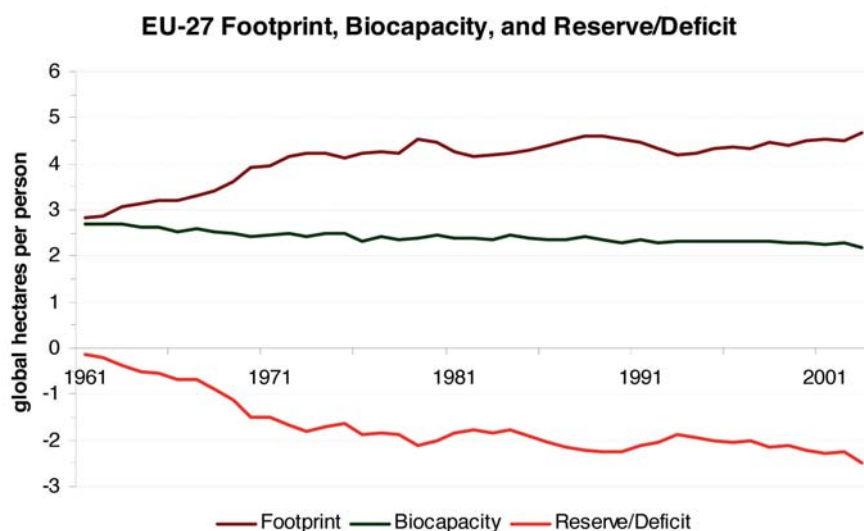
Ecosystems have a limited ability to supply us with natural resources (this is based on factors such as available water, climate, solar energy, technology and management practices). This is called biocapacity. When a population's Ecological Footprint exceeds its biocapacity, biological resource 'overshoot' occurs.

Global Footprint Network calculates the Ecological Footprint of nations on an annual basis. From this data we undertake global analysis. Overshoot measured on a global scale is an indicator of unsustainability. Data shows that humanity's resource demands and waste production began to exceed planet Earth's ability to meet this demand around 1986. Today humanity exceeds the planet's ability to provide biological resources by 30 percent – thereby dipping into the natural capital stock. While the world average capacity was 1.8 hectares per person, the world average Footprint was 2.2 hectares per person. In contrast, the average Footprint in EU-27 was 4.7 hectares per person against a biocapacity of 2.2 hectares per person.

EU-27 Footprint and biocapacity, 2003



National Ecological Footprint accounts can also inform us about local or regional ecological performance. An Ecological Footprint Assessment of the European Union sponsored by the European Environment Agency and published by *WWF International* shows, for instance, that Europe has an Ecological Footprint more than twice its biocapacity (http://www.footprintnetwork.org/newsletters/gfn_blast_europe05.html). This means that more than half of the ecosystem area on which Europe depends is outside of Europe. Europeans have about twice the Footprint of what is available per person world-wide (and this available biocapacity also needs to support wild species that are competing with people for food and space). All of the EU members have per person Footprints above what is globally available. All but three – Sweden, Latvia, and Finland – are running a national ecological deficit by using more than what is available within their boundaries. The Ecological Footprint of Europe has increased by almost 70% per person since the 1960s (see figure below).



As underlined in many publications, the Ecological Footprint measures merely one aspect of sustainability: the availability of, and the human demand on, Earth's regenerative capacity. Other measures are needed to complement this tool for assessing social well-being, depletion of non-renewable resources, inherently unsustainable activities such as the release of persistent pollutants, or the degradation of ecosystems.

History of the concept

The original Ecological Footprint methodology resulted from collaboration between Dr. Mathis Wackernagel and Dr. William Rees at the University of British Columbia in Vancouver, Canada. The publication of their book *"Our Ecological Footprint: Reducing Human Impact on the Earth"* in 1996 made the concept more widely accessible.

Global Footprint Network was founded in 2003 with the goal of advancing the scientific rigor and practical application of the Ecological Footprint, and making the Ecological Footprint as prominent a metric as the Gross Domestic Product (GDP). Global Footprint Network is made up of a 23-member advisory board of leading scientists and politicians, an office in Oakland, one in Switzerland, and, soon, one in Brussels. More than 75 organizations, spanning six continents, have become formal Global Footprint Network partners. The Ecological Footprint is now in wide use by governments, communities, and businesses to set targets and monitor their ecological performance.

The adoption of the Ecological Footprint as a trusted sustainability metric depends upon the scientific integrity of the methodology, consistent and rigorous application of the methodology across analyses, and on results being reported in a straightforward and non-misleading manner. To meet these goals, Global Footprint Network and its partners have created a consensus-based committee process for improving the method and for developing international Ecological Footprint Standards (www.footprintstandards.org).

Examples of current activities

The tool is getting increasingly popular: a simple Google search yields hundreds of thousands of websites discussing the Ecological Footprint. The effort of advancing this accounting tool is also increasingly recognized. For instance, Global Footprint Network is the recipient of a 2006 Skoll Award for Social Entrepreneurship. Global Footprint Network is one of only 10 organizations honoured with the USD 1,000,000 prize paid over three years, in recognition of the most innovative and effective approaches to resolving critical social issues.

The Footprint is also entering new arenas. For instance, work with the Swiss Agency for Development and Cooperation applies Footprint analysis to human development in Africa (www.footprintnetwork.org/africa).

New tools are available to calculate the Footprint. For businesses, for instance, www.footprinter.org or TBL3 (<http://www.bottomline3.com>), and for UK municipalities REAP (<http://www.sei.se/reap/index.php>).

A number of government organizations have active Footprint initiatives, for instance EPA Victoria in Australia (<http://www.epa.vic.gov.au/ecologicalfootprint>), the city of Calgary (<http://www.calgary.ca/footprint>), Wales (<http://www.footprintwales.org>) or Scotland (<http://www.scotlandsfootprint.org>). Various countries have initiated research collaborations with Global Footprint Network to strengthen the Footprint analysis of their country: Switzerland, Japan, Belgium, and the United Arab Emirates. DG Environment has commissioned a study on how to use the Ecological Footprint for policy assessments – the final report should be available by the end of the year.

WWF has committed to help humanity reduce its Footprint to the size of one planet Earth by 2050. If you think this is radical, you are ab-

solutely right (because it will take significant investments), and you are absolutely wrong (because it is profoundly necessary).

Future possibilities

The method of calculating the Ecological Footprint continues to be refined under the scientific guidance of the National Accounts Committee, housed by Global Footprint Network. For detail regarding the key aspects of the methodology targeted for future work see Kitze et al. (http://www.brs.ac.uk/uploads/fullpapers/Kitze_et_al_M65.pdf).

Updates to the first edition of Footprint standards are in the works and expected to be released in late 2008. The next step is to establish a certification system for standards-compliant applications.

In 2005, Global Footprint Network launched its “Ten-in-Ten” campaign with the goal of institutionalizing the Ecological Footprint in at least ten key nations by 2015. The aim of this program is to have ecological accounting be given as much weight as economic accounting and for the Ecological Footprint to become as prominent a metric as the Gross Domestic Product (GDP).

(environmentally) Sustainable National Income (eSNI)

by **Roefie Hueting**, Foundation SNI

The need for eSNI

Standard national income (NI) is in politics, newspapers and most economic literature identified with economic growth and economic success. However, according to economic theory economic success can solely mean increase in welfare (the satisfaction of wants derived from our dealings with scarce means). Welfare is dependent on more factors than the production and its growth as measured in NI. Examples are: labour conditions, income distribution, employment, and, of course, the possible uses c.q. environmental functions of our non-human made physical surroundings (the environment). The latter encompasses renewable and nonrenewable resources, including biodiversity and the life support systems of our planet. Humanity is completely dependent on these non-human made environmental functions. Since the use of functions is going more and more at the expense of other functions, environmental functions have become by definition scarce goods, indeed the most fundamental scarce goods humanity disposes of. Loss of one or more vital functions leads to a drop in production (see Figure 1).

In standard economic theory producing is defined as adding value. *This value is added to the non-human made physical surroundings.* Consequently, environmental functions that are indispensable for human life, including production, remain outside the measuring of standard NI. This is logical because water, air, soil, plant and animal species are not produced by humans.

So in view of the widespread perception that NI indicates economic welfare and success and even that production has to grow for financing environmental conservation, we greatly need an NI adapted for environmental losses, alongside the standard NI, in order to counter this wrong perception.

This is the (environmentally) Sustainable National Income (eSNI). The eSNI is the only indicator which (1) is directly comparable with standard NI because it is estimated in accordance with the conventions of the System of National Accounts (SNA), (2) relates the measurable physical environment ('ecology') with subjective preferences (economy) as shown in Figure 2, (3) provides the distance between the actual (NI) and sustainable (eSNI) production level in factor costs and (4) shows the development of this distance in the course of time and thus shows whether or not society is drifting further away from environmental sustainability defined as keeping vital environmental functions available for future generations. Therefore the eSNI is indispensable information for society and policy.

Description

Environmentally SNI in a given year is defined as the maximal attainable production level by which vital environmental functions remain available for future generations, based on the technology available at that year (the OECD has accepted

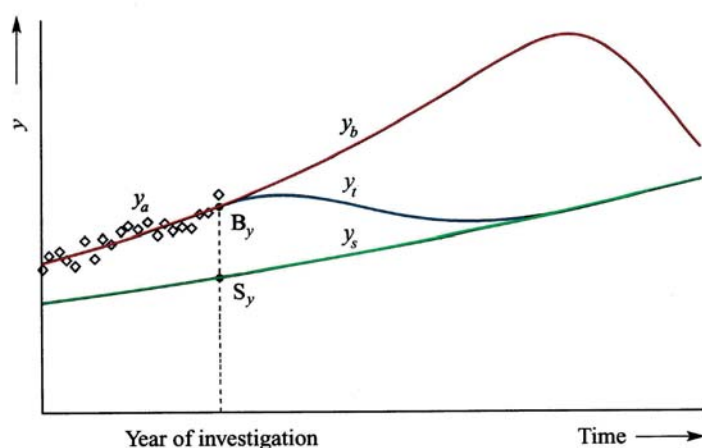


Figure 1 Actual standard national income observations (y_a , fictitious example) compared with the net national income (y) on three optimal paths, calculated with a dynamic environmental economic model. The red path (index b, business as usual) approximates the actual path (index a) by assuming incomplete expression of preferences for the environment. These preferences are assumed to be completely expressed on the sustainable path (index s) and the transition path (index t). The point B_y indicates the level of national income y on path b in the year of investigation; S_y is the corresponding point on the sustainable path s. The path b drops dramatically because of the loss of one or more vital environmental functions, as happened already in some regions (<http://www.millenniumassessment.org/en/condition.aspx>).

this definition <http://stats.oecd.org/glossary/detail.asp?ID=6587>). Thus the eSNI provides information about the distance between the current and a sustainable situation. The length of the period to bridge this distance, that is the transition period towards a sustainable situation, is limited only by the condition that vital environmental functions must not be damaged irreversibly. In combination with the NI, the eSNI indicates whether the part of the production that is based on *unsustainable* use of the environment is increasing or decreasing. Because of the precautionary principle, future technological progress is not anticipated in the calculation of eSNI. When constructing a time series of eSNI's, technological progress is measured after the event on the basis of the development of the distance between the eSNI and standard NI over the course of time. When this distance increases, society is drifting farther away from environmental sustainability, and vice versa.

In our physical surroundings, a great number of possible uses can be distinguished, which are essential for production, consumption, breathing, et cetera, and thus for human existence: environmental functions, or in short: functions. As long as the use of a function does not hamper the use of an other or the same function, so as long as environmental functions are not scarce, an insufficiency of labour, that is intellect or technology, is the sole factor limiting production growth, as measured in standard NI. As soon as one use of a function is at the expense of another or the same function (by excessive use), though, or threatens to be so in the future, a second limiting factor is introduced. The emergence of competition between functions marks a juncture at which functions start to fall short of meeting existing wants. Competing functions are by definition scarce and consequently economic goods. In a situation of severe competition between functions, in which we live today, labour is not only reducing scarcity, and thus causing a positive effect on our satisfaction of wants (welfare), but it is also increasing scarcity, thus causing a negative effect on welfare. The same holds for consumption. So today production not only adds value (viz. goods for consumption) but also nullifies value (by damaging environmental functions). Examples of competing functions are: the function 'air, water and soil as dumping ground for waste' with functions like 'air for physiological functioning', 'drinking water' and 'soil for raising crops'; the functions

'space for growing food crops' and 'space for natural ecosystems such as forests' with the function 'space for growing bio-fuel crops'; the function 'regulating the water flow of e.g. forests' (that prevents flooding) with the function 'forests for harvesting wood'.

The availability of functions, or, in terms of the SNA, their volume, decreases from 'infinite' (abundant with respect to existing wants) to finite, that is falling short. As a result, the shadow price of environmental functions rises, and with it their value, defined as price times quantity, from zero to an ever-higher positive value. *This rise in value reflects a rise in costs.* To determine the extent of the loss of function, we must know the value of the function. Since environmental functions are collective goods that are not traded on the market, supply and demand curves have to be constructed. Without data on both preferences as well as on opportunity costs, determination of value is impossible.

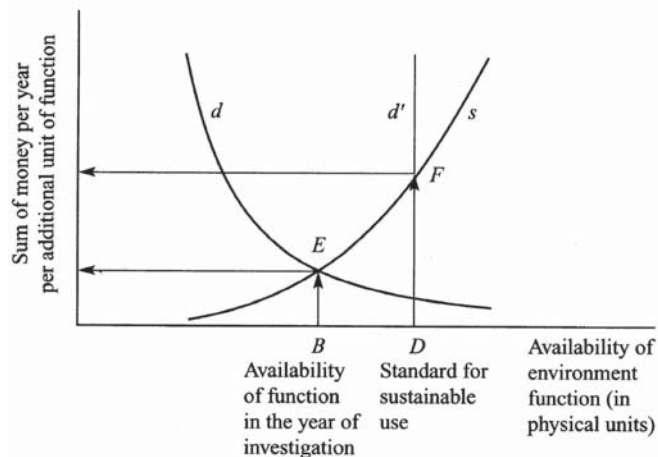
The estimated costs of measures necessary to restore functions, that rise progressively per unit of function restored, can be seen as a supply curve, because the measures supply the availability of functions. We call this the cost-effectiveness curve or the elimination cost curve, because it refers to measures that eliminate the pressure on the environment. Except in the case of irreparable damage, this curve can always be constructed. The measures consist of technological measures, stimulating direct shifts such as from private car to bicycle and stimulating birth control. For non-renewables elimination measures take the form of developing and bringing into practice alternatives such as solar for fossil fuels.

Preferences for environmental functions, on the contrary, can only partially be determined, since these can be expressed only very partially via the market, while willingness to pay techniques cannot yield reliable data precisely for vital functions. Their expression via the market and budget mechanism is blocked by so called blockages or barriers (www.sni-hueting.info). Therefore it is not possible to construct a complete demand curve. In order to provide the necessary information, assumptions about preferences have to be made. In the physical environment these assumptions take the form of physical standards. See Figure 2. It follows from the previous sentences that (1) these standards have to be clearly distinguished from whether or not people are willing to at-

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tain them and (2) they contain *information* and are by no means actual political target setting.

Figure 2 Translation of costs in physical units into



costs in monetary units: s = supply curve or marginal elimination cost curve; d = incomplete demand curve or marginal benefit curve based on individual preferences (revealed from expenditures on compensation of functions, on restoration of physical damage due to loss of function e.g. the 'hydrological regulation' function resulting in erosion, and so on); d' = 'demand curve' based on assumed preferences for sustainability; BD = distance that must be bridged in order to arrive at sustainable use of environmental functions; area $BEFD$ = total costs of the loss functions, expressed in money; the arrows indicate the way via which the loss of environmental functions recorded in physical units is translated into monetary units.

One possible assumption is prevailing preferences for sustainable use of vital environmental functions, which takes the form of a rectangular, curve d' in Figure 2. This assumption is legitimate because governments and institutions all over the world have stated support for this.

The cost-effectiveness calculations and the standards are input in an economic model that has as output among other things the level of eSNI and the prices of products in a sustainable situation, with strongly changed price ratio's between environment burdening (much higher real prices) and less burdening products (about the same real prices).

A first rough estimate of the eSNI for the world in 1991 by Tinbergen and Hueting arrives at fifty percent of the production level of the world: the world income (www.sni-hueting.info). Estimates for The Netherlands by a co-operation of Statistics Netherlands, the Institute of Environmental Studies and the Netherlands Environmental Assessment Agency also arrived at about fifty

percent of the production level or national income (www.sni-hueting.info).

This corresponds with the production level in the early seventies. Consequently our production level is two times higher than the level that can be sustained for future generations. In the period 1990-2000 the distance between NI and eSNI increased by thirteen billion euro. (<http://ivm5.ivm.vu.nl/sat/?chap=14>)

History

The concept of eSNI has been designed by dr. Roefie Hueting and has been worked on since the mid 1960's, since 1990 together with ir. Bart de Boer. Central in the theory is the concept of environmental function. A difficult problem has been to establish the value of these functions and consequently the costs of their loss in order to arrive at an NI adapted for loss of environmental functions. In his cum laude dissertation *New Scarcity and Economic Growth* (1974) and later publications Hueting arrives at the conclusion that this problem is insolvable, that consequently the correct prices of market goods are equally unknowable, but that the indispensable information for policy weighing can be given on the basis of estimates of factor costs and making assumptions about preferences. This 'solution' of the valuation problem holds true and is applicable for both not in GDP recorded environmental losses and other shortcomings of GDP. It is widely accepted, never disputed and can for instance be found in the article that he wrote together with Nobelist Jan Tinbergen for the Rio conference in 1992: 'GNP and market prices: wrong signals for sustainable economic success that mask environmental destruction' (Tinbergen is one of the founders of the GNP/GDP indicator in the 1930's and has strongly supported Hueting's efforts to estimate a figure *alongside* the GDP, right from the start in the mid 1960's).

The work on eSNI received the Global 500 Award, the royal honour Officer in the Orde of Oranje Nassau and a nomination by Jan Tinbergen for the Sasakawa Prize. International symposia on eSNI were organised at the Royal Academy of Art and Sciences in Amsterdam, by the OECD in Paris and by The World Bank in Washington D.C. At the latter occasion the book 'Economic Growth and Valuation of the Environment: a Debate', dedicated to eSNI and with comments on eSNI by the world's most outstanding environmental economists such as Daly, Pearce and Beckerman, was handed by minister Pronk to WB president Wolfensohn in

2001 (<http://info.worldbank.org/etools/bspan/PresentationView.asp?PID=494&EID=235>). In the SEEA manual of the UN Statistical Office is written: "Much of the initiative to look at an alternative path for the economy rather than a different measure of the economy came from the work of Hueting in the late 1960's and the early 1970's. He introduced the concept of environmental function referred to throughout this manual, explaining how pressure on functions leads to scarcity or competition for these functions (...)." (<http://unstats.un.org/unsd/envaccounting/seea.asp>).

An estimate of eSNI for the world was made in 1991. Estimates of eSNI for The Netherlands are made for the years 1990, 1995 and 2000. A multidisciplinary team of biologists, chemists, physicists, electrical engineers and economists worked for nearly forty years on the eSNI and the environmental statistics it is based on.

Future

Plans are elaborated in notes for (1) model improvements, (2) the set up of, among other things, defining the measures and estimating their costs to arrive at sustainable use of soil that prevents erosion, one of the serious problems in developing countries and (3) eSNI estimates in other countries e.g. Germany and some developing countries. Representatives of The World Bank and the OECD have insisted on this. Although the Dutch Parliament has asked for funding this and the Dutch government has promised to do so, subsidies have not been granted. The theory and elaboration of the eSNI has received international scientific recognition. It is the eldest and most complete environmental indicator as follows from e.g. the four points mentioned in the Section 'Need'. It provides information not given by any other indicator. However, because of lack of funding further development of the eSNI is hardly possible. Hopefully the European Union will help to change this situation.

EU set of Sustainable Development Indicators (SDIs)

by **Laure Ledoux**, European Commission, Eurostat

The need for a European set of SDIs

The renewed sustainable development strategy identifies seven key challenges which are seen as threats to achieving the overall long-term objective of improving the quality of life and well-being on earth for present and future generations. While it could be argued that there is some interest in having an aggregated measure of well-being, it is also important to measure the different elements that influence it over time, as they are not perfectly substitutable. Through identifying key challenges to sustainable development, the strategy implicitly identifies what are these key influences on well-being and the threats to long term development. The EU set of sustainable development indicators (SDIs) is designed to monitor the related objectives and targets.

Measuring progress towards objectives and targets is an integral part of the renewed strategy. Eurostat is foreseen to produce a monitoring report every second year, based on the EU set of SDIs, which underpins the European Commission progress report.

Historical context

In 1996, the United Nations Commission on Sustainable Development (UNCSD) proposed a list of indicators, linked to the thematic chapters of Agenda 21, to be tested, developed and used by governments. Eurostat contributed to the international testing phase and issued two publications drawing from the UN list of indicators.

Following the adoption of the EU sustainable development strategy in Gothenburg in June 2001, a task force was established to develop a common response from the European statistical system to the need for indicators on sustainable development. The Commission endorsed a first set of 155 indicators based on this work in February 2005. Some 98 indicators from this list formed the basis of the first monitoring report published by Eurostat in December 2005. Upon the expiry of the mandate of the task force at the end of 2005, a working group on sustainable development indicators (SDIs) was set up, composed of both statistical and policy representatives at national and EU levels. Following the mandate of the renewed strategy, the review of this first set was carried out by the Commission in close co-operation with the working group on SDIs, with the objective of adapting the 2005 SDI set to the renewed strategy, taking into account recent statistical developments.

Description of the reviewed SDI set

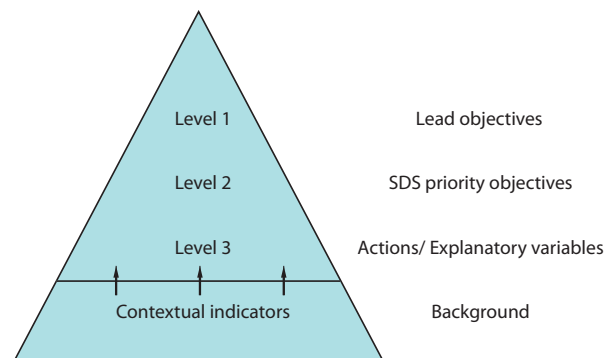
The purpose of the SDI set, as seen in the strategy, is to ensure an adequate assessment of progress with regard to each particular challenge. The reviewed set therefore specifically aims at measuring progress towards the objectives and targets of the sustainable development strategy.

The SDI framework is based on ten themes, reflecting the seven key challenges of the strategy, as well as the key objective of economic prosperity, and guiding principles related to good governance. The themes follow a general gradient from the economic, to the social, and then to the environmental and institutional dimensions. They are further divided into subthemes to organise the set in a way that reflects the operational objectives and actions of the sustainable development strategy (see table 1).

The reviewed set of SDIs retains the three-storey pyramid structure of the 2005 set. This distinction between the three levels of indicators reflects the structure of the renewed strategy (overall objectives, operational objectives, actions) and also responds to different kinds of user needs, with the headline indicators having the highest communication value (see figure 1). The three-levels are complemented with contextual indicators, which do not monitor directly the strategy's objectives, but provide valuable background information for the analysis.

The SDI set also describes indicators which are not yet fully developed but which would be necessary to get a more complete picture of progress, differentiating between indicators that are expected to become available within two years, with sufficient quality ('indicators under development'), and those to be developed in the longer term ('indicators to be developed').

Figure 1: The SDI pyramid



Current success and key challenges

National sets of sustainable development indicators in EU Member States and the rest of the world may differ from the EU SDI set, reflecting different policy priorities, and different levels of availability of statistics. There is however some added value in measuring the same objectives with the same indicators to allow for meaningful cross-country comparisons. The EU SDI set is already guiding this convergence process to a certain extent.

The Eurostat monitoring report provides a factual analysis of progress focusing on trends and distances to targets (figure 2). Evaluation is based on quantitative rules applied consistently across indicators, and visualised through weather symbols that illustrate whether changes are favourable in the context of sustainable development objectives (figure 3).

The first progress report on the sustainable development strategy has used sustainable development indicators extensively, demonstrating the usefulness of factual and objective assessment as a background for policy analysis. The combination of a policy relevant set of indicators with rigorous analysis based on independent statistics is key in this context.

Table 1: Themes, Sub-themes and headline indicators

THEMES	SUB-THEMES				HEADLINE INDICATORS
Socio-economic development	Economic development	Innovation, competitiveness, and eco-efficiency	Employment		Growth rate of GDP per inhabitant
Sustainable consumption and production	Resource use and waste	Consumption patterns	Production patterns		Resource productivity
Social inclusion	Monetary poverty and living conditions	Access to labour market	Education		At-risk-of-poverty rate after social transfers
Demographic changes	Demography	Old-age income adequacy	Public Finance sustainability		Employment rate of older workers
Public health	Health and health inequalities	Determinants of health			Healthy life years and life expectancy at birth, by gender
Climate change and energy	Climate change	Energy			Greenhouse gas emissions Consumption of renewables
Sustainable transport	Transport growth	Transport prices	Social and environmental impacts of transport		Energy consumption by transport
Natural resources	Biodiversity	Freshwater resources	Marine ecosystems	Land use	Common Bird Index Fish catches outside safe biological limits
Global partnership	Globalisation of trade	Financing for sustainable development	Global resource management		Official Development Assistance
Good governance	Policy coherence and effectiveness	Openness and participation	Economic instruments		

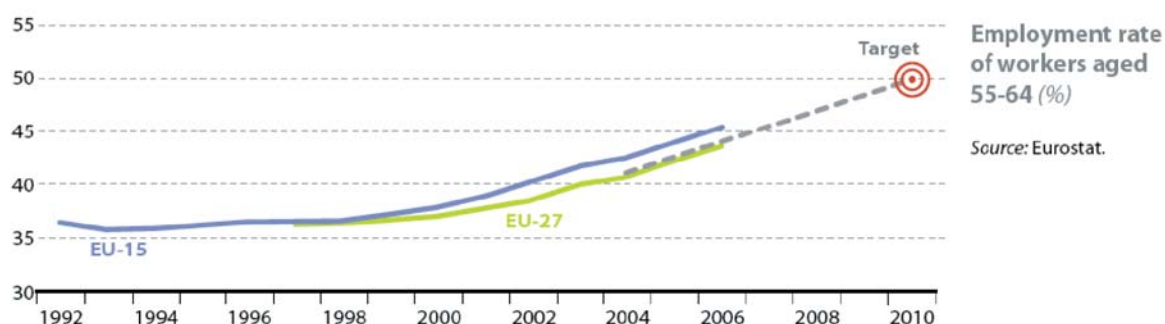
Figure 2:
Example of individual indicator presentation in the 2007 monitoring report

Figure 3: Conclusions table in the 2007 monitoring report
Evaluation of changes in the headline indicators (from 2000)



Legend:	
	favourable change/ on target path
	no or insufficient change
	unfavourable change/ far from target path
:	insufficient data/ EU aggregate not available
1	Evaluation based on EU-15
2	Usual EU aggregates not applicable

SDI theme	Headline indicator	EU-27 evaluation of change
Socioeconomic development	GDP per capita	
Climate change and energy	Greenhouse gas emissions	¹
	Consumption of renewables	
Sustainable transport	Energy consumption of transport	
Sustainable consumption and production	Resource productivity	¹
Natural resources	Common birds	²
	Fish catches	²
Public health	Healthy life years	¹
Social inclusion	Risk of poverty	:
Demographic changes years and over	Employment rate of older workers	
Global partnership	Official development assistance	¹

Future developments

The Commission, with the assistance of the working group on SDIs, is committed to constantly review the situation regarding the development of new and better indicators. This development work will contribute substantially to further improve the homogeneity of the set of indicators.

A joint UNECE/OECD/Eurostat working group on statistics for sustainable development is currently assessing the use of the Capital approach to measure sustainable development, based on the

rationale of maintaining stocks of financial, natural, human, and social capital to preserve opportunities for the well-being of next generations. This should yield useful insights for the selection and interpretation of sustainable development indicators.

In response to current policy needs, Eurostat is also in the process of launching a feasibility study on a well-being indicator, by reviewing the merits and shortcomings of existing approaches and examining the feasibility of selected indicators at EU level.

The Human Development Index (HDI)

by **Amie Gaye**, UNDP Human Development Report Office

Why an alternative measure to Gross Domestic Product (GDP)

Gross Domestic Product (GDP), which is the standard measure of a nation's total economic activity has been a dominant measure of a country's level of development for a long time and was assumed to translate directly into improved human well-being. However, while growth-oriented policies may increase a nation's total wealth, whether or not

growth enhances human development depends on how that growth is generated and used. The economic growth paradigm neglects important aspects of development, such as income inequalities, unemployment, and disparities in access to public goods and services like health and education. For economic growth to enhance human development, it should provide an opportunity to enhance workers' knowledge and skills along with opportunities for their efficient use, provide

better job opportunities and support greater democracy at all levels of decision-making. Thus, the growth paradigm does not capture adequately the multi-dimensionality of development.

What is the Human Development Index (HDI)?

The HDI serves as a frame of reference for both social and economic development. It is a summary measure for monitoring long-term progress in a country's average level of human development in three basic dimensions: a long and healthy life, access to knowledge and a decent standard of living. It sets a minimum and a maximum for each dimension, called goalposts, and shows where each country stands in relation to these goalposts, expressed as a value between 0 and 1.

The life expectancy component of the HDI is calculated using a minimum value for life expectancy of 25 years and maximum value of 85 years. This is because even with HIV/AIDS it is unlikely for life expectancy at birth to fall below 25 years.

The knowledge component of the HDI is measured by adult literacy rates and the combined gross enrolment ratio in primary, secondary and tertiary education, weighted to give adult literacy more importance (two-thirds). While at the national level it is unlikely for any of the knowledge indicators to assume a zero value, at disaggregated levels, it is possible for some population sub-groups to score very low on the indicators. For this reason, the lower end of the goalpost is set at 0 and the upper end at 100 per cent.

For a decent standard of living, which is measured by GDP per capita in purchasing power parity (PPP) US Dollar terms, the goalpost for minimum income is \$100 (PPP) and the maximum is \$40,000 (PPP). GDP per capita is converted into PPP terms to eliminate differences in national price levels in order to make standards of living comparable across countries.

In the calculation of the HDI, a logarithm of income is used to reflect the diminishing importance of income with increasing GDP. This is premised on the belief that people do not need an infinite amount of money for a decent quality of life.

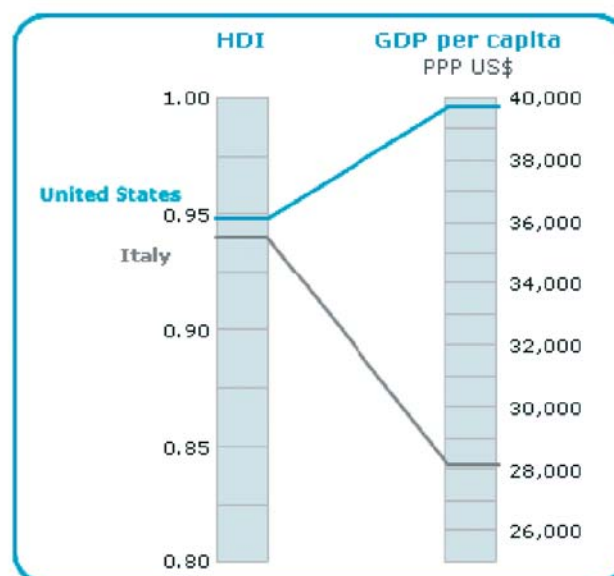
The scores for the three HDI components are then averaged in an overall index. The HDI is currently calculated for 177 countries and areas for which data are available.

While the concept of human development is much broader than this composite measure, the HDI offers a powerful alternative to GDP as a summary measure of human well-being. It provides a useful entry point into other rich information contained in the indicator tables covering a wide range of human development issues presented each year in the Human Development Reports.

What the HDI reveals

The HDI reveals that some countries do better on human development with relatively low GDPs per capita. For example, Italy's GDP per capita is only about two-thirds of that of the United States but the two countries have similar HDI values (see Figure 1).

Figure 1: GDP vs. HDI; comparing Italy and USA



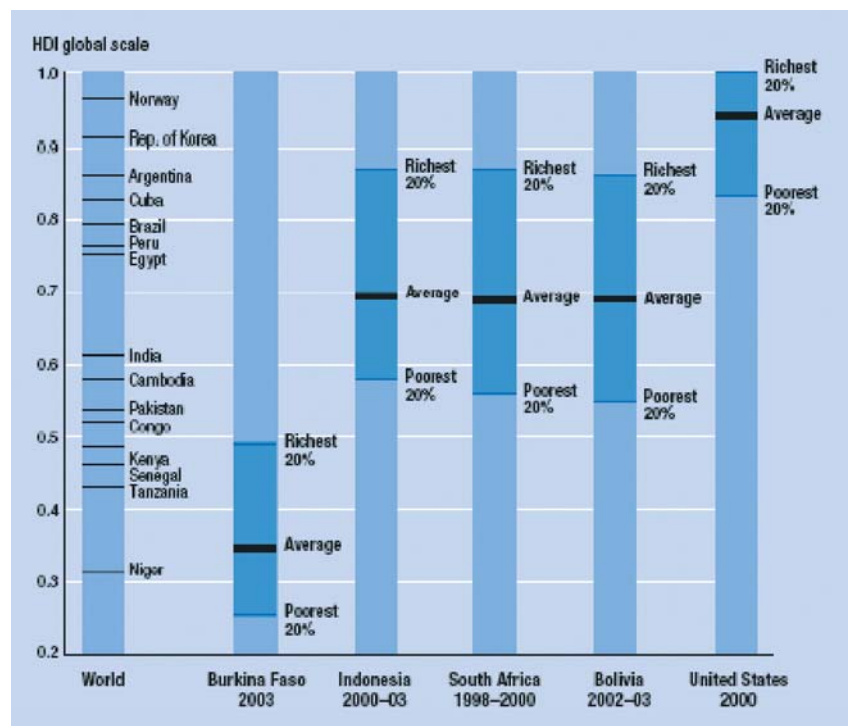
Source: HDRO web site <http://hdr.undp.org>

Disaggregating the HDI by income quintiles for countries for which representative data are available is also revealing. For instance, the gap between the value for the richest 20 per cent and the poorest 20 per cent of households in the United States is about 17 per cent. This is similar to the gap between average HDIs for the United States and Cuba respectively.

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In other words, while the richest 20 per cent in the United States would be at the top of the HDI league table, the poorest 20 per cent would be at the same human development level as people living in Cuba (see Figure 2).

Figure 2: Human development index by income groups



Source: 2006 Human Development Report

The variation in HDI value marked by unequal opportunities and capabilities calls for public policies aimed at equalizing opportunities and choices. Apart from the moral imperative to overcome extreme inequalities in income, access to education and health, inequalities pose a threat to national and global securities.

History of the human development concept

For decades, the economic growth paradigm dominated the national development discourse. However, in the 1980s unemployment levels escalated; and access to social services deteriorated in many countries including some industrialised countries while at the same time, economic production was expanding. In other words, high rates of economic growth did not automatically translate into improved human well-being. During the same period, some countries were registering improvement in human well-being with modest economic growth. These raised questions around

the nature, distribution and quality of economic growth. It became clear that economic growth alone is not an adequate yardstick for a country's level of development. The need for a conceptual shift and alternative policy options that create a balance between economic growth and protection of the interest of poor and marginalised members of society became imperative.

The HDI, which was introduced in the first Human Development Report published in 1990, was a response to this demand. The idea of a composite index that measures socio-economic progress was conceived by Mahbub ul Haq a renowned economist, whose vision was to come up with one measure which is as crude as the GDP, but "not as blind to social aspects of human lives as the GNP is".

Limitations of the HDI

Like any other composite index, the HDI suffers a limitation of not capturing all the different dimensions of human development. Data availability poses a major challenge to capturing other important dimensions of human development such as political freedom, environmental sustainability and degree of people's self respect.

Secondly, the HDI is not designed to assess progress in human development over a short-term period because some of its component indicators are not responsive to short-term policy changes. Thus, the index partially measures past achievements as the components are made up of both stock and flow variables.

Future Possibilities

Since its introduction in 1990, the HDI's analytical framework, methodology and data have been subjected to rigorous scrutiny. Some of the major criticisms have led to major refinements of the methodology and component indicators but the index continues to evolve. For example, the HDI by income groups, calculated for 15 countries (13 developing and 2 developed) with data and published in the 2006 HDR, points to a need for bringing out inequalities in HDI for evidence-based planning. This is one area that the HDRO

would like to extend to as many countries as data availability would allow.

Another future plan is to construct a separate HDI for women and for men to better present gender inequalities in human development. But this depends on reliable data on income for women and for men.

There are also discussions around capturing the environment dimension of human development either as part of the HDI or as a new index. However, these discussions are at a very early stage and data availability will inform any the final decision.

Index of Individual Living Conditions

by **Heinz Herbert Noll**, GESIS, Social Indicators Research Centre

The Index of Individual Living Conditions

The Index of Individual Living Conditions presented as part of the European System of Social Indicators (EUSI) is a composite index aiming to give a summary view of the quality of living conditions in a single measure. The Index allows to easily and unequivocally assess the living conditions of a population – which are multi-dimensional by nature – and to compare them across countries and across time. It measures progress in the improvement of living conditions of the European citizens beyond GDP. Since this index, contrary to others, is based on microdata on personal and household level, the Living Conditions Index can be broken further down and thus allows to compare the situation of subgroups (e.g. age groups, men and women, educational level) within a population.

Composition of the Index of Individual Living Conditions

The Living Conditions Index is supposed to condense and simplify the complexity of information provided by the multitude of single indicators in the European System of Social Indicators addressing the various dimensions of living conditions comprehensively. In order to present a representative measure of individual living conditions, the index is calculated as the mean score of seven subindices, all ranging from 1 to 5: Income and standard of living, housing, housing area, education, health, social relations and work. The Living Conditions Index thus also varies between 1 (worst) and 5 (best). Up to now, the calculation of the index is based on the

data from the European Community Household Panel Study, which was established in 1995 and discontinued in 2001. However, the variables used to calculate the Individual Living Conditions Index have been selected with a view to be included into the EUSILC – the follow-up database to the ECHP – as well. Thus, depending on the availability and accessibility of the EU-SILC microdata sets, the index will be updated for years beyond 2001 and will also be calculated for EU member states not represented in the ECHP.

Development of Living Conditions in EU -Countries

The index currently allows to monitor the development of average individual living conditions for a number of EU member countries for the period from 1995 to 2001. Chart 1 shows the generally high level of living conditions in Europe (with scores between 3.4 in Portugal and 4.1 in Denmark), but also the discrepancy between northern and southern countries of Europe. The development across time displays a general slight improvement of living conditions, while the distance between the countries has decreased only marginally. As soon as the Living Conditions Index can be calculated on the basis of the EU-SILC data, the scope can be extended to all 27 EU member countries, which allows to monitor and assess the whole range of living conditions in Europe, i.e. not only differences between northern and southern, but also between eastern and western countries. Also, the change over time, including processes of convergence and divergence, and the success of EU cohesion policies can be further monitored and assessed.

Chart 1: Individual Living Conditions Index 1995-2001

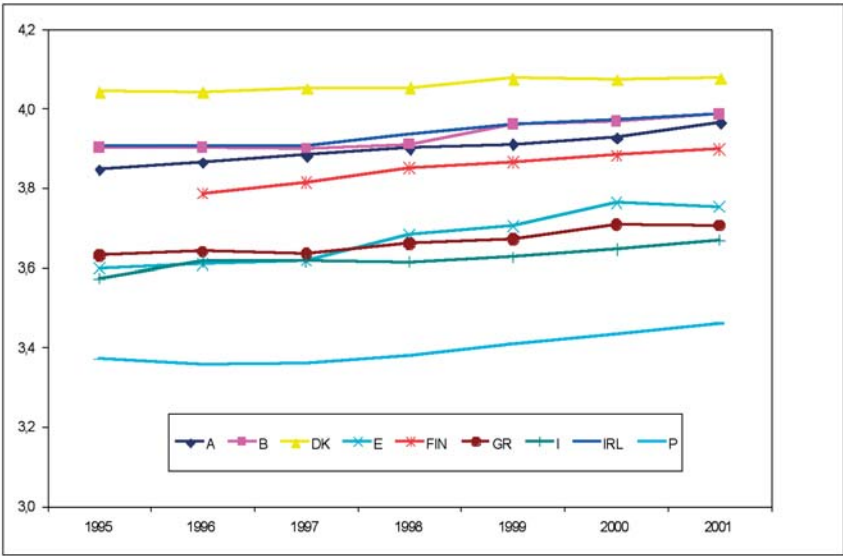
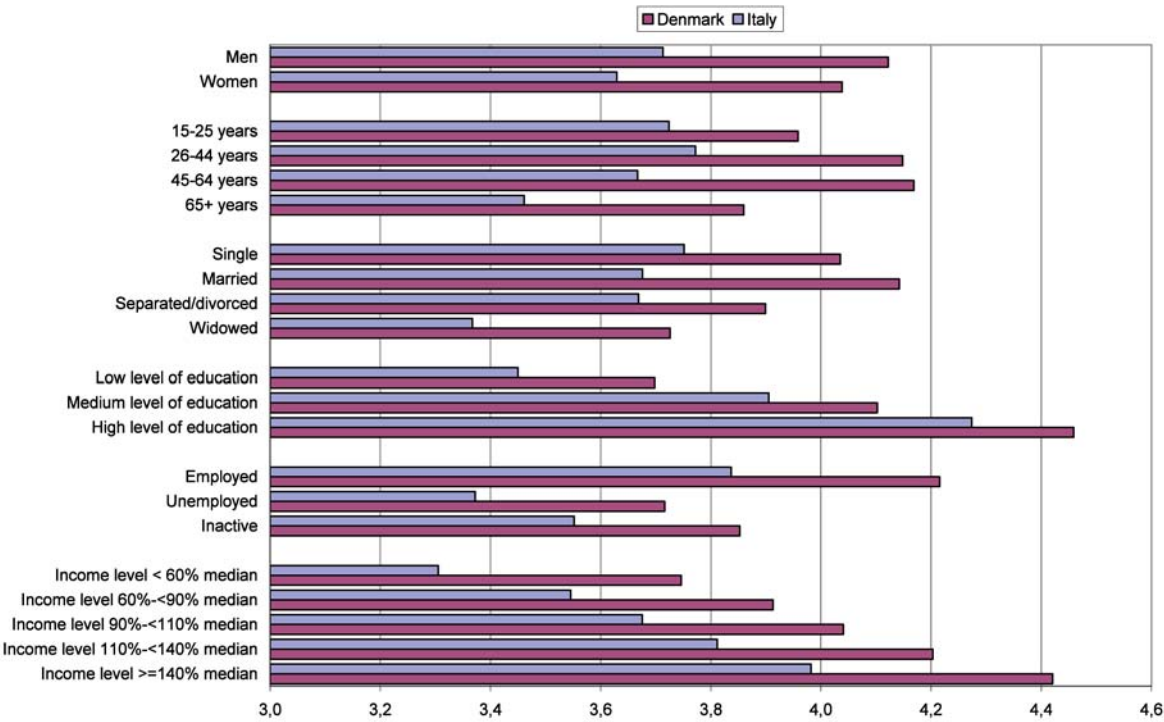


Chart 2 presents the index values for two countries, Italy and Denmark, in 2001, but broken down by a few socio-demographic characteristics. The possibility to do this is a major advantage of an index based on individual survey data. The chart shows very clearly that living conditions overall turn out to be better in Denmark, but the patterns of group differences in living conditions

are pretty similar in both countries: In Denmark and in Italy the better educated and higher income groups are also enjoying better general living conditions than less educated and poorer people, the employed are better off than the unemployed or inactive, the middle aged are better off than the young and the elderly or the divorced and widowed are worse off than the married or

Chart 2: Index of Individual Living Conditions: Denmark and Italy, 2001



singles. Overall the figures seem to indicate that the index brings about plausible and reliable results. Of course one could also do all kinds of statistical analyses, e.g. calculations of correlations or regressions, which is another major advantage of an index based on individual survey data, like the Individual Living Conditions Index.

The European System of Social Indicators

The Index of Individual Living Condition is an integrated part of the European System of Social Indicators. Within this system it is considered as a summary measure of the objective living conditions for life as a total. The European System of Social Indicators has initially been developed as an EU-funded project (EuReporting) within the TSER program and was then institutionalised as part of the German Social Science Infrastructure Services (GESIS).

The European System of Social Indicators has been developed with a view to be used to continuously monitor and analyse quality of life, social cohesion and sustainability as well as changes in the social structure of European societies and the European Union. Since it is supposed to be a concept driven system, the selection of indicators is based on a conceptual framework that distinguishes eight principal dimensions of welfare measurement and general social change and covers 13 life domains:

- Population, Households and Families
- Transport
- Leisure, Media and Culture
- Social and Political Participation and Integration
- Income, Standard of Living, and Consumption Patterns
- Education and Vocational Training
- Health
- Housing
- Labour Market and Working Conditions
- Social Security
- Public Safety and Crime
- Environment
- Total Life Situation

The indicators system provides time series data for more than 30 nations: the EU member states, Switzerland, Norway, as well as Japan and the United States as two major reference societies. The primary focus of the indicators system is

however defined by the member states of the European Union. Depending on data availability time series start at best at the beginning of the 1980s. Most of the indicators time-series are broken down by various sociodemographic variables. Also regional disaggregations at the NUTS-1 level are being offered whenever possible and meaningful. At its present stage the European System of Social Indicators offers time-series data for more than 600 indicators from 9 out of the projected 13 life-domains. The system will subsequently be completed and continuously be updated.

The European System of Social Indicators is based on data sources ensuring the best possible level of comparability across countries and time. The data sources used include international aggregate official data, e.g. from Eurostat, the OECD or the WHO, as well as microdata from crossnational surveys, e.g. from the European Community Household Panel (ECHP), the European Social Survey (ESS), the Eurobarometer studies or the International Social Survey Programme (ISSP). To some extent, the indicator system reverts to national data, too.

The European System of Social Indicators addresses social scientists, policy makers at the national and the supranational level, university and school teachers, students as well as journalists. The database is considered to be particularly useful for all kinds of comparative research on the development of quality of life, social cohesion, sustainability, social structures and value orientations within and across the countries covered. Moreover, the European System of Social Indicators constitutes an important database for the policy making processes as a tool to monitor progress in the achievement of national and international policy goals.

For more information see:

www.gesis.org/eusi

Genuine Progress Indicator (GPI)

by **John Talberth**, Redefining Progress

Sustainable Development and the Genuine Progress Indicator

An updated methodology and application in policy settings (http://www.rprogress.org/sustainability_indicators/genuine_progress_indicator.htm)

What is the Genuine Progress Indicator?

During World War II gross domestic product (GDP) accounts were introduced to measure wartime production capacity. Since then, GDP has become the world's most ubiquitous indicator of economic progress. It is widely used by policymakers, economists, international agencies and the media as the primary scorecard of a nation's economic health and wellbeing. Yet, as we know from its creator Simon Kuznets the GDP was never intended for this role. It is merely a gross tally of products and services bought and sold, with no distinctions between transactions that enhance well being and those that diminish it. Instead of distinguishing costs from benefits, productive activities from destructive ones, or sustainable ones from unsustainable ones the GDP simply assumes that every monetary transaction adds to social well-being by definition. In this way, needless expenditures triggered by crime, accidents, toxic waste contamination, preventable natural disasters, prisons and corporate fraud count the same as socially productive investments in housing, education, healthcare, sanitation, or mass transportation. It is as if a business tried to assess its financial condition by simply adding up all "business activity," thereby lumping together income and expenses, assets and liabilities.

Beginning with the seminal work of Daly and Cobb (1989) there have been several attempts to develop alternative national income accounting systems that address these deficiencies. Collectively, these systems measure what is commonly referred to as "green" GDP. Major objectives of these green GDP accounting systems are to provide a more accurate measure of welfare and to gauge whether or not an economy is on a sustainable time path. Two of the most popular green GDP systems are the Index of Sustainable Economic Welfare (ISEW) and the Genuine Progress Indicator (GPI). While methodologies differ somewhat, the ISEW, GPI, and

other green GDP accounting systems all involve three basic steps. Computation usually begins with estimates of personal consumption expenditures, which are weighted by an index of inequality in the distribution of income to reflect the social costs of inequality and diminishing returns to income received by the wealthy. Additions are made to account for the non-market benefits associated with volunteer time, housework, parenting, and other socially productive time uses as well as services from both household capital and public infrastructure. Deductions are then made to account for purely defensive expenditures such as pollution related costs or the costs of automobile accidents as well as costs that reflect the undesirable side effects of economic progress. Deductions for costs associated with degradation and depletion of natural capital incurred by existing and future generations are also made at this stage. Table 1 provides a line by line summary of these adjustments in 2004 for the U.S. GPI, the latest year for which data are available. By making these adjustments, the GPI corrects the deficiencies of GDP by incorporating aspects of the non-monetized or non-market economy, separating welfare enhancing benefits from welfare detracting costs, correcting for the unequal distribution of income, and distinguishing between sustainable and unsustainable forms of consumption.

What Improvements Were Made in 2006?

The GPI 2006 Update makes a number of improvements and additions to the basic GPI methodology first developed in the late 1990s. These improvements can be grouped under two broad headings: new data sources and new calculations. Examples of new data sources include the Bureau of Labor Statistics' American Time Use Surveys (ATUS) in 2003 and 2004. The new ATUS data was used to improve our calculations of the value of housework, parenting, and volunteering. As another example, we incorporated new research from the U.S. Forest Service on logging related erosion and deforestation. We also used new data as well as new valuation studies to assign costs to farmland, wetland, and forest losses.

The GPI 2006 update also includes calculations that did not appear in our previous GPI publications. One

calculation is the non-market benefits associated with higher education – benefits that amount to \$16,000 per year per college educated worker. We expanded our deforestation estimates to include economic damages associated with loss of roadless areas, ancient forests in the Pacific Northwest and Alaska, and loss of loblolly pine forests in the Southeast. We also added carbon emissions damage to reflect the ever-increasing costs of global warming. A complete column by column explanation of these improvements appears in the full report.

Key Results from the 2006 Update

Figure 1 shows GPI account trends for the 1950 – 2004 period. The results are alarming. While per capita GDP has risen dramatically – from \$11,672 in 1950 to \$36,595 today, per capita GPI has stagnated in the \$14,000-\$15,000 range since the late 1970s. This implies that since the late 1970s, the benefits of economic growth have been entirely offset by rising inequality, deteriorating environmental conditions, and a decline in the quality of our lives. Key findings of our 2006 update include:

- Drought, floods, sea level rise, and severe storms exacerbated by global warming are taking their toll on the U.S. economy. Conservatively, we estimate the costs of our carbon emissions on existing and future generations to be just over \$1 trillion per year.
- Income inequality is at its greatest level since 1950. The income distribution index – which measures income inequality – increased by 20% since 1968, the year the nation's income was distributed most equitably. When growth is concentrated in the wealthiest income brackets it counts less towards improving overall economic welfare because the social benefits of increases in conspicuous consumption by the wealthy are less beneficial than increases in spending by those least well off. So a dollar of economic growth today counts far less than it did when our income distribution was more equitable.
- Urban sprawl gobbles up prime farmland, increases commute times, exacerbates urban air, water, and noise pollution, and increases accident rates. We estimate the costs of urban sprawl to be over \$1.1 trillion each year.
- Globalization has exported America's vast manufacturing infrastructure overseas and with it a source of productive investments. As a result, an increasing share of foreign investment in the U.S. today is used to finance consumer debt and government spending for tax breaks and the wars in Iraq and Afghanistan. This puts us in the position of being a net borrower. Net borrowing today is a record \$254 billion, a cost overlooked by GDP.
- The GDP counts all \$600 billion plus spent on wars each year as a benefit – despite the fact that over half of all Americans disapprove of the war and decry its daily toll on American families, our long term security, the environment, Iraqi and Afghanistan societies, and our international reputation. The GPI recognizes that this spending is defensive – at best it helps maintain the status quo, at worst, it is a liability on our future. In any case, it should not be counted towards progress.
- The increase in the number of college graduates in the population is increasingly paying off in the form of many non-market benefits such as increases in the stock of knowledge, worker productivity, civic participation, job market efficiency, savings, research and development activities, charitable giving, and health. These benefits amount to roughly \$828 billion each year.
- Volunteerism is on the rise, and represents some of the most valuable work performed in our country. The GPI estimates the value of volunteer work in America to be over \$130 billion. On a per capita basis, the value of work performed by churches and synagogues, civic associations, neighborhood groups, and non-profits rose from \$202 in 1950 to \$447 today, implying that over the past few decades, Americans have become more generous with their time.

Towards National Programs on Genuine Progress Accounts

RP is seeking government and NGO partners to launch national level Programs on Genuine Progress Accounts to make GPI a regular component of national and sub-national economic performance measurement, program and project assessment, higher education curricula, and economic media coverage. National and sub-

national GPI accounts would be supported by ongoing non-market valuation studies coordinated at major universities and NGO institutes. While national level leadership is important, as with climate change, it may well be that local government leadership will be the key driver of change. Thus, we seek partners who can help develop GPI adaptations at the local level and demonstrate GPI's relevance in multiple policy settings such as debates over land use, taxes, living wages, and localization.

Figure 1: GPI vs. GDP Time Trends

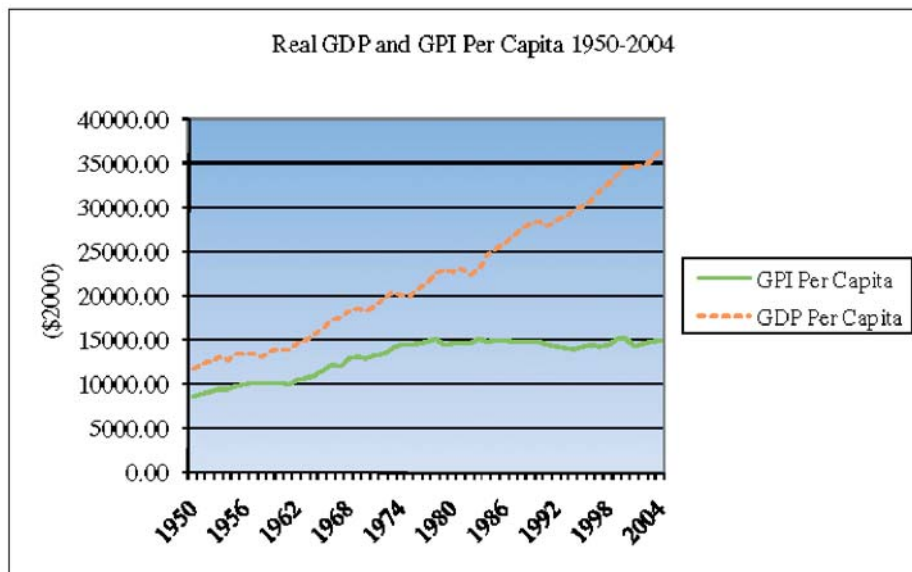


Table 1: U.S. GPI Contributions and Deductions (2004)

Contributions		Amount (Billions)
Personal consumption expenditures		\$ 7,588.60
Weighted personal consumption expenditures (adjusted for inequality)	+	6,318.41
Value of housework and parenting	+	2,542.16
Value of higher education	+	827.98
Value of volunteer work	+	131.30
Services of consumer durables	+	743.72
Services of streets and highways	+	111.55
Net capital investment (positive in 2004, so included in contributions)	+	388.80
Total positive contributions to the GPI:		\$ 11,063.92
Deductions		Amount (Billions)
Cost of crime	-	\$ 34.22
Loss of leisure time	-	401.92
Costs of unemployment and underemployment	-	176.96
Cost of consumer durable purchases	-	1,089.91
Cost of commuting	-	522.61
Cost of household pollution abatement	-	21.26
Cost of auto accidents	-	175.18
Cost of water pollution	-	119.72
Cost of air pollution	-	40.05
Cost of noise pollution	-	18.21
Loss of wetlands	-	53.26
Loss of farmland	-	263.86
Loss of primary forest cover	-	50.64
Depletion of non-renewable resources	-	1,761.27
Carbon emissions damage	-	1,182.82
Cost of ozone depletion	-	478.92
Net foreign borrowing (positive in 2004, so included in deductions)	-	254.02
Total negative deductions to the GPI:		\$ 6,644.83
Genuine Progress Indicator 2004		\$ 4,419.09
Gross Domestic Product 2004		\$ 10,760.00

Happy Life Years (HLY)

by **Ruut Veenhoven**, Erasmus University Rotterdam, The Netherlands

Need for a measure of quality of life in nations

How to assess how well a nation is doing? One way is to look at the quality-of-life of the people who live there. This view is gaining prominence, both among policy makers and the general public. This begs the question what quality-of-life is precisely and how that can be measured comprehensively.

Assumed quality-of-life

Quality-of-life in nations is commonly measured by taking stock of conditions that are believed to make for a better life, such as economic affluence, full employment and education. Measures of such conditions are added in an index, like the Human Development Index (HDI) or the Index of Social Progress (ISP).

Items in such indexes are typically things that are on the political agenda and as such these indexes inform about progress on the way chosen. Yet these indexes do not tell us whether we are on the right track, that is, whether these policy achievements really improved the lives of citizens. Still another problem is that such measures typically assume that more is better and do not inform us about an optimum, e.g. how many years of education is optimal for a good life.

Apparent quality of life

Another approach is to assess how well people thrive in a society. The focus is then on the outcomes of life, rather than on the preconditions. How well an organism thrives is typically reflected in its lifetime. In higher animals, thriving reflects also in affective experience and humans are moreover able to estimate how well they have felt over longer periods of time.

These estimates of how we feel most of the time are at the basis of the appraisal of how happy we are. Hence in the case of humans, thriving reflects both in how long and how happy they live.

Measure of Happy Life Years

How can we assess how long and happy people live in a country? This can be done combining data on average happiness assessed in surveys of the general population with data on longevity taken from civil registration.

Happiness

Happiness is how much one likes the life one lives. Since this is something people have in mind, it can be measured using single direct questions. An example of a survey question on happiness is:

Taking all together, how satisfied or dissatisfied are you currently with your life as a whole?

1	2	3	4	5	6	7	8	9	10
Dissatisfied					Satisfied				

Longevity

How long people will live in a country can be estimated on the basis of longevity of people who have passed away. Statisticians call this life expectancy.

Happy Life Years = Life expectancy at birth x 0-1 happiness

Suppose that life expectancy in a country is 60 years. If everybody were perfectly happy in that country (average score 10), people would live 60 Happy Life Years in that country. If the average score is 5 the number of Happy Life Years is obviously lower, in this case $60 \times 0,5 = 30$. If life expectancy is also 60 years but average happiness 8, the number of happy life years is 48 ($60 \times 0,8$).

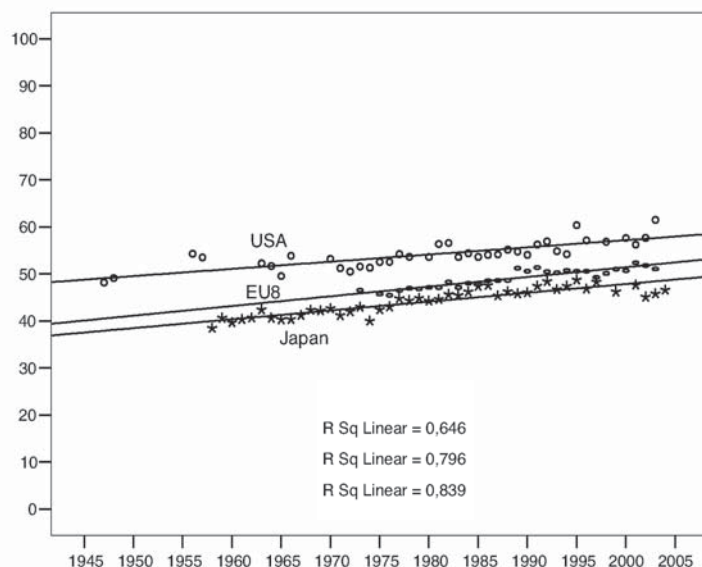
Large differences in Happy Life Years across nations

Theoretically, this indicator has a broad variation; HLY is zero if nobody can live in the country, and will be endless if society is ideal and its inhabitants immortal. The practical range is about 50 years, the highest number of Happy Life Years is observed in Switzerland (63.9) and the lowest in Zimbabwe (11.5).

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Gains in Happy Life Years over time in EU8, Japan and the USA

Happiness has risen in slightly in most developed nations since the second half of the 20th century and life-expectancy has grown substantially. As a result, the number of Happy Life Years has grown remarkably.



Trend lines for 16 nation available at:
http://worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/TrendReport2007-2.pdf

Happy Life Years sensitive for things that policy makers can improve

There is a system in the differences in Happy Life Years across nations. About two-third of the large differences in HLY across nations can be explained by societal variation in economic affluence, freedom, equality, brotherhood and justice. The table below presents correlations with indicators of these matters.

All variables in the table are things over which policy makers have some control. So the data leave no doubt that policy matters for final quality of life and also indicate what matters most. Economic affluence still stands out as a mayor factor, but 'tolerance' and 'rule of law' appear to be quite important as well.

Yet not everything deemed desirable appears to go with more happy life years. For instance, income-inequality rather appears to be positively related to HLY and social security spending negatively.

This illustrates the above difference between *assumed* quality of life and *apparent* quality of life.

Societal Qualities and Happy-Life-Years in 67 nations in the 1990s

Condition in nation	Correlation with HLY		
	Zero order	Wealth Controlled	N
Wealth			
• Purchasing power per head	+ .73	-	67
Freedom			
• Economic	+ .71	+ .38	64
• Political	+ .53	+ .13	63
• Personal	+ .61	+ .31	45
Equality			
• Inequality in incomes	-.10	+ .37	62
• Discrimination of women	-.46	-.12	51
• Inequality in happiness (SD)	-.64	-.37	54
Brotherhood			
• Tolerance	+ .72	+ .43	55
• Trust in compatriots	+ .20	+ .20	37
• Voluntary work	+ .40	+ .31	53
• Social security	+ .34	-.27	34
Justice			
• Rule of law	+ .65	+ .20	64
• Respect of civil rights	+ .60	+ .20	60
• Corruption	-.73	-.32	40
Explained variance	66%		60

Source: Veenhoven, R. (2005)
Apparent quality of life: How long and happy people live

Happy Life Years in nations in the early 2000s

Top > 60 years		Middle range ± 40 years		Bottom <25 years	
Switzerland	63,9	Philippines	44,1	Moldova	23,7
Denmark	62,7	South Korea	43,8	Uganda	23,3
Iceland	62,2	Iran	41,4	Angola	17,6
Austria	61,0	Hungary	40,0	Tanzania	15,2
Australia	60,7	Morocco	37,9	Zimbabwe	11,5

Full list of 95 nations available at:

http://worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/RankReport2006-2b.htm

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The Happy Planet Index

prepared by **Sam Thompson, Nic Marks, Saamah Abdallah**,
nef (the new economics foundation); **Ed Matthews**, Friends of the Earth UK

nef (the new economics foundation) a London-based think-tank, introduced the Happy Planet Index (HPI) in July 2006 as a means of comparing the progress of nations toward the goal delivering high levels of experienced well-being *within the constraints of equitable and responsible resource consumption*. Independently, at around the same time, the IUCN (The World Conservation Union) called for a metric capable of measuring “the production of human well-being (not necessarily material goods) per unit of extraction from or imposition upon nature” – the HPI does just that. The first HPI report, published by nef, with the support of friends of the earth UK in 2006 covered 178 countries across the globe. A second, in-depth report focusing exclusively on Europe, was released in 2007.

Background

Although GDP is routinely used as a proxy for standard of living, it was never intended to function as one and its founders explicitly cautioned against this interpretation. Two familiar critiques relate to: 1) insensitivity to income distribution, and thus potentially to extreme inequality, within a country; and 2) failure to distinguish expenditure that is incurred in correcting or compensating for undesirable events – both collective (e.g. natural disasters, wars) and personal (e.g. acute health problems, family breakdown).

However, a further two – equally important – limitations of using GDP as a measure of human progress need to be highlighted. Firstly,

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such an interpretation implies that GDP should correlate with experienced well-being at the national level, such that – all else being equal – aggregate experienced well-being will increase as the economy grows. As first shown by Easterlin (1974) and repeatedly since, this is not generally true in practice. GDP thus seems to be flawed as a proxy for *experienced* welfare.

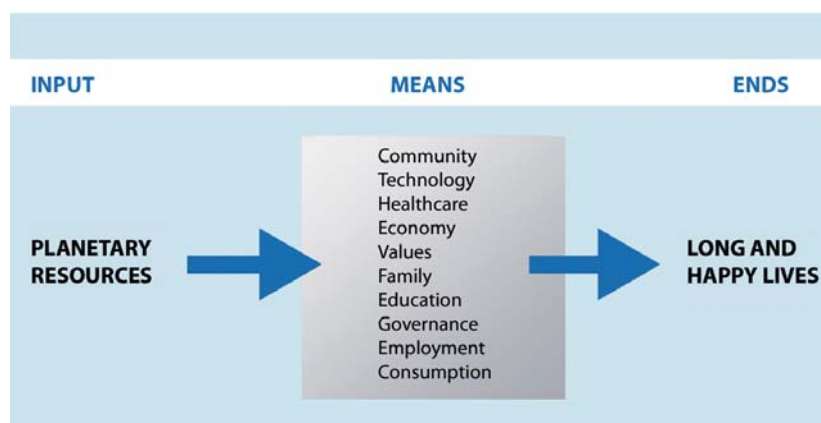
Secondly, GDP doesn't account for the natural environment; there are no internalised costs of environmental damage and pollution and it treats depletion of stocks of natural capital as income. To quote the economist Herman Daly, "it treats the earth as if it were a business in liquidation". In short, GDP is a very poor indicator of *sustainable* welfare.

Most attempts to refine GDP to take better account of both lived experience and sustainability have taken one of two approaches: adjusting and supplementing. In the former, GDP has been adjusted to take account of costs attributable to inequality, environmental damage and expenditure due to negative events, as well as the "hidden" value of unpaid and voluntary work. Probably the best-known example is the *Index of Sustainable Economic Welfare* (ISEW). The second approach has been to use GDP data "as is", but to combine it with explicit welfare measures such as health and education; the most widely-known example is the UN's Human Development Index (HDI).

Both approaches improve on GDP, but neither fully meet the challenge of reflecting both lived experience and environmental sustainability. And, it is increasingly clear that we are running up against very real environmental limits. Unless we are able to move towards a position where we begin to live within the environmental budget that the planet has to offer we face ecological bankruptcy in the form of crises like catastrophic climate change, and the loss of conditions on Earth that are convivial to human life. To avoid this we need a new compass to help navigate the extreme challenges of sharing a volatile world.

Introducing the Happy Planet Index (HPI)

The HPI is multi-dimensional and composed of distinct variables that each reflect a different aspect of the human condition. However, it differs from



previous GDP alternatives in that it makes no use of income or income-adjusted measures. Rather, it treats the economy as just one amongst several mediating processes within a larger system.

HPI takes the stock of the planetary resources that sustains life and supports all human activities as the *fundamental input*. The *ultimate output* is the goal of all human endeavours – experienced well-being. To the extent that wealth, material possession, technology and so on are important, it is because they contribute to this ultimate goal. Conceptually, the HPI is a measure of input-output efficiency – it indicates well-being produced per unit of resource consumption.

$$HPI = \frac{\text{Experienced Well-being}}{\text{Resource Consumption}}$$

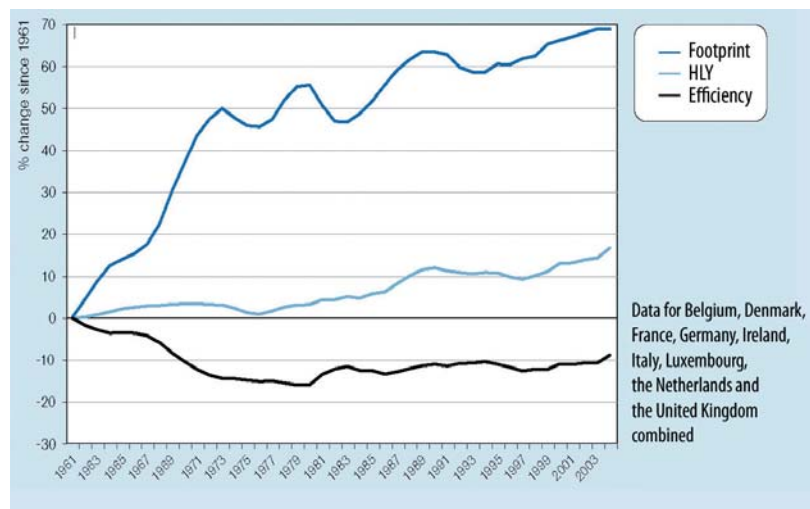
How the HPI is calculated

The HPI uses Dutch sociologist Ruut Veenhoven's concept of Happy Life Expectancy (HLE) – a combination of subjective life satisfaction and objective life expectancy (Veenhoven 1996) – for its measure of experienced well-being. To calculate a nation's mean HLE, ratings of subjective life satisfaction (on a scale of 0-10) are multiplied by mean life expectancy at birth and divided by 10. The resulting scores represent, in effect, happiness-weighted life expectancy. Veenhoven describes this as an "ultimate output measure", because it incorporates both "apparent" and "assumed" quality of life.

The bottom half of the equation, resource consumption, uses Carbon Footprint per capita. This is expressed in terms of the land area required to support the plant life needed to absorb and sequester CO₂ emissions from fossil fuels used by a country, given its levels of consumption. The mea-

sure takes account of “embodied” carbon associated with the production of goods including imports.

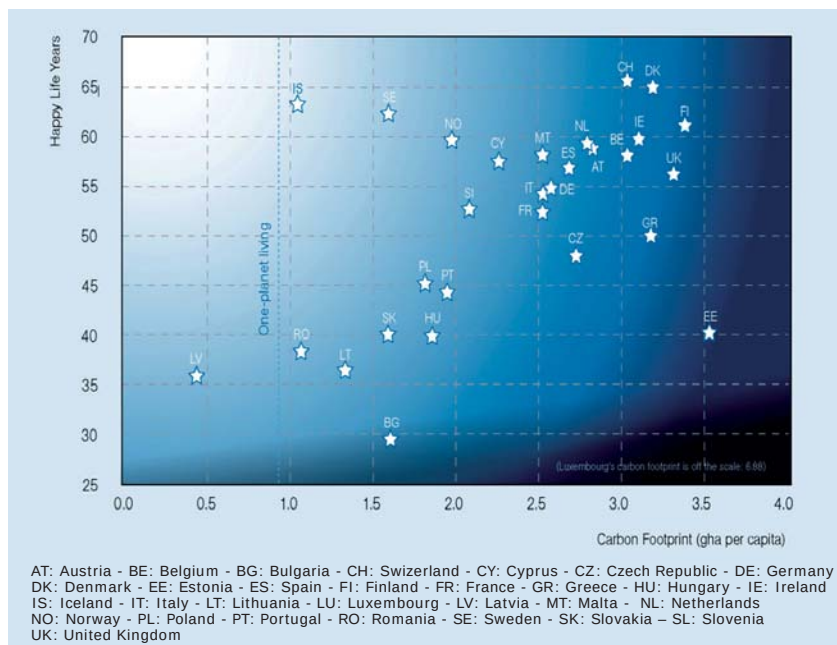
Calculating the HPI requires three discrete steps. Firstly, the data is normalised so that the variances in the top and bottom halves of the equation are made equal. Then, experienced well-being is divided by resource consumption. Thirdly, to make interpretation easier, the resulting scores are transformed onto a 100 point scale, using a theoretical maximum score determined on the basis of plausible “ideal” performance on the three component variables.



good well-being outcomes but only at extremely high environmental costs.

What the HPI shows

To the right is a scatterplot of Happy Life Years against Carbon Footprint for countries of Europe. The top-left corner of the graph is where countries should aspire to be – maximising well-being and minimising footprint.



Strikingly, it is the Scandinavian nations who are closest to achieving this goal and hence score highest on the HPI. These nations have wellbeing outcomes that are amongst the highest in Europe, yet relatively low per capita Footprints. By contrast, many countries in Eastern Europe fail to provide good levels of well-being, whilst others in the West achieve

As planetary resources have become increasingly constrained over the years, it might be hoped that this would have been accompanied by an upwards trend in HPI, reflecting increasing efficiency. In fact, as the graph on the left shows, this has not been the case in the countries of Europe for which reliable longitudinal data exists. Rather than increasing, the HPI scores of the nine oldest EU members are around 10 per cent lower now than in 1961 (the earliest point where adequate data is available).

Value of the HPI

As a metric of sustainable welfare, the HPI provides a radical alternative to existing GDP-based indicators. The first HPI report (nef, 2006) showed that some countries around the world achieve similar levels of experienced well-being whilst exerting much less environmental pressure. For instance, Costa Rica's per capita

carbon footprint is less than a quarter that of the average European nation, and yet levels of subjective well-being and life expectancy are both higher.

Results of the European analysis – reviewed briefly above – demonstrate clearly that in a world of real environmental limits and climate

change, much of Europe is squandering the world's resources on drastically diminishing returns. Moreover, the trends over time are in the wrong direction.

Unlike a focus on ever increasing GDP growth, HPI provides a clear road-map to a sustainable and equitable future.

Impact

The first HPI report has been downloaded from www.happyplanetindex.org around a million times. It received extensive print and broadcast media coverage across the world, in countries as far afield as Japan, Denmark and Colombia. The European HPI report, released a year later, was widely covered in the European press. The HPI has been presented at a number of academic conferences and a paper based on elements of the HPI methodology will shortly be published in *Ecological Economics* (Abdallah *et al*, in press).

The HPI has also attracted considerable political interest. Earlier in 2007, the UK's Conservative party referred to the HPI in their *Quality of Life* report and came close to recommending it as a headline indicator for the UK government. Meanwhile, several Local Government Authorities in the UK and other regional/local agencies in Europe have expressed interest in calculating city-and region-level HPIs.

Future plans

In addition to updating and refining the Global HPI, we are currently exploring opportunities for estimating the HPI at a state-by-state level in the US and at a regional level in China.

More information

www.happyplanetindex.org

www.neweconomics.org

www.foe.co.uk

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- Veenhoven R (1996) 'Happy life expectancy: a comprehensive measure of quality-of-life in nations' *Social Indicators Research* 39, pp. 1–58.
- The global HPI (**nef**, 2006) used the full Ecological Footprint for its calculations.

JFS Sustainability Vision and Indicators

by **Kazu Kobayashi**, Japan for Sustainability

Why we need JFS Sustainability Vision and Indicators

In Japan, a number of environmental-related efforts and initiatives are underway by a Variety of players. Some say, as a whole, the level of activities in this field could be among the most advanced in the world. Yet regrettably, these positive endeavors are not strong enough to reverse the trends of global warming, environmental destruction and pollution, which steadily continue with no apparent end in sight.

To what degree do individual initiatives and achievements by each ministry, corporation, municipality, NGO and citizen contribute to a collective advancement towards an environmental sustainable society?

As a result of these efforts, is Japan closer to sustainability, compared to the year before? Have we moved forward and closer even by an inch? Or somehow have we moving backwards, farther from sustainability?

In order to make answers to these questions visible, we at JFS envision defining indicators and work little by little to draw a big picture of a “Vision of a Sustainable Japan” or “The shape of a sustainable country.”

People do something only after they realize those problems. We aim at raising the people's awareness by visualizing and quantifying the “Vision of a Sustainable Japan.” We hope the indicators will give an opportunity for many people to look at the “Overall Picture of Sustainable Japan”.

Description

We have chosen 20 headline indicators for sustainability based on an analysis of over 200 data sets in several sustainability-related categories. This is the first ever numerical evaluation / trial calculation of national sustainability for Japan. Results show a score of 33.5 points for 2005 in relation to a hypothetical perfect score of 100 projected for 2050. Japan's score for 1990 was 41.3 points, meaning sustainability in Japan has declined about 19% since 1990.

Though these are still trial calculations, they delineate the gap between the ideal and the reality of sustainability in Japan. JFS's aims are to point out the problem, evoke a wide-

ranging discussion on how to build a sustainable society in Japan, and specifically, promote the adoption of a comprehensive national sustainability strategy.

- Nature: 16.4 (1990) up to 24.0 (2005) Greater awareness still needs to be acted on.
- Economy: 37.6 (1990) down to 18.2 (2005) Worst decline; massive debt threatens future generations
- Society: 43.4 (1990) down to 35.4 (2005) SRI, women's participation up, traditional industry down.
- Well-being: 67.6 (1990) down to 56.4 (2005) Overall high figures tainted by high suicide rate.

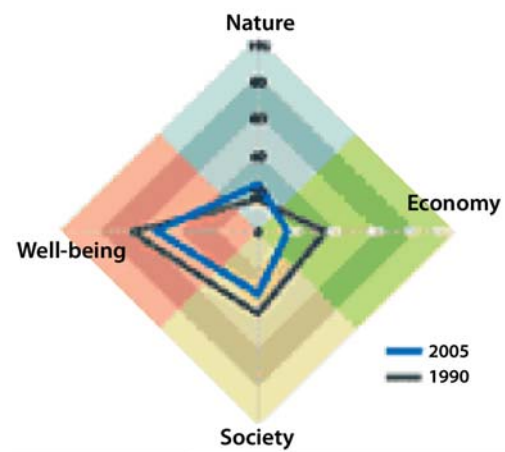
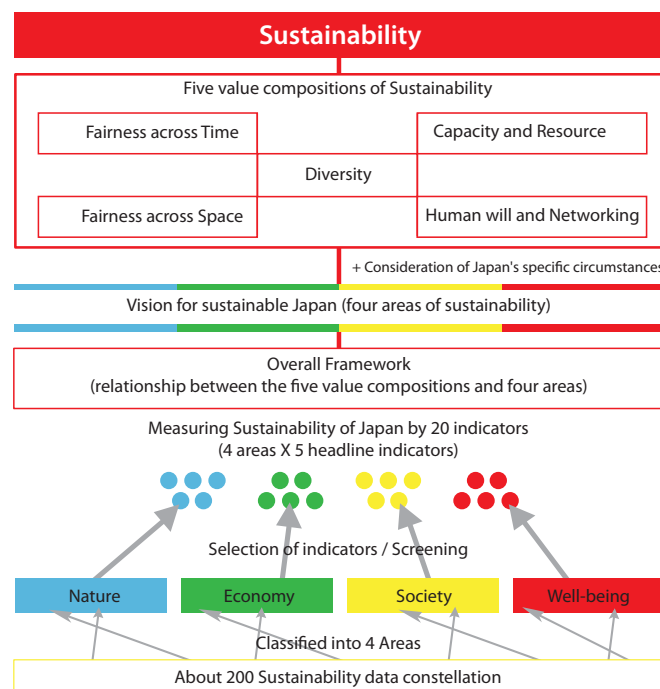


Figure 1: Overview of the Project



<http://www.japanfs.org/en/view/index.html>

MDG Dashboard of Sustainability

by **Jochen Jesinghaus**, European Commission

Why we need the Dashboard

The complexity of societies in the 21st century requires an adequate information system. As Europeans, we are proud of our democratic system. However, a functioning democracy needs citizens who **understand** what their governments are doing.

Currently, public debates on government performance are driven by two overwhelmingly dominant indicators: The GDP growth and the unemployment rates. Strangely enough, **GDP growth** is not even used in its original sense “*we got 2% richer, hooray!*” – in fact, practically all interpretations of GDP growth in the media relate to labour market prospects, i.e. economists and journalists interpret a high GDP growth rate as a chance to get lower unemployment in the next two or three years.

This media focus on GDP growth and unemployment is unhealthy for democracy. With the Dashboard software, we have developed a tool that makes a wealth of new indicators accessible. Today, some 250 “key indicators” can be downloaded from Eurostat’s Sustainable Development and Structural indicators website. However, journalists and ordinary citizens will find it virtually impossible to get simple answers to their questions from the 250+ data tables found there.

The Dashboard puts such “indicator batteries” into a meaningful tree structure, aggregates their scores in a simple, transparent way, and displays them in a user-friendly “street light colours” format; in addition, it gives the user at all times the option to “drill down” to the deepest level of detail. Here are the elements of the “Dashboard language” for presenting complex indicator sets:

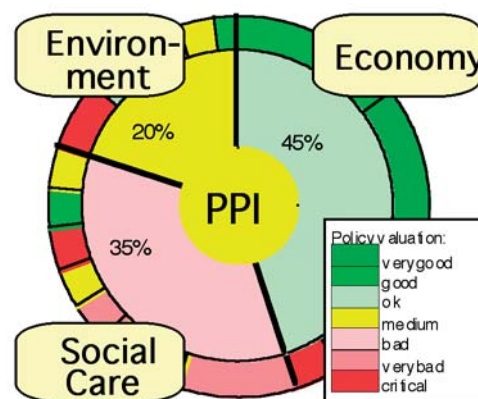
1. *the size of a segment reflects the relative importance of the issue described by the indicator;*
2. *a colour code signals performance relative to other countries: green means “good”, red means “bad”;*
3. *the central circle (PPI, Policy Performance Index) summarizes the information of the component indicators.*

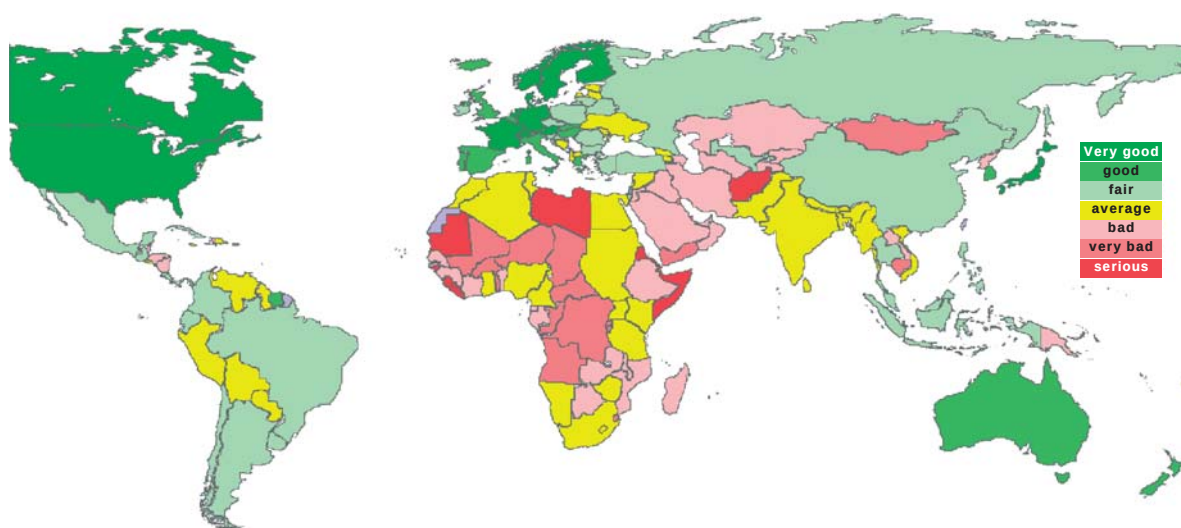
This “language” may seem a straight-jacket for many indicators; however, it is the only way to present very heterogenous indicators in a common format. The three SD pillars shown here are illustrative: the software is flexible and can accommodate other structures, e.g. the eight Millennium Development Goals.

What exactly is the Dashboard of Sustainability?

Over ten years ago, in 1996, IISD convened the Consultative Group on Sustainable Development Indices (CGSDI¹) with the “overarching goal .. to help arrive at an internationally accepted **Sustainable Development Index** (SDI)”. After four years of intensive debate, the dashboard metaphor was adopted: Steering a society into the 21st century needs a dashboard, i.e. a panel of instruments that allows the “pilots” to monitor all essential trends. It took some more years to translate the idea into an operational instrument; the first prototype Dashboard was presented at the 2002 Johannesburg World Summit on Sustainable Development (WSSD). Since then, many new features have been added, and many indicator sets have been translated into the Dashboard format.

At present (November 2007), a Google phrase search for “Dashboard of Sustainability” (DoS) yields about 1,000 page hits, and about one-hundred for “MDG Dashboard”. Most pages refer implicitly to the DoS as some kind of “Global Sustainability Index”. Actually, the story is a little bit more complex: The DoS is both a software tool for displaying complex indicator sets, **and** the application of this tool to one particularly important indicator set, i.e. the **United Nations Commission on Sustainable Development** indicators. Below is a colour-coded map (green is good, red is bad) showing what happens when we aggregate the 60 UN CSD indicators to a “Global Sustainability Index”.

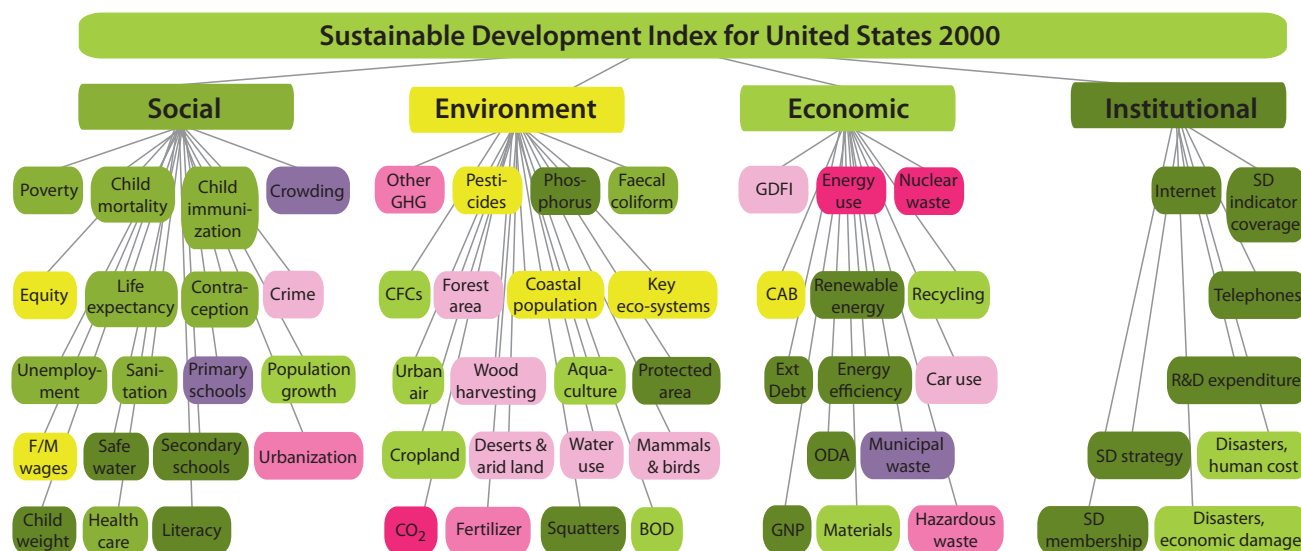




The colours shown on the map are obtained as follows: We calculate for each of the 60 indicators a score from 0-1000 points, using the formula $\text{Score} = 1000 * (x - \text{worst}) / (\text{best} - \text{worst})$. Example "Life expectancy in the U.S.": best=80.7 (Japan), worst=38.1 (Sierra Leone); for a value of 76.8 years, the U.S. receive 907 points: $P = 1000 * (76.8 - 38.1) / (80.7 - 38.1)$. For each of the four SD pillars (economic, social, environ-

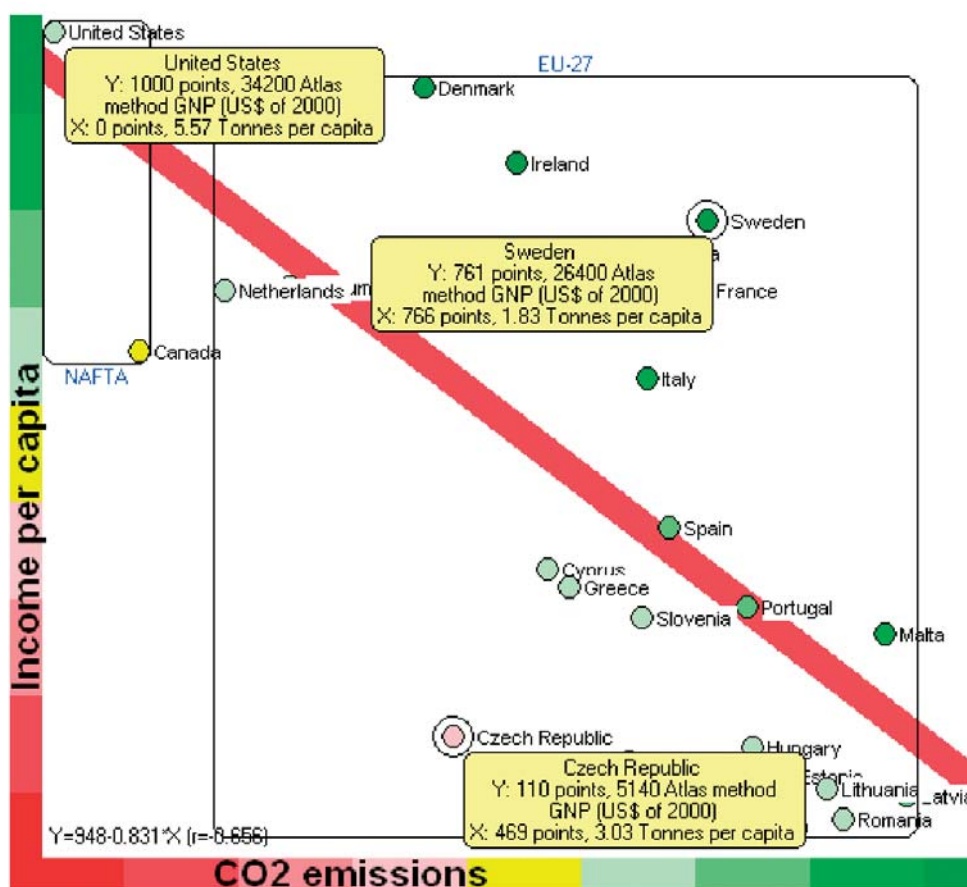
mental, institutional), the sum of the scores is divided by the number of indicators. The overall score is the sum of the "pillar scores" divided by four.

The example of the UN CSD set demonstrates the difficulties that indicator experts encounter when trying to measure "Sustainable Development": Would you agree with the overall



Since the overall results shown on the map above may or may not meet the intuitive expectations of the audience, we show to the left the breakdown for the United States (with CO₂ and energy use as particularly weak issues).

¹ Alan **AtKisson** (Redefining Progress), David **Berry** (Director of the Interagency Working Group on Sustainable Development Indicators, U.S. Government), Arthur L. **Dahl** (Coordinator, UN System-wide Earthwatch, UNEP), Edgar E. **Gutierrez-Espeleta** (Director of the Development Observatory at the University of Costa Rica), Allen **Hammond** (Director of the Indicator Program at the World Resources Institute, WRI), Peter **Hardi** (Director of IISD Indicators Program, CGSDI co-ordinator), Jochen **Jesinghaus** (European Commission, Eurostat & JRC), the late Donella H. **Meadows** (lead author of "Limits to Growth", the 1972 report to the Club of Rome), Bedrich **Moldan** (Chairman UN CSD-9 and former Czech Republic Environment Minister), Yuichi **Moriguchi** (Head, Resources Management Section, Social and Environmental Systems Division, National Institute for Environmental Studies, Japan), Adil **Najam** (Boston University, Associate Director of the MIT-Harvard Program on Public Disputes at the Program on Negotiation, Pakistan/USA), and John **O'Connor** (former Head of the World Bank's indicator team).



One key feature of the Dashboard is the analysis of linkages between indicators – for example between income and CO₂ emissions. Sweden scores “good” for “Income per capita” (Y axis, 761 points for 26400 Atlas method GNP (US\$ of 2000)) and “good” for CO₂ (X axis, 766 points). In contrast, Czech Republic gets a “critical” for “Income per capita” (Y=110 points for 5140 Atlas method GNP (US\$ of 2000)) and “average” for CO₂ (X=766 points). Note that Sweden, a country with pretty cold climate, manages to combine high wealth with low CO₂ emissions.

structure, i.e. the four pillars of SD? Would you agree with the indicator set (e.g. nuclear waste, recycling, energy use as “economic” indicators)? Do you trust the data – for example, would you have expected the U.S. in the green zone for “car use”? The Dashboard is a powerful tool, but it reveals merciless the weak points of indicator sets, simply by displaying them in a format that users can **understand**.

The graphs above have been created “on the fly” based on 2000 data compiled by John O’Connor, former Head of the World Bank’s environmental indicators division. In the meantime, the data have become pretty stale, and UN CSD has adopted a new set of 50 “core” indicators structured by 14 themes: 1. *Poverty*, 2. *Natural hazards*, 3. *Economic development*, 4. *Governance*, 5. *Atmosphere*, 6. *Global economic partnership*, 7. *Health*, 8. *Land*, 9. *Consumption and production patterns*, 10. *Education*, 11. *Oceans, seas and coasts*, 12. *Demographics*, 13. *Freshwater*, 14. *Biodiversity*.

There is little hope, though, that anybody will perform in the near future a data compilation

based on the new CSD set; therefore, for didactic purposes we still keep the old CSD set online. After the 2000 Millennium Summit, a new set of indicators emerged as a global standard: The **Millennium Development Goals** indicators. Nowadays, the downloadable Dashboard package contains this new set of approx. 60 indicators for over 200 countries and 15 years. The data come directly from the MDG site of the United Nations Statistics Division, and we update them every one or two months. Apparently, the MDG Dashboard is a popular alternative to downloading an 8 MB Excel spreadsheet: a Google search for Millennium Development Goals Indicators puts the MDG Dashboard on rank 2, directly behind the official UN MDG site but before UNDP, OECD, WHO, World Bank and a number of other prominent institutions. On the next page an example from the MDG Dashboard:

State of play & next steps

The Dashboard’s Wikipedia page lists over 20 translated indicator sets. New features are still being added to the software, e.g. an interactive



Not surprisingly, the MDG set differs a lot from the CSD set, with less focus on environmental and more focus on social and economic issues. The Dashboard displays detailed info for each indicator when hovering over the respective label. Example: *Births attended by skilled health personnel: 42.5 %; Source: UNICEF estimates; 390 points for India 2000; Valuation: "bad", Rank 94 of 119; best South Korea, worst Ethiopia; Estimated.* The last word, "Estimated", is one of over 20,000 footnotes included in the MDG Dashboard.

browser interface for the MDG set. Currently, the team at JRC tries to translate most of Eurostat's 250+ Sustainable Development and Structural indicators into the Dashboard format, using a tree with four Agenda 21 style main pillars, each containing seven sub-indices, each hosting on average seven indicators. This structure will accommodate $4 \times 7 \times 7 = 196$ indicators, and serve as a "Virtual Laboratory" for studying possible options for going "Beyond GDP", i.e. for challenging GDP growth with an adequately detailed "Societal Progress Indicator".

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The Natural Capital Index framework (NCI)

by **Ben ten Brink**, Netherlands Environmental Assessment Agency (PBL)

As any successful business that keeps track of revenues and expenditures, society needs robust accounts of its ecological assets. That is what the Natural Capital Index framework accounts for next to complementary indicators such as change in the extent of ecosystems, the Red list and the ecological footprint.

The Natural Capital Index framework (NCI), developed as a contribution to the implementation of the Convention on Biological Diversity (CBD), was designed to answer the questions “How much biodiversity remains?”, “What are the causes of loss?” and “What can we do about it?” for policy-makers and public. NCI measures human impact on biodiversity and has been implemented in national, regional and global assessments. It is not so much one single –fixed-indicator but merely a flexible indicator framework which can be tailored to the specific scale, available data, and demand.

Which process to indicate?

The rate of biodiversity loss has been accelerating rapidly throughout the industrial era. According to the Global Biodiversity Assessment, species are now becoming extinct at 1,000-10,000 times the natural rate. However, extinction is just the final step in a long process of ecosystem degradation, in which a decline in the abundance of many original species is accompanied by the increase in the abundance of a few other, often human-favoured, species. This we call the homogenisation process.

This trend has two main components: i) loss of habitats, or “ecosystem quantity”, resulting from the conversion of natural areas into agriculture and built up land and ii) loss of ecosystem quality due to factors such as climate change, pollution, habitat fragmentation and over-exploitation. In the figure below, the grey cutouts illustrate the habitat loss, while, in the remaining natural areas, the decline in ecosystem quality is shown by the decreasing abundance of many original species. Notice the initial increase in the species richness.

‘Species abundance’ (number of individuals of a species) has turned out to be a far more sensitive, more measurable and a more accurate indicator of biodiversity loss than the more traditional species-richness indicator. The CBD has selected ‘species abundance’ as a key indicator to evaluate the progress towards the 2010-target.



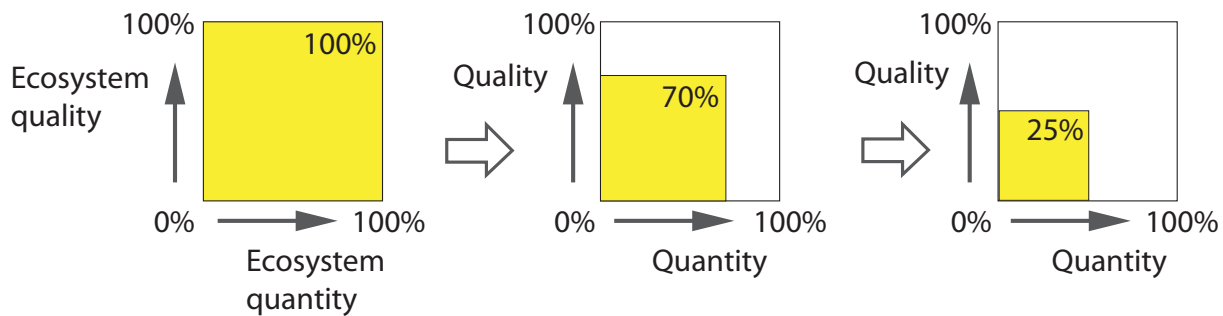
The Natural Capital Index framework (NCI)

The challenge is to create a tangible, powerful composite indicator that accurately describes the above process for meeting policy requirements. Furthermore, this indicator must be relevant and appealing for policy development, quantitative, sensitive, affordable, measurable and universally applicable. Finally, it should represent the entire ecosystem and must be linkable with socio-economic scenarios to make projections. *For these reasons NCI considers biodiversity as “natural capital”, containing all original species with their corresponding abundance.*

Given its two main components, as mentioned above, NCI is defined as the product of the size of the remaining ecosystem (quantity) and its quality.

$$\text{NCI} = \text{ecosystem quantity (\%)} \times \text{ecosystem quality (\%)}$$

The NCI can be established for natural areas such as forests, inland waters and grasslands, as well as for man-made areas such as agricultural land and urban areas. Ecosystem quantity is calculated as a percentage of the total area (% area of the country or region). Ecosystem quality is calculated by counting the average abundance of a core set of characteristic animal and plant species. Quality is defined as the ratio between the current situation and baseline state (percentage



of the baseline). The three diagrams “ecosystem quantity and ecosystem quality” above show how the process of ecosystem degradation can be visualised using the Natural Capital Index. If for example 50% of the natural area remains, with a quality of 50%, then the NCI is 25%. This means that the average abundance of the original species is 50% of the natural or low-impacted state, and so on. To avoid masking, significant increased populations of original species are truncated at 100%, although they should actually have a negative score. Exotic or invasive species are not part of the indicator, but their impact is represented by the decrease in the abundance of the original species they replace. The NCI ranges from 0 to 100% representing an entire deteriorated and intact ecosystem, respectively. The dimension is ‘mean species abundance of the original species’ or briefly an species abundance’ (MSA).

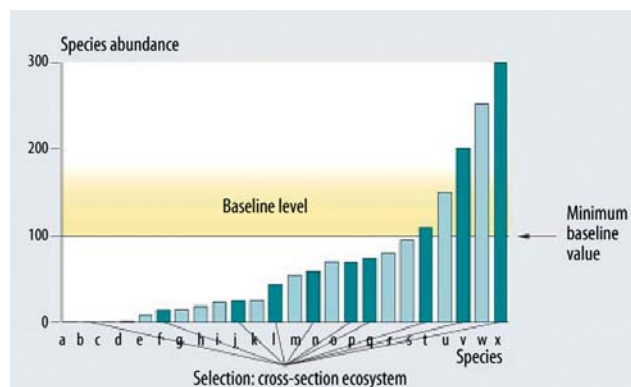
Baselines needed

Ecosystem quality cannot be determined without defining a baseline. Baselines are starting points for measuring change from a certain state or date. They are common practice for such items as medical care, economic development and climate change. Since there is no unambiguous natural baseline point in history, and all ecosystems are also transitory by nature, a baseline must be established at an arbitrary but practical point in time. Because it makes the most sense to show the biodiversity change when human influence was accelerating rapidly, the first CBD Liaison Group on Biodiversity Indicators recommends “a postu-

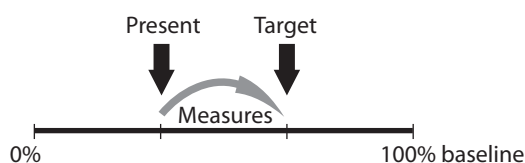
lated baseline, set in pre-industrial times” or a “low-impact baseline” as being the most appropriate. The baseline i) allows aggregation to a high level, ii) makes figures within and between countries comparable, iii) is a fair and common denominator for all countries, being in different stages of economic development, and iv) is relevant for all habitat types. Similarly, agricultural ecosystems are compared with the traditional agricultural state as the baseline, actually before industrialisation of agricultural practices started.

It has to be stressed that the baseline is not the targeted state. Policy-makers choose their ecological targets somewhere on the axis between 0 and 100%, depending on the political balance between social, economic and ecological interests.

Smart sampling



How can ecosystem quality be determined in a practical and affordable way? It is neither necessary nor possible to monitor all species. A representative cross-section of characteristic species suffices to describe – the above mentioned – the uniformity process of the entire ecosystem. For each species, quality is calculated as the ratio between the current state and the minimum baseline value. Ecosystem quality is a function of the abundance of species relative to the baseline. Ecosystem structure



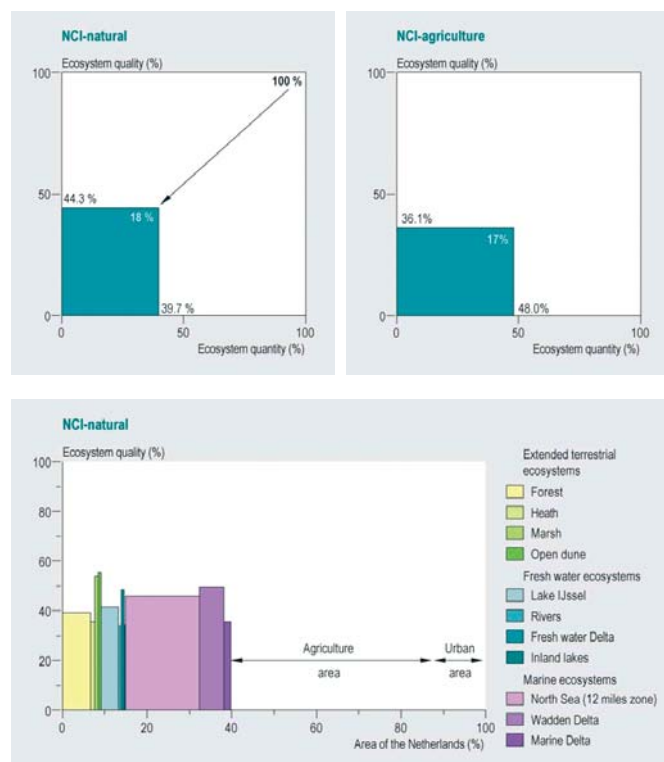
Virtual Indicator Exhibition

variables such as 'area coral reef and canopy cover' can be used as substitute in case of lack of data on species abundance. This selection and averaging method is similar to that for economic indicators, such as the retail price index, a representative selection of products monitored in a subset of stores, the so called "shopping bag". Subsequently, the changes in prices are also averaged and weighted; this is because a price increase in bread cannot simply be averaged with a price increase in cars.

How much Natural Capital is left in The Netherlands?

The quantity of natural aquatic and terrestrial ecosystems in the Netherlands has declined to 40% of its total territory, while the average quality of these ecosystems is estimated at a modest 44%. The resulting NCI is thus 18%, the product of quantity and quality. So roughly speaking, 18% of the average abundance of the original species remains in comparison with the baseline state. The NCI for agricultural land is 17%.

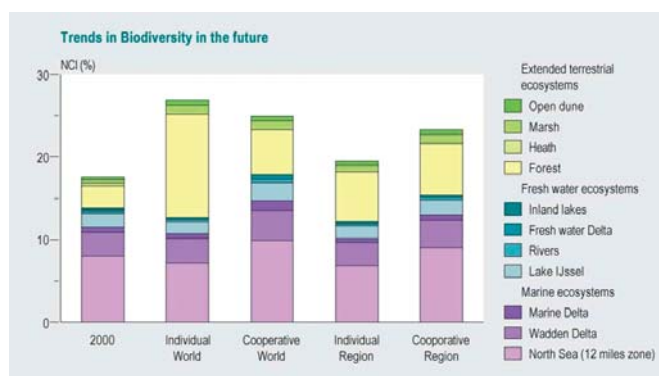
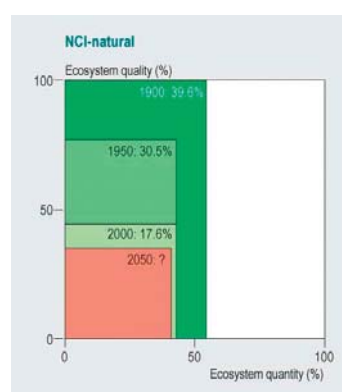
The contribution of the various natural ecosystem types to the Dutch Natural Capital is presented in the figure below. Quantity and quality are given for each ecosystem type. Marine and large fresh-water ecosystems are very important in the



Netherlands, together covering more than 75% of the area of natural ecosystems and displaying medium quality. Forests, heath and inland lakes are examples of smaller areas with a lower quality. In the diagram alongside the x-axis has been enlarged in order to see the contribution of the smaller ecosystem types.

A snapshot of NCI values taken in the year 2000 does not provide sufficient information for policy-makers. What happened in the past, what were the main causes, what can be done to restore biodiversity in an efficient manner? The NCI for Dutch natural ecosystems has declined rapidly in the last hundred years. Much of the area was lost in the first half of the century, while ecosystem quality decreased, especially in the second half of the century. A scenario analysis shows that the Natural Capital Index may improve from 18% up to even 27% over a 30-year period, which represents a significant increase in natural capital.

History of Natural Capital & Future trends in The Netherlands



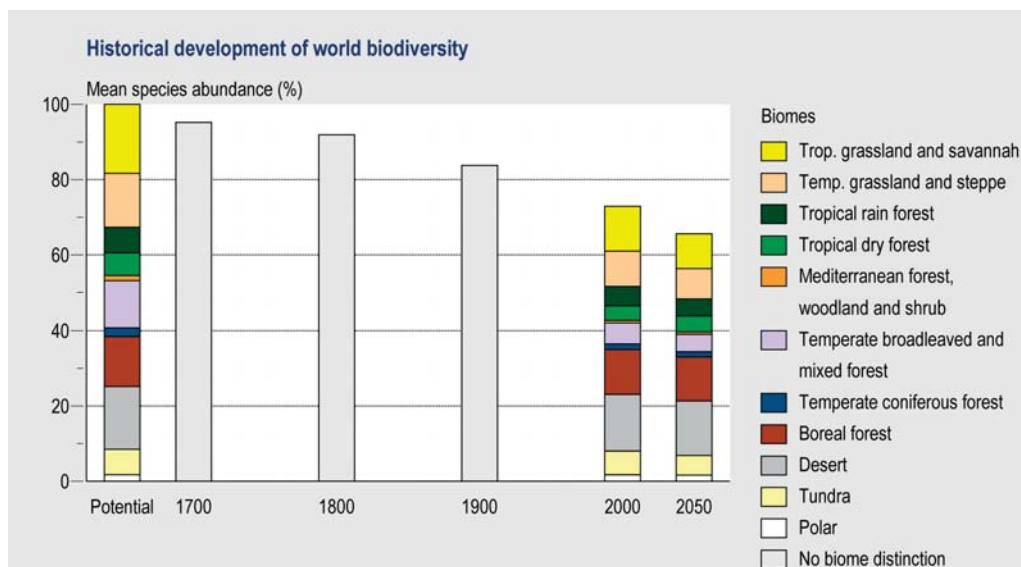
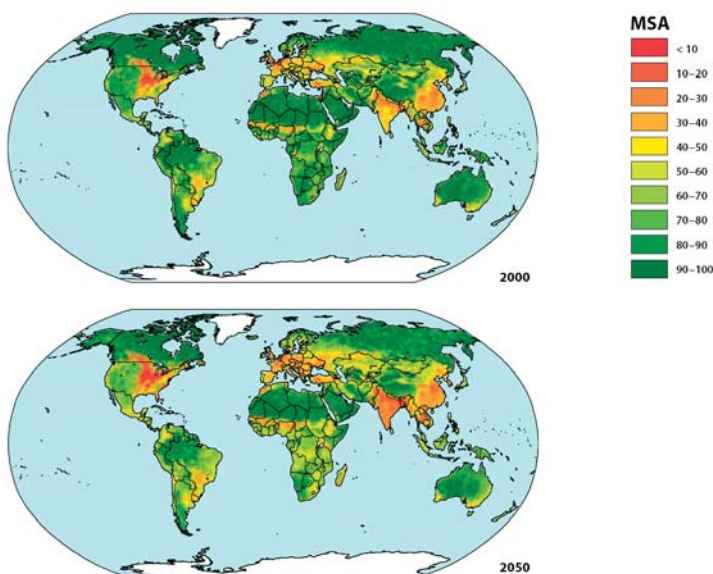
How much Natural Capital is left in the World?

If there are no data on species abundance available a pressure-based NCI may be used as substitute. The underlying assumption is that the higher the pressure on biodiversity the lower the probability of a high mean species abundance of the original species (MSA). The GLOBIO model contains global cause-effect relationships between agriculture, forestry, climate change, N-deposition, fragmentation and infrastructure and MSA, based on more than 700 publications (Alkemade et al. 2007). For each grid cell the considered pressure values are added and calculated into a MSA value. The NCI at global and regional levels is the sum of the MSA of the underlying grid cells, in which each square kilometre of every biome is equally weighted

(ten Brink, 2000). The GLOBIO model is a joint cooperation between the Netherlands Environmental Assessment Agency (MNP), UNEPWCMC and UNEP-GRID Arendal in conjunction with many partner institutes. GLOBIO has been implemented for example to UNEP's Global Environment Outlooks, the CBD Global Biodiversity Outlooks (GBO), and OECD's Environment Outlook and Strategy. The maps below show the calculated MSA in 2000 and 2050 and the global NCI over the period 1700-2050 (95% ->63%) (CBD technical series no. 31, 2007).

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(Regional) Index of Sustainable Economic Welfare (ISEW)

by **Prof. Tim Jackson**, RESOLVE, University of Surrey, UK, **Nat McBride**, Independent Consultant, **Saamah Abdallah**, nef (the new economics foundation)

Few people would now disagree that we need to move beyond GDP if we are to make any meaningful assessment of society's overall well-being. In particular, we need measures which will account for changes in societal welfare and environmental impacts.

Clearly, any credible alternative to GDP will have to pass tests of rigour and objectivity. It will also probably be asked to impart a simple message about the direction of progress to a general audience. Delivering this simple headline trend must happen without losing focus on the constituent elements of the indicator. If the first question is "Are we *really* making progress?" then the second is: "Where are we doing well, and where do we need to try harder?"

What is the ISEW?

The Index of Sustainable Economic Well-being is an adjusted economic indicator which attempts to incorporate costs and benefits not traditionally measured in monetary terms. It brings together a wide range of economic, social and environmental issues into one analytic framework. Time series data are drawn from robust sources, typically from government statistics. Non-monetary statistics are converted to cash values based on unit costs from credible government or academic sources.

The basis for the index is consumer expenditure. Positive and negative adjustments are made to this basis to account for a series of social, economic and environmental factors. For example, the values of household labour and volunteering are added to the index, together with public expenditure on health and education. On the negative side, the ISEW subtracts environmental costs associated with habitat loss, localised pollution, depletion of nonrenewable resources and climate change; social costs associated with crime, divorce, commuting and unequal income distribution; and the health costs of accidents on the road and in the workplace. Some additional adjustments are made to account for net capital growth and net international position. These may be positive or negative depending on the particular economic situation in each year.

In summary:

- ISEW** = **Personal consumer expenditure**
– **adjustment for income inequality**
+ **public expenditures (deemed non-defensive)**
+ **value of domestic labour & volunteering**
+ **economic adjustments**
– **defensive private expenditures**
– **costs of environmental degradation**
– **depreciation of natural capital**

Why monetarise – and how?

There is a danger in replacing GDP with any other one-dimensional measure, even if the replacement is more in tune with our current understanding of well-being. But replacing GDP with a suite of indicators covering a range of disparate factors also has problems. How do you compare different metrics? How do you balance the loss of 500 jobs against an increase of 10mg nitrates per litre of river water? Is it preferable to reduce 600 tonnes of carbon dioxide, or avoid 16 car accidents? Although there are problems inherent in monetarising certain social or environmental costs and benefits – establishing a unit cost sometimes involves subjective valuations – this does offer a coherent framework for the kind of holistic analysis needed to guide policy. For each component of the ISEW where unit cost estimates are required, we draw on the relevant literature to establish suitable working values. For instance, the costs of climate change are based on a Treasury / DEFRA meta-survey of the literature on the social cost of carbon. Air pollution costs are based on average costs taken from several studies which assess their impacts on health, buildings, crops and natural habitats.

A brief history of monetarised indicators

In 1972, Nordhaus and Tobin published a landmark paper entitled *Is Growth Obsolete?*, in which they constructed a 'measure of economic welfare'

(MEW) by adjusting GDP to account for certain economic and social factors. They concluded that GDP still represented a robust indicator of well-being. When Nordhaus re-examined the question from an environmental perspective in 1992 (*Is Growth Sustainable?*), he discovered that the new MEW began to diverge significantly from GDP.

The ISEW was first posited by Daly and Cobb in their 1989 book *For the Common Good*. They laid down the framework of consumer expenditure plus services from the informal economy, plus public expenditure on certain public goods; economic corrections to account for capital flows; and deductions for 'defensive' expenditures on social and environmental problems. The original model was revised a little in 1990 by Cobb and Cobb to address some criticisms of the original methodology. Since then, ISEWS have been produced for countries as different as the USA, Thailand and Chile. The ISEW has proven particularly popular for European researchers, and has now been constructed for a number of countries and regions. To date, the list includes Austria, Belgium, Germany, Italy, the UK, Wales, Scotland, Sweden and several English regions. An attempt at constructing an ISEW for Lombardia in Italy was made in 2006 by a Milanese research institute with **nef** assistance, but has now been put on hold due to limited data availability.

In each case, some revisions to the original Cobb and Cobb methodology have been made to tailor the indicator to specific national requirements or data sources. In Thailand for instance, an estimate of the social cost of sex tourism was included. In 1994, Jackson and Marks produced the first UK ISEW for **nef** (the new economics foundation) and the Stockholm Environment Institute. This was updated by Jackson and colleagues at the University of Surrey in 1997 and again in 2004 – when the updated version was released as the MDP (Measure of Domestic Progress).

Measuring regional progress: the R-ISEW

Together with the University of Surrey, **nef** has recently pioneered the development of a regional variant of the ISEW. The R-ISEW allows individual regions within a nation to monitor progress within the region and compare

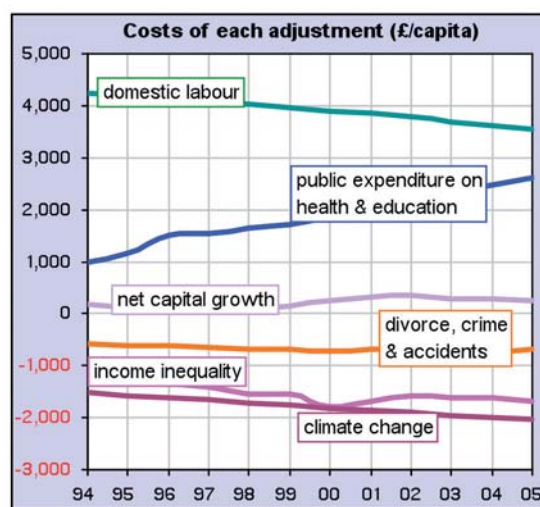
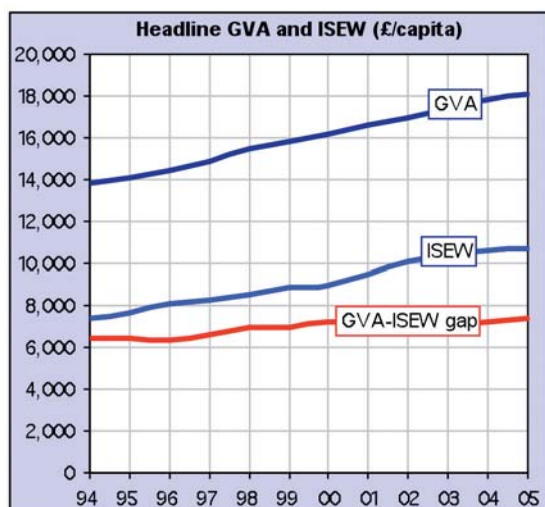
progress against other regions. The R-ISEW was developed with the backing of the UK Regional Development Agencies, with particular support from the East Midlands Development Agency (emda). emda commissioned a think piece from **nef** in late 2004, on the relationship between well-being, quality of life and regional development, which led to a pilot R-ISEW for the East Midlands in 2005, developed with the University of Surrey. emda incorporated the R-ISEW into their Regional Economic Strategy as the top level indicator of progress towards their vision of a "flourishing region". In the National Audit Office's 2007 performance assessment of emda, the development of the R-ISEW was welcomed as a positive and innovative step.

Over the next two years, **nef** and the University of Surrey constructed R-ISEWs for five other regions, and in 2007 a complete suite was calculated for all English regions, plus an ISEW for the whole of England on the same basis. For the first time, R-ISEWs were calculated for all the regions of one country, using exactly the same methodology, allowing direct comparisons to be made between them. The R-ISEW revealed that traditionally 'wealthier' regions are not always performing better than poorer ones in terms of sustainability. However, it did not simply reduce cross-regional differences. Some poorer regions perform much better than others.

Yorkshire Futures, the Regional Intelligence Network for Yorkshire and the Humber, are keen proponents of the index, noting that it would be "an opportunity missed... if the ISEW is not seriously incorporated into policy and planning procedures."

Results of the English ISEW

The structure of the ISEW allows two levels of analysis. In the first graph overleaf, the ISEW for England is plotted against GVA showing a simple headline trend: growth in both measures, but with a wide and growing gap between 'conventional' and 'real' progress. In the second graph, a more detailed story unfolds, in which some components of the ISEW are enjoying progress and others are deteriorating. This second graph also illustrates the relative importance of different components in the overall ISEW.



The future of the ISEW

In 2007, a seminar was hosted by the Sustainable Futures division of the Welsh Assembly to present a recent attempt to construct an ISEW for Wales. Economists and statisticians from the Assembly discussed the possibility of adopting the ISEW as an official Welsh Assembly statistic. Although they decided against this, it is worth noting that the only significant objection was the lack of methodological consensus amongst ISEW researchers. Herein lie the key challenges for the future development of the ISEW: collaboration and consensus-building around the assumptions used in the index. Firstly, what is the definitive set of economic, social and environmental factors to be included in the index? Then, how exactly do we value certain non-monetary factors included in the account? These are significant hurdles, but by no means insuperable: GDP has faced and overcome similar issues. Like the ISEW, GDP also makes potentially arbitrary exclusions of certain goods and services; and where the ISEW wrestles with subjective valuations of social and environmental factors, GDP simply refuses to address them. By recognising, and placing a value on social and environmental outcomes, the ISEW represents a significant advance on GDP as a measure of genuine progress. Its logic of adjusted economic well-being translates easily into the language of policy makers.

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System of Environmental-Economic Accounting (SEEA)

by London Group on Environmental Accounting

Why we need the SEEA

Conventional national accounting does not fully account for the role of the environment in its measurement of economic activity. Recognizing this limitation resulted in the development of the System of Environmental-Economic Accounting (SEEA).

Environmental-economic accounting brings together economic and environmental information in a common framework to measure the contribution of the environment to the economy and the impact of the economy on the environment. The framework builds on concepts definitions and classifications consistent with economic statistics supplementing them with environmental data that reflect the environment in terms of the resource, sink and service functions it provides.

The SEEA can be used to analyze sustainable paths of development through a broad range of indicators. These indicators can be directly obtained from the accounts, such as, material flows and energy use by industries and households; or natural resource indicators can be derived, such as, energy efficiency and water efficiency by industry. In addition, indicators, such as, 'ecological rucksacks', 'virtual water' and 'total material requirement' can also be derived through the application of the accounts, for instance, by using input-output modeling.

History

Environmentally sound and sustainable socio-economic development has since the 1970s received increased attention from the international community. It was particularly stimulated by the report of the World Commission on Environment and Development (1987) and Agenda 21 of the United Nations Conference on Environment and Development (1992). During the 1980s and early 1990s, joint workshops, organized by United Nations Environment Programme (UNEP) and the World Bank, set out to examine the feasibility of physical and monetary accounting in the areas of natu-

ral resources and the environment. A consensus emerged supporting a satellite approach, in which the analytical capacity of the national accounts is expanded to include environmental data without overburdening the central framework of the System of National Accounts (SNA).

The 1993 *System of National Accounts* (1993 SNA) also endorsed the link to the environment by including a chapter on satellite accounts (Chapter XXI), a large part of which is dedicated to environmental-economic accounting. In 1993 the United Nations also published the *Handbook of National Accounting: Integrated Environmental and Economic Accounting* (SEEA-1993) demonstrating how several environmentally-adjusted national accounts aggregates can be derived.

After the publication of the SEEA-1993, several developing and developed countries started experimenting with the compilation of the SEEA. These compilation experiences were shared in the London Group on Environmental Accounting, one of the City Groups established under the auspices of the United Nations Statistical Commission (UNSC) in 1994. As mandated by the UNSC, the London Group advances methodologies in environmental-economic accounting and provides a forum for practitioners to share their experiences in the development and implementation of the SEEA.

At its twenty-ninth session, in 1997, the UNSC requested the London Group to collaborate with the United Nations Statistics Division (UNSD) on the revision of the SEEA-1993. This eventually materialized in the revised *Handbook of National Accounting: Integrated Environmental and Economic Accounting, Rev. 1* (SEEA-2003). The SEEA-2003 was submitted to the 33rd session of the UNSC in 2002 and subsequently issued in 2003 by the United Nations, the European Commission, the International Monetary Fund, the Organization of Economic Cooperation and Development, and the World Bank.

Although the SEEA-2003 handbook is widely accepted as the reference for recording the

interaction between economic processes and the environment, it still falls short of being an international statistical standard. It does not provide unique guidance or a preferred treatment for various issues. The UNSC therefore, created the United Nations Committee of Experts on Environmental-Economic Accounting (UNCEEA), with one of its main objectives to establish the SEEA as an international statistical standard.

Description of SEEA: modules and indicators

The SEEA is an integrated information system consisting of several modules. It can be used to respond to different types of policy questions concerning, for instance, the pollution of the atmosphere, water bodies or soil from production and consumption, and the sustainable use of natural resources and ecosystems; or to provide information regarding environmentally related transactions, such as taxes and subsidies to examine cost-recovery or polluter pays principles. The SEEA does not support particular schools of thought and can therefore be universally applied, underscoring its role as a multi-purpose for strategic planning and policy analysis.

Physical and hybrid flow accounts

Physical flow accounts provide a systematic physical description of production and consumption

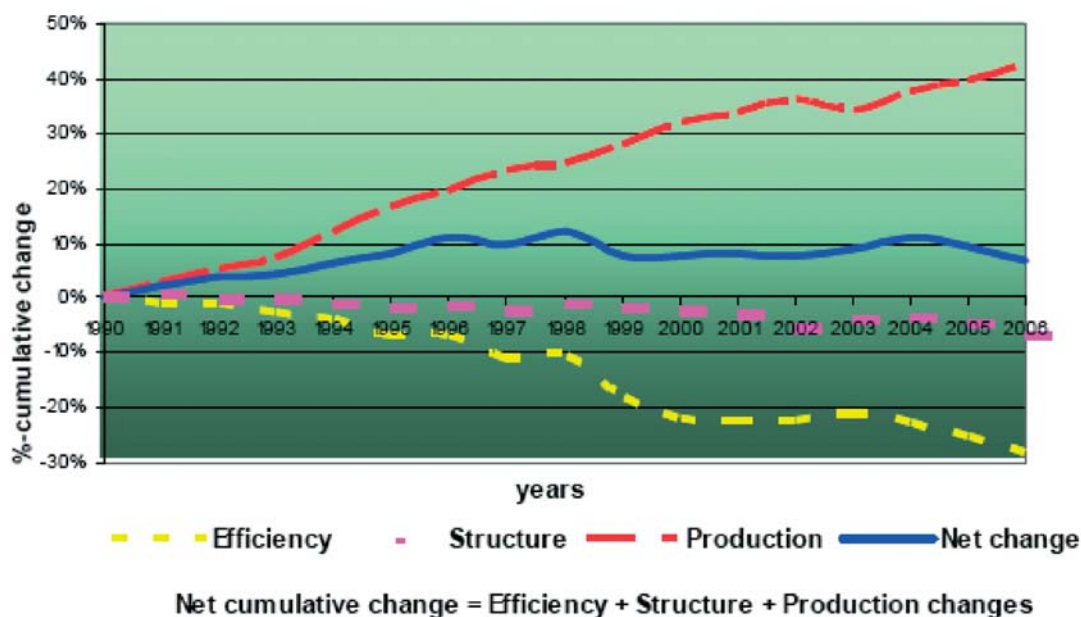
processes, including their natural resource inputs, product throughputs and residual outputs, i.e. wastes.

The accounts also quantify the material dependencies of economies via imports and exports. When combined with monetary data they are called hybrid flow accounts. These accounts illustrate how economic growth is interrelated with natural resource use and pollution. By way of example, Figure 1 presents a decoupling indicator, which illustrates the effect of major economic determinants of pollution over time. Notwithstanding higher levels of production in the economy (read), emissions (blue) from the production processes have stabilized since the middle of the 1990s. This development can be attributed to improvements in the efficiency of the production processes (i.e. less emissions per unit of value added by industry) due to technological improvements (yellow), and structural changes in the production processes (pink) reflected by a greater share of the services industries in total value added.

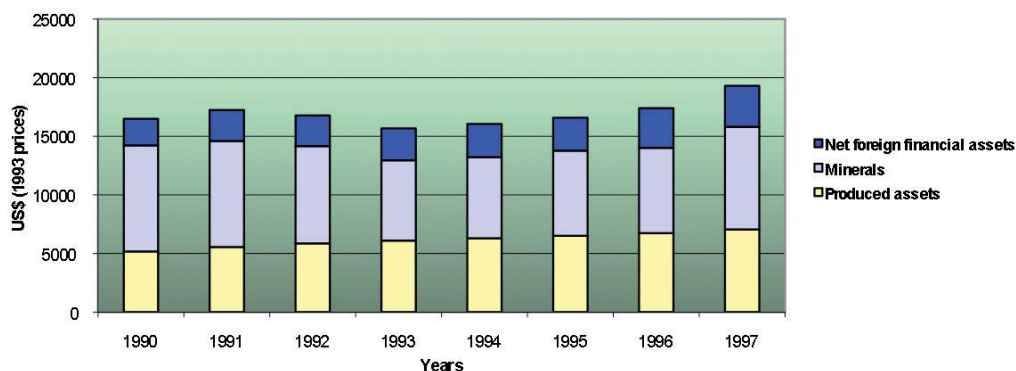
Asset accounts

Asset accounts record stocks and changes in stocks (flows) of natural resources such as land, fish, forest, water and minerals for the accounting period. The SEEA include all environmental assets that provide option, bequest and existence benefits and combined with produced assets

Figure 1 Global warming emissions of CO₂, CH₄ and N₂O in the Netherlands



Source: Statistics Netherlands

Figure 2 : Per capita wealth in Botswana

Source: G.M. Lange (2004), *Environmental & Resource Economics*, 29:257-283

provide a better indicator of the wealth of a country. Asset accounts can be compiled in both physical and monetary terms. Monetary asset accounts illustrate the changes in the value of environmental assets and whether they are being depleted. Asset accounts can be particularly relevant for countries which are economically dependent on the exploitation of natural resources. Figure 2 shows that Botswana has been successful in using its natural capital (primarily minerals) to build national wealth as evidenced by a rising per capita wealth in recent years.

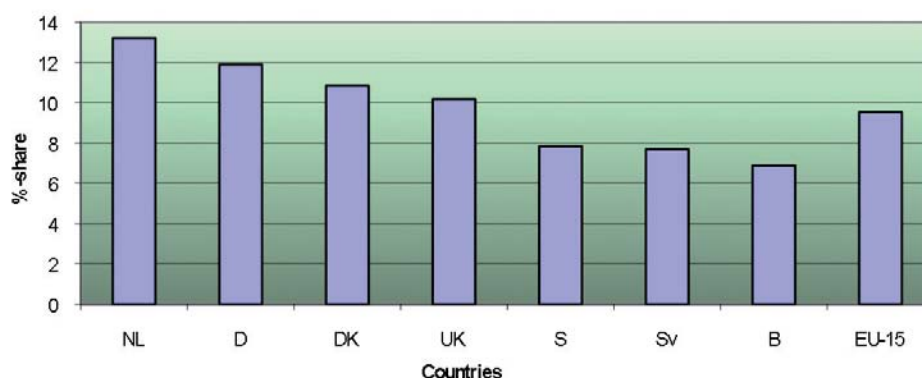
Economic accounts and environmentally related transactions

These accounts separately identify environmentally related transactions presented in the existing SNA flow accounts in order to make them more explicit for analysis. They cover both ex-

penditures on the protection of the environment and resource use. Other monetary transactions connected with the environment are covered as well, specifically those economic instruments being used to manage natural resources, such as taxes, permits and licenses for extracting natural resources or using the environment as a sink. Such accounts can for example illustrate the importance of environmental taxes (and subsidies) in the total tax regimes of countries (i.e. 'greening of the tax system').

Environmentally-adjusted national accounts aggregates

As an integrated and multipurpose system serving different policy needs, information from the various modules of the SEEA can be combined to form a full-sequence of accounts from which aggregates such as an environmentally-adjusted gross domestic product ('Green GDP'),

Figure 3 : Environmental taxes as share of total tax revenues in 2003

Source: Eurostat

or environmentally-adjusted net saving ('Genuine Saving') can be derived. These adjustments could include depletion, defensive expenditures and degradation.

Future – SEEA as an international statistical standard

The UNSC, recognizing the SEEA as a mature framework for the analysis and policy formulation on environmental-economic issues, entrusted the UNCEEA to promote the worldwide implementation of environmental-economic accounting and to establish the SEEA as an international statistical standard. In this regard the UNCEEA has the challenging task to revise the SEEA-2003. The work of the UNCEEA will be carried out in close cooperation with national statistical offices,

international organizations (UNSD, UNEP, Eurostat, World Bank and OECD) and expert groups like the London Group on environmental accounting and the Oslo Group on energy statistics.

The SEEA revision and implementation programme is expected to improve the accounting concepts, the international harmonization of the accounting guidelines and subsequently the policy relevance of environmental-economic accounting considerably. In this context it is important to emphasize that the SEEA is not an indicator list, but an integrated information system providing the underlying statistical framework for thorough analysis and policy formulation.

More information

on the SEEA is available on the website: <http://unstats.un.org/unsd/envaccounting/default.asp>

Sustainable Society Index (SSI): a new comprehensive index for world-wide use

by **Geurt van de Kerk**, Sustainable Society Foundation,
Arthur Manuel, Sustainable Society Foundation

Do you know how sustainable – or should we say unsustainable? – your country is? Probably not. The Sustainable Society Index shows you at a glance how far your country is on its way to full sustainability, what is going well and what needs urgent improvement.

Need for a new measurement tool

The notion of what is meant by sustainability differs strongly among people. Even among scientists there are numerous definitions of sustainability. However, to be able to adequately manage our efforts in achieving a sustainable way of living on our planet, a clear definition of sustainability is required. Since none of the numerous indexes that have been developed until now show at a glance the level of a country's sustainability, we developed a new measurement tool: the Sustainable Society Index, SSI.

Sustainable Society Index – SSI

The newly developed SSI is based on a solid definition: the world-wide respected Brundtland definition. In order to express that sustainability includes human well-being, we have extended the definition of Brundtland by adding a provision so that the qualitative aspects of human life are explicitly included. We have formulated the Brundtland+ definition as follows:

A sustainable society is a society

- *that meets the needs of the present generation,*
- *that does not compromise the ability of future generations to meet their own needs,*
- *and in which each human being has the opportunity to develop itself in freedom, within a well-balanced society and in harmony with its surroundings.*

Starting from this definition, 22 indicators have been determined, covering this comprehensive definition of sustainability in its broad sense. The 22 indicators are clustered into 5 categories as shown below.

I Personal Development

- 1 Healthy Life
- 2 Sufficient Food
- 3 Sufficient to Drink
- 4 Safe Sanitation
- 5 Education Opportunities
- 6 Gender

II Clean Environment

- 7 Air Quality
- 8 Surface Water Quality
- 9 Land Quality

III Well-balanced Society

- 10 Good Governance
- 11 Unemployment
- 12 Population Growth
- 13 Income Distribution
- 14 Public Debt

IV Sustainable Use of Resources

- 15 Waste Recycling
- 16 Use of Renewable Water Resources
- 17 Consumption of Renewable Energy

V Sustainable World

- 18 Forest Area
- 19 Preservation of Biodiversity
- 20 Emission of Greenhouse Gases
- 21 Ecological Footprint
- 22 International Cooperation

The most well-known indicator, GDP per capita (Gross Domestic Product per capita), is not included since economy is not explicitly included in the Brundtland+ definition. Only few people still consider GDP per capita to be a useful indicator for development towards sustainability. In that respect other indicators, the ISEW or the Dutch DNI (Duurzaam Nationaal Inkomen, Sustainable National Income), are far more indicative. Unfortunately they cannot be used for the SSI on a world-wide scale since these two indicators are available for no more than a couple of countries.

The Sustainable Society Index has been calculated for 150 countries. This offers the option for comparison between countries using various viewpoints: neighboring countries, more or less similar countries, regional comparisons, comparisons between rich countries like the OECD-members, comparison between "North" and "South" etc. 43 of the existing 193 countries had to be left out due to lack of data. The bigger of those are Afghanistan, Djibouti, Eritrea, Somalia and Surinam. But mostly it concerns smaller countries including small island states. For the calculation of the indicators of the SSI only data from public sources has been used.

Each indicator has been expressed on a scale from 0 to 10. A 10 expresses full sustainability; a 0 no sustainability at all. This quantitative approach requires that it should be defined what full sustainability for each indicator means. For some indicators this is very clear; for example the percentage of people with access to safe drinking water should be 100 to receive a score of 10. For some other indicators where this is not obvious, one can make an educated guess as to full sustainability and for some others even that is not possible. For the latter group the highest score in any of the 150 countries has received a 10 and the lowest score a 0. One has to bear in mind that the sustainability value of an indicator might be subjective to some extent. Moreover, it is likely to change over time. For instance population growth: now our planet seems overpopulated by human beings. However, it can very well be that in the future one has a different view on this issue.

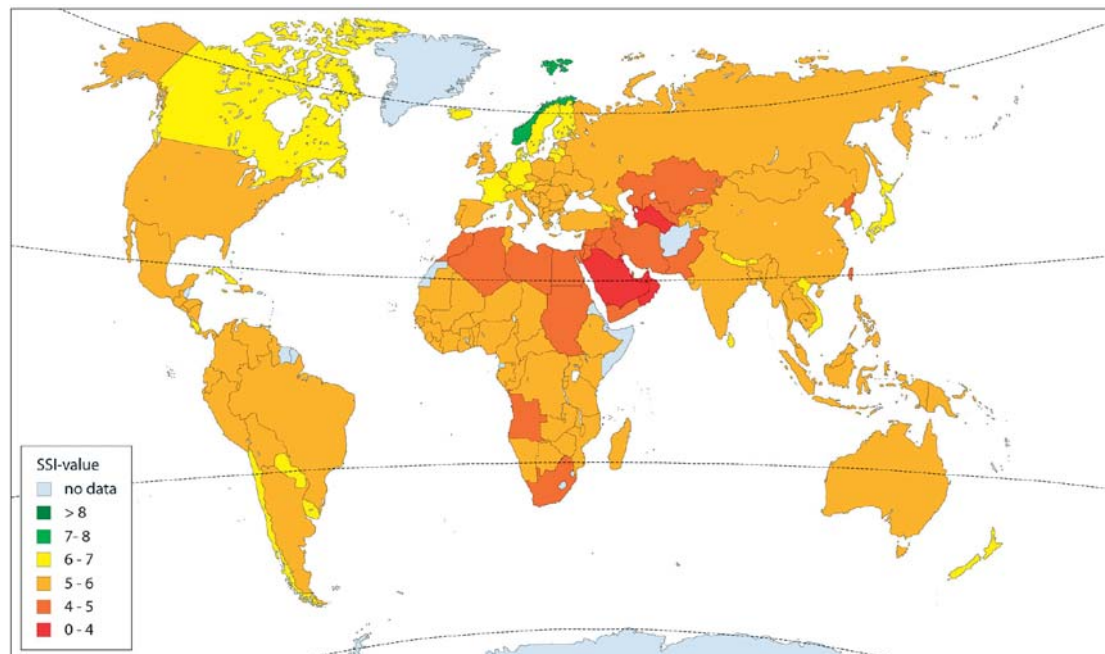
A more detailed description of the calculation methodology and all results can be found on www.sustainablesocietyindex.com.

Results

As could be expected, the world at large is far from sustainable. The average ISS score of all countries on our planet is only 5.5. See Figure 1. Does that mean half-way down or half-way up? When updates of the ISS become available in the coming years this question can be answered.

Norway is currently topping the SSI ranking list with a 7.0. Though being the best in class, even Norway is way below full sustainability.

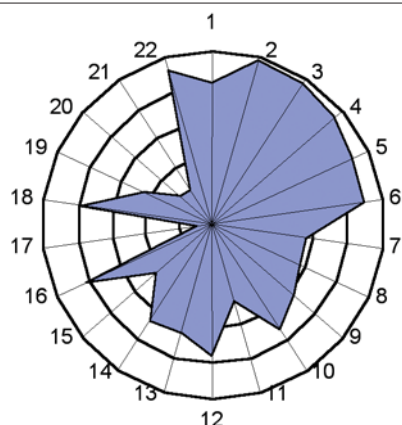
Figure 1 Overall SSI score for 150 countries



The average indicator scores for the 27 EU-member countries are shown in the spider web diagram in Figure 2. From this figure it is clear that in several areas there is much room for improvement. It concerns in particular the indicators of category IV (sustainable use of resources) and of category V (sustainable world). The scores for the indicators in category I (personal development) are relatively high.

These results show clearly that aggregation of scores for the individual indicators into one overall index entails a danger: it smoothes the differences between the individual scores. The final result, the score for the SSI, has less variation between maximum and minimum than the underlying figures, i.e. the scores of the indicators. So it is important always to look at the underlying figures as well.

Figure 2
Average SSI
indicators for
the EU-27



History of the SSI

The concept of the SSI has been developed by the Sustainable Society Foundation during the past three years. It was published late 2006 and presented in May 2007 at the Amsterdam Conference 2007. The SSI received a warm welcome, and at the same time, as could be expected, questions and criticism.

Research and further development of the SSI is a continuous process. In the meantime we are already working on the next biennial update of the SSI.

Examples of using the SSI

The SSI can be used in many ways:

1. To enlarge the awareness of people of the level of (un)sustainability of their own country.
2. As a policy instrument for all government levels. For instance at national level, each indicator can be assigned to a specific ministry. This ministry will then be responsible for the development towards sustainability with respect to this indicator. Frequent monitoring of progress will stimulate to reach the objectives set according to an agreed time schedule.
3. By NGOs to help them with their strategy towards Sustainability.
4. To compare the scores of countries in order to learn from, and to stimulate each other to make progress on the way to sustainability.
5. For educational purposes at all levels.

The SSI already has stimulated and supported various new developments.

- The international Peer Review of the Netherlands' sustainability policy used the SSI in its considerations.
- The SSI has played a role in the planning and monitoring of the sustainability policy of the Netherlands Government.
- Based on the SSI a sustainability index for greenhouse culture is now under development.
- Recently a project has started to introduce the SSI in Romania, both on national and regional level. It is the intention to use the SSI as tool for planning and monitoring sus-

tainability policies in the country. Spreading to other countries is foreseen.

- The SSI is being used for educational purposes at colleges and universities.

We hope to present a – further developed and improved – Sustainable Society Index by the end of 2008, when the next update will be published. We welcome your comments and suggestions.

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Time Distance Method for Analysing and Presenting Indicators

by **Pavle Sicherl**, SICENTER

Why we need the time distance method for analysing and presenting indicators

The time distance methodology offers a very interesting new way of analyzing and presenting indicators and time series data in general. Well-being and development are multidimensional and long-term phenomena, people compare and assess over many dimensions and over time. Time, besides money, is one of the most important reference frameworks in a modern society. The time perspective, which no doubt exists in human perception when comparing different situations, has been with the S-time-distance method systematically introduced both as a concept and as a quantifiable generic statistical measure.

- *The new generic time distance approach offers a new view of existing data that is exceptionally easy to understand and communicate, and it allows for developing and exploring new hypotheses and perspectives.*
- *It can also make important contribution to better exploitation of information resources in new ways and to the visualization of findings; it is also well placed to be used jointly with other methods.*

- *Expressed in time units it is an excellent presentation tool easily understood by policy makers, experts, managers, media and general public, it can support decision-making as well as influence public opinion.*

Definition of S-time-distance and policy implications: different statistical measures may lead to different perceptions about the situation

Statistical measure S-time-distance measures the distance (proximity) in time between the points in time when the two series compared reach a specified level of the indicator X. The observed distance in time (the number of years, quarters, months, etc.) for given levels of the indicator is used as a temporal measure of disparity between the two series, in the same way that the observed difference (absolute or relative) at a given point in time is used as a static measure of disparity.

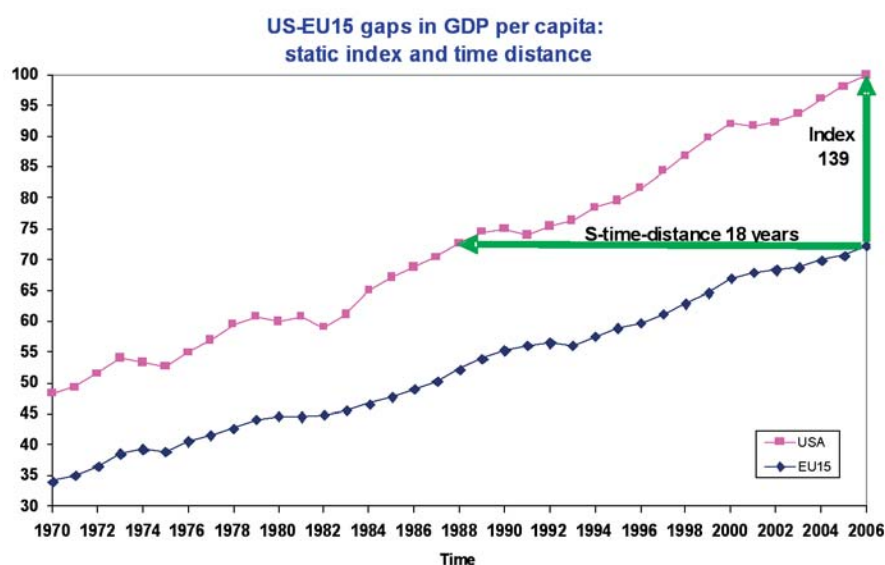
S-time-distance measure is a measure with clear interpretability that delivers a broader concept to look at data and to compare situations, including benchmarking and monitoring.

This innovation opens the possibility for simultaneous two-dimensional comparisons of time series data: vertically (standard measures of static difference) as well as horizontally (Sicherl time distance). In graphical terms, the usual way is to compare the time series in the **vertical dimension**, i.e. for a given point in time. The time distance approach uses an additional perspective; it compares the respective time series in the **horizontal dimension**, i.e. for a given level of the variable. Empirically, the degree of disparity may be very different in static terms and in time distance, which leads to important technical and policy consequences.

Benchmarking and gap analysis

Two time series can and should be compared in two dimensions:

1. static gap for a given point in time
2. gap in time for a given level of the variable



Comparing the EU15 for male-female differences in life expectancy in 2000 the female life expectancy was 6.3 years higher (absolute static difference), which amounted to about 8 percent difference (relative static difference) in relation to that of men. However, the S-time-distance was an astonishing 29 years. This means that women attained the value of male life expectancy for 2000 already in 1971, about three decades ago. The perception whether the gender difference in life expectancy in the EU15 is large or small depends on the measure used: static percentage difference is only 8 percent, while S-time-dis-

tance amounts to 29 years. For a more realistic conclusion all measures should be presented simultaneously.

This is important for analysis and policy debate for a single indicator and especially for comparisons across indicators with different growth rates in different fields of concern as needed for the Beyond GDP approach. The better the analytical framework the greater the information content provided to decision makers, experts, media and general public. If one does not use explicitly the broader framework outlined here, there is a possibility that in political debate and policy formulation various interest groups would intentionally look only at the measure which will suit their particular interest.

Monitoring and evaluation – how to present it better for public debate

A substantial effort of the international and national organizations as well as research organizations has been and will be channeled into collecting and analyzing the necessary data for the systems of indicators under discussion. However, the benefit for better decision making and wide participation of broad range of stakeholders will depend critically on the *human interface: understanding of the information and communication of that understanding* (Sicherl, 2006b). Monitoring and evaluation of the degree of implementation of policy targets are indispensable phases of the policy circle. The interpretation of the deviation of actual development from the line to target with S-time-distance measure is straightforward and

intuitively understandable; it deals with lead or lag against their own target. It is like tracking the actual arrivals in comparison with the train or bus timetable, the difference being that the concept of geographical space is in our application replaced with the indicator space.

With EUROSTAT we agreed on a selection of sustainable development indicators to be tested using the time distance methodology. In a single table there is a wealth of clear information about being on or off the track to targets for 12 selected indicators from 7 themes of SDI for all years.

People will intuitively understand the lead or delay in time of actual implementation against the assumed time table to the proclaimed targets.

This type of analysis can be repeated in the EU case for all 27 countries across a selected number of available indicators with established targets. In the case shown it is easy to observe the large delays in the theme 5 Climate change and energy; as well as in the road share of inland freight transport and share of R&D in GDP.

The above analysis for one unit across many indicators can be also performed for a given indicator across many countries or regions or socio-economic groups. Tracking the time table to Lisbon for total employment rate is here shown against the EU overall target, for NRPs the individual country targets for indicators will be taken into account.

If the relevant EU and national bodies would care to assess the S-time-distance measure by the same eight criteria applied to the selection of structural indicators like 1. Easy to understand, 2. Policy relevant, 3. Mutually consistent, ... 6. Comparable between countries, etc. (Munoz 2004), then for this application in monitoring implementation of the Lisbon EU and NRP strategies by structural indicators as well as for sustainable development

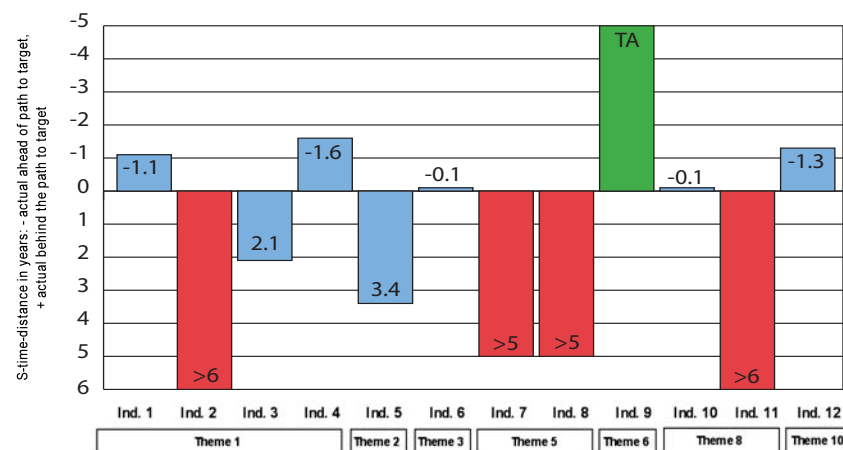
Monitoring implementation of Lisbon 1 targets for EU 15 accross 7 them of SDI (S-time-distance deviation from the linear hypothetical path to target)

Theme		Proposed SDI	2000	2001	2002	2003	2004	2005	2006
Theme 1 - Economic development	1	Life-long learning, %	0	1.0	1.8	-1.0	-2.0	-2.1	-1.1
Theme 1 - Economic development	2	Share of R&D in GDP	0	0.8	1.7	2.9	>4	>5	>6
Theme 1 - Economic development	3	Total employment rate, %	0	0.1	0.8	1.6	2.0	2.1	2.1
Theme 1 - Economic development	4	Employment rate, females, %	0	-0.5	-0.5	-0.2	-0.6	-1.1	-1.6
Theme 2 - Poverty and socila exclusion	5	Early school-leavers, %	0	0.5	1.2	1.5	2.0	2.7	3.4
Theme 3 - Ageing society	6	Employment rate of older workers, %	0	0.2	0.0	-0.2	0.1	-0.2	-0.1
Theme 5 - Climate change and energy	7	Total greenhouse gas emissions	0	>1	>2	>3	>4	>5	
Theme 5 - Climate change and energy	8	Share of electricity from renewable sources	0	0.2	>2	>3	3.9	>5	
Theme 6- Production and consumption pattern	9	Municipal waste lanfilled, kg per capita	0	0.1	-0.9	-2.5	-4.2	TA	TA
Theme 8 - Transport	10	People killed in road accidents	0	0.5	0.9	0.4	-0.2	-0.1	
Theme 8 - Transport	11	Road share of inland freight transport	0	>1	>2	>3	>3	>5	>6
Theme 10 - Global partnership	12	Official development assistance, % of GNI	0	-0.1	0.4	0.9	0.9	-1.3	

S-time distance in years: - actual ahead of path to target, + actual behind the path to target

TA	Target already achieved
> x	Actual value is worse than the starting value, therefore S-time-distance is more than x

Visualisation for the latest available S-time-distance estimate for SDI for EU15



Lisbon 1 target of 70 % employment rate in 2010 for all countries (S-time-distance deviation from the linear hypothetical path to target)

	2000	2001	2001	2003	2004	2005	2006
EU (25 countries)	0	0.5	1.5	2.3	2.8	3.2	3.0
EU (15 countries)	0	0.1	0.8	1.6	2	2.3	2.1
Denmark	TA	TA	TA	TA	TA	TA	TA
Netherlands	TA	TA	TA	TA	TA	TA	TA
Sweden	TA	TA	TA	TA	TA	TA	TA
United Kingdom	TA	TA	TA	TA	TA	TA	TA
Austria	0	1	0.7	0.3	0.0	4.3	TA
Cyprus	0	-3.9	-4.7	-5.1	-3.4	-1.5	-3.8
Estonia	0	0.4	0.3	0.4	1.3	0.8	-2.0
Finland	0	-2.2	-1.2	1.2	2.6	0.7	-1.5
Ireland	0	-0.2	1.4	2.4	1.7	0.0	-1.1
Latvia	0	0.1	-0.3	-0.4	0.2	0.4	-1.0
Spain	0	-0.1	0.4	0.4	0.5	-0.1	-0.2
Slovenia	0	-0.4	1.2	>3	0.5	0.6	0.7
Lithuania	0	>1	1.3	1.2	2.1	1.8	1.9
Germany	0	0.5	>2	>3	>4	>5	2.4
Greece	0	1.1	1.3	1.4	1.9	2.3	2.7
Italy	0	0.3	0.9	1.5	1.6	2.6	3.1
Slovakia	0	1	2.0	2.3	3.8	4.3	4.0
Luxembourg	0	0.5	1.0	>3	>4	3.8	4.8
France	0	0.1	0.9	1.5	2.7	3.7	4.9
Hungary	0	>1	>2	2.5	3.6	4.6	5.3
Czech Republic	0	1	1.2	>3	>4	>5	5.4
Belgium	0	>1	>2	>3	>4	4.4	5.5
Malta	0	0.9	1.9	3.0	>4	>5	5.6
Portugal	0	-2.7	-0.5	>3	>4	>5	>6
Poland	0	>1	>2	>3	>4	>5	>6

S-time-distance in years: - actual ahead of path to target, + actual behind the path to target.

strategies the S-time-distance measure would pass the test with flying colours.

Wide range of possible applications

In empirical research and in decision-making the art of handling and understanding different views of data is crucial. We need innovative perspectives also in statistical concepts and measures, not only in qualitative and other dimensions. The possibilities for S-time-distance analysis range from a simple analysis of monitoring implementation of targets to more complex benchmarking and to a very complex econometric analysis (Granger and Jeon used time distance as a criterion for evaluating forecasting models). The time distance approach can thus contribute a useful piece of the mosaic in building up an internationally supported methodology to measure and assess the overall “position” and “progress” among and within countries. Examples are available on www.sicenter.si and www.gaptimer.eu

UN Statistical Division decided to put the software to calculate the S-time-distance measure for

monitoring the implementation of the Millennium Development Goals on its official MDG web site to enable countries and other stakeholders to take advantage of this complementary statistical measure for policy debate at various levels.

SICENTER is in the process of developing a web application which would allow a variety of interested users such as international and national organizations, NGOs, experts, managers, educators, students and media to monitor with S-time-distance the lead or lag in time from the Lisbon and NRP targets in the case of EU and for the UN Millennium Development Goals or other planned, budget, or aid disbursement targets at world, regional, national, sub-national and business levels. The first version of the free web monitoring tool for Lisbon targets is available at www.gaptimer.eu/content/view/25/34.

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Benefits of immediate operational uses of time distance

- **A new view in competitiveness issues, benchmarking , target-setting and monitoring** for economic, employment, social, R&D and environment indicators at the world, OECD, EU, country, regional, city, project, socio-economic groups, company, household and individual [levels](#)
- **A broader dynamic framework for interrelating strategy issues of growth, efficiency, inequality and convergence**
- **Enhanced semantics for policy analysis and public debate**
- **Additional exploitation of databases and indicator systems**
- **An excellent presentation and communication tool:**
 - ✧ among different levels of decision makers and interest groups
 - ✧ for describing of the situations, challenges and scenarios
 - ✧ for proactive discussion and presentation of policy alternatives to policy makers, media, the general public and mobilizing those participating in or being affected by the programs
 - ✧ for communicating the urgent need for change and reforms

World Happiness Index

by Pierre le Roy

1 – World Happiness Index: why?

- **Limits of GDP as an indicator** to assess the world or a country situation are widely acknowledged. As an example: **Equatorial Guinea**, thanks to oil production, shows a GDP per capita of **20,000 dollars** (in purchasing power parity), which is equivalent to **Greece**, but the **under-5 mortality rate is 204 in Equatorial Guinea and 5 in Greece...**
- More generally speaking, GDP is not a satisfactory index because **it ignores important things of daily life**: when a tree is cut down, GDP grows; traffic accidents increase GDP, and so do wars potentially! Conclusion by **Robert Kennedy**: **GDP “measures everything, in short, except that which makes life worthwhile”.**
- The only significant progress to go beyond GDP has been the creation, in 1990, of the **human development index (HDI)**, calculated and published yearly by the United Nations Development Program (UNDP). For each country and globally, HDI aggregates: **GDP, life expectancy at birth and education level.**

World Happiness Index (GHI) goes further!

2 – World Happiness Index: how?

- The first question to answer is: **what is a happy world? What is a happy country?**
Answer: it's a world or a country:
 - > Where people live peacefully and safely;
 - > Where people live freely and democratically, and where human rights are respected;
 - > Where quality of life is good;
 - > Where research, education, information, communication and culture are shared by all.
- As a result the idea is to choose, for each of these **4 chapters, 10 indices from reliable sources and published every year** (UNDP, World Bank, WHO, SIPRI, Amnesty, HCR...); **WHI is, for any given year, the average of these 40 indices.**
- Selected global indices are the followings :
 - > Peace and security : 1 – number of nuclear warheads, 2 – number of victims of major armed conflicts, 3 – military expenditures, 4 – number of violent deaths, 5 – number of refugees, 6 – number of victims of natural or technological disasters, 7 – corruption, 8 – economical and financial security, 9 and 10 – probability of dying before age 60.
 - > Freedom, democracy, human rights : 1 – number of people living freely, 2 – level of democracy in the world, 3 -press freedom, 4 – children rights: under-5 mortality rate, 5 – death penalty, 6 – women rights: gender development index, 7 – percentage of female parliamentarians, 8 – women's school enrolment, 9 – boys' and girls' school enrolment, 10 -child labour.
 - > Quality of life : 1 – GDP per capita, 2 – GDP per capita, disparities, 3 – life expectancy at birth, 4 -human poverty index, 5 – GINI coefficient, 6 – suicides, 7 – CO₂ rate, 8 – forest area per capita, 9 – water and hygiene, 10 – clean air.
 - > Research, education, information, communication, culture: 1 – Research and Development, 2 and 3 – boys and girls education rate, 4 – adults literacy rate, 5 – education disparities, 6 – number of copies of daily newspapers per capita, 7 – number of television receivers per capita, 8 – ICT: phones, PC, Internet, 9 – number of movies, 10 – international tourist trips.
- **We emphasize here the importance given to education in all aspects, disparities and women status.**
- **Initially calculated for the year 2000, which sets the basis 100, WHI evolves every year, increasing or decreasing, depending on the average of these 40 indices.**
- Results are published once a year on www.globeco.fr, section: **“GLOBECO, la revue”**, under the title: **“bonheur mondial, édition 2007” (world happiness, 2007 edition)**, for the last edition.

3 – Country ranking

- **Country ranking** is calculated on the same basis as the world happiness index, from the **20 following indices**:
 - > Peace and security : war and peace, violent deaths, corruption, economical security, human security;
 - > Freedom, democracy, human rights : democracy, press freedom, women rights, children rights, death penalty;
 - > Quality of life : GDP per capita, GINI coefficient, life expectancy at birth, suicides, clean air;
 - > Education, information, communication : education (coefficient 2), newspapers, TV, Internet.
- This ranking is done over **60 countries** which represent **85% of worldwide population and over 90% of global GDP**.

4 – « World happiness, 2007 edition » : the results

WORLD HAPPINESS INDEX

	2006 / 2005 (2005 = 100)	2006/2000 (2000 = 100)
Peace and security	100,95	90,50
Freedom, democracy, human rights	101,09	105,08
Quality of life	101,97	99,11
Research, education, information, communication, culture	101,80	114,44
RESULTS	101,45	102,28

COUNTRY RANKING 2007

1 – NORWAY	21 – CZECH REPUBLIC	41 – PHILIPPINES
2 – SWEDEN	22 – SOUTH KOREA	42 – MOROCCO
3 – NETHERLANDS	23 – HUNGARY	43 – ALGERIA
4 – DENMARK	24 – BALTIC COUNTRIES	44 – EGYPT
5 – AUSTRALIA	25 – ISRAEL	45 – CHINA
6 – CANADA	26 – POLAND	46 – SAOUDI ARABIA
7 – FINLAND	27 – CHILI	47 – RUSSIA
8 – GREAT BRITAIN	28 – ROMANIA	48 – VIETNAM
9 – IRELAND	29 – BULGARIA	49 – PERU
10 – SWITZERLAND	30 – MEXICO	50 – INDONESIA
11 – GERMANY	31 – MALAYSIA	51 – SRI LANKA
12 – AUSTRIA	32 – ARGENTINA	52 – IRAN
13 – SPAIN	33 – VENEZUELA	53 – UZBEKISTAN
14 – BELGIUM	34 – BRAZIL	54 – INDIA
15 – FRANCE	35 – COLOMBIA	55 – PAKISTAN
16 – JAPAN	36 – UKRAINE	56 – BANGLADESH
17 – ITALY	37 – TURKEY	57 – NIGERIA
18 – GREECE	38 – TUNISIA	58 – DR OF THE CONGO
19 – PORTUGAL	39 – THAILAND	59 – ETHIOPIA
20 – UNITED STATES	40 – SOUTH AFRICA	60 – UNION OF MYANMAR

For further information:

www.globeco.fr ; Contact: pleroy@globeco.fr
 Full text of “**Bonheur mondial, édition 2007**” will be online (in French) on www.globeco.fr by november 14, 2007, section “**Globeco : la revue**”.

In the same section, you'll find another article on the issue, entitled “**Mesurer le bonheur, à quoi bon ? La réponse de GLOBECO et de quelques autres**” (*Measuring happiness, what for? Answers from GLOBECO and a few others*).



Overview of conference background papers



Measurement Beyond GDP

Bart Wesselink, Jan Bakkes, Aaron Best, Friedrich Hinterberger and Patrick ten Brink, 2007.

Full paper available at: <http://www.beyond-gdp.eu/download/bgdp-bp-mbgdp.pdf>

Abstract

Policy makers and the general public would benefit significantly from improvements in our ability to assess the well-being of people and the health of nature. Being able to discern and measure progress more comprehensively than with GDP per capita is a key prerequisite for improved decision making. Since the early 1990s, a broad range of indicators have been developed to assess our progress, many of them developed in the context of helping to achieve the objective of sustainable development. More recently, attention has been paid to improving our ability to measure well-being and happiness. These new indicators and measurement approaches both challenge and complement the traditional economic indicators that continue to play a dominant role in guiding decisions.

This brief paper provides a historical and theoretical background for the November 2007 conference *Beyond GDP: Measuring progress, true wealth and the well-being of nations*. The paper suggests several lines along which the role of different indicators used by policy makers, the media and their constituencies can be strengthened. These possible ways forward include:

- **Indicator sets** – the development of indicator sets with a small number of high-level indicators with a strong signalling function;
- **Application** of existing aggregated single-number indicators in a forward-looking manner using present-day and future modelling capacities;
- **Satellite accounts** – improvement and implementation of the Integrated Environmental and Economic Accounting (SEEA) system, including environmental asset accounts. For example, increasing application in official statistics of Genuine Savings at the national level; and
- **Risk assessment** – including economic risks of ecological decline in economic outlooks – even if they cannot be quantified and monetised with certainty.
- **Quantitative and qualitative surveys** of emerging concepts like quality of life, life-satisfaction, well-being, happiness.

In this paper, we also introduce the policy cycle as a framework to show how different indicator approaches can serve, or be tailored for, specific phases of the policy cycle. The paper primarily uses environmental indicators as illustrative examples of the various indicator types, but the same arguments extend to social and economic indicators as well. Using the policy-cycle framework reveals the key strengths of each indicator approach and points to a way forward where multiple measurement approaches, complementary to GDP, can be relied upon for improving measurement and decision making.

Beyond GDP: Overview paper for the Beyond GDP conference

Marcel Canoy and Frédéric Lerais, 2007.

European Commission, Bureau of European Policy Advisers (BEPA).

Full paper available at: <http://www.beyond-gdp.eu/download/bgdp-bp-bepa.pdf>

The European Commission, European Parliament, Club of Rome, OECD and WWF will host a high-level conference with the objectives of clarifying which indicators are most appropriate to measure well-being, and how these can best be integrated into

the decision-making process and taken up by public debate. The conference will bring together high-level experts and policy makers to address these critical issues. Over 300 people from economic, social and environmental spheres will attend.

The conference will host several high-level speakers, including internationally recognised leaders and government representatives, members of the European Parliament as well as speakers from civil society, think tanks, industry, and key institutions such as the World Bank and the United Nations. European Commissioners José Manuel Barroso, Joaquín Almunia, Stavros Dimas and Vladimír Špidla are confirmed speakers. Preceding the main political conference, an expert workshop will be held, where lead-

ing practitioners will consider progress in the development and policy application of indicators of well-being.

There is a sense of urgency to discuss measures of well-being that move beyond GDP. The interdependent, global and long-term nature of current challenges such as human capital investment, environmental challenges, migration and security issues, requires a broad view on well-being and ways to measure it.

Alternative progress indicators to Gross Domestic Product (GDP) as a means towards sustainable development

Yanne Goossens et al. 2007 IP/A/ENVI/ST/2007-10.

Study provided for the Committee on Environment, Public Health and Food Safety of the European Parliament.

Full paper available at: <http://www.beyond-gdp.eu/download/bgdp-bp-goossens.pdf>

Executive summary

Assessing existing policies or developing new policy options requires indicators showing where a community stands, where it is going and how far it is from where it wants to be. Indicators are necessary in all steps of the policy cycle: to describe the current situation/problem; to analyse the causes; to identify possible solutions and analyse, select and implement policy proposals; to monitor and evaluate the policies and to communicate the outcomes at all steps of the policy cycle.

Economic performance is generally being measured through GDP (Gross Domestic Product), a variable that has also become the de facto universal metric for 'standards of living'. However, GDP does not properly account for social and environmental costs and benefits. It is also difficult to achieve sustainable decision-making aiming at sustainable progress and wellbeing if welfare is being considered from a purely financial point of view. Sustainable development can be defined as "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Therefore, in order to effectively measure 'progress, wealth and well-being', one must go *beyond GDP*. This requires clear and at the same time multidimensional indicators show-

ing the links among a community's economy, environment, and society.

The study highlights the benefits and some of the shortcomings of GDP. It serves a crucial and helpful role in macroeconomic policy, both monetary and fiscal policies. GDP is also fairly unique in that it combines simplicity, linearity and universality, as well as carries the objectivity of the 'observable market price' as its guiding principle. Attempting to abolish GDP, therefore, would be neither feasible nor recommendable. The real problem presumably is that GDP growth is too often confused with (sustainable) welfare growth in people's, and policy-makers', minds. While there certainly is a correlation between the two, this study shows that this is a highly conditional correlation, void of substantial causality for GDP levels observable in the European Union.

Failing the discovery of a perfect substitute, GDP can continued to be used for (economic) reform assessments and particular questions of economic policy (such as fiscal and monetary policy), but beware of interpreting it as a general sustainable development and welfare measure giving any substantial and universally valid idea about people's well-being. For these purposes, it is better to turn to alternative measures going beyond GDP, some of which were analysed in this study.

Using so called SWOT analyses, several alternative progress indicators have been assessed in the context of this study. This allows for an assessment of the internal Strengths and Weaknesses and the externally-driven Opportunities and Threats of each indicator for going *beyond GDP*¹. To do so, the selected indicators have been divided in three categories: those replacing, adjusting and supplementing GDP (the latter being divided into two subcategories). The first category contains indicators **adjusting GDP**. In this approach, traditional economic performance measures like GDP or national saving rates have been adjusted by including monetised environmental and social factors. Such indicators can serve as a valuable communication tool whereby the end result sends out a positive or negative signal to the audience. However, difficulties arise when trying to monetise environmental and social factors.

The category **replacing GDP** contains indicators that try to assess wellbeing more directly than GDP, e.g. by assessing average satisfaction or the achievement of basic human functions. By replacing GDP, these indicators might not appropriately consider the advantages of GDP which is

not always a realistic option for decision-making. Nevertheless, these indicators can serve as valuable instruments to improve public participation and to assess and communicate several aspects of sustainability and well-being.

The category **supplementing GDP** seems to be the most realistic and acceptable option for going beyond GDP. Within this approach, GDP is being complemented with additional environmental and/or social information. A first group are the 'satellite account systems' which complement the conventional statistical national accounts with environmental and/or social information. A second group sets social and environmental information in relation to GDP. For the first group, a good deal of statistical data is already available and best practices of its use and its potential for decision-making exist. However, in comparison to the GDP itself these approaches often lack public perception and political support. The establishment of an overarching, transparent and popular reference indicators system for EU policies might therefore be the next step for improving decision-making in support of sustainable development.

Measuring Well-being and Societal Progress

Enrico Giovannini, Jon Hall and Marco Mira d'Ercole, 2007.

Organisation for Economic Co-operation and Development.

Full paper available at: http://www.beyond-gdp.eu/download/oecd_measuring-progress.pdf

Introduction

For many years, using a monetary measure like GDP per capita as a proxy for the population's well-being made much sense, at least for developed countries. GDP per capita provides an accurate measure of a country's capacity to deal with the material needs of its residents. And so long as the basic necessities of life remain scarce, additions to GDP per capita can be expected to equate closely with improvements in meeting the population's basic needs, and hence in greater well-being.

The consensus on the use of GDP per capita as a good proxy measure of well-being is, however, becoming less obvious also for economists, as the more developed societies move from a situation of scarcity to a situation of plenty. The intuitive notion that, once a certain level of material needs has been met, further increments in economic growth

will not yield the same improvements in the well-being of the citizens is backed up by numerous studies that indicate that this divergence between added income and added well-being holds true both within and across societies. At the same time, concerns have emerged on how economic growth led in many countries to environmental depletion, an element that is not included at all in GDP.

Several studies have been published over the last two decades on alternative measures of well-being/ quality of life/ sustainable development/ societal progress, all terms closely related to each other. Academic researchers, official statisticians and international organisations have proposed alternative measures, which can be classified according to different criteria. A consensus has not emerged yet on the best way to go, but with the "Istanbul Declaration" – signed in June 2007, at the end of the II OECD World Forum on "Statistics, Knowledge and

Policy” by the European Commission, the OECD, the Organisation of the Islamic Conference, the United Nations, the United Nations Development Programme, UNICEF and the World Bank – one can say that the need to go “beyond GDP” is now fully recognised at political level.

This paper presents a synthetic review of different approaches to the measurement of well-being. The review does not quote all initiatives and proposals, but provides an overview of what alternative approaches propose and some empirical evidence, as well as some information about research projects currently underway in the international statistical community. The first part of this paper considers four approaches to measuring well-being, especially looking at the social side of it¹. First, it presents evidence on the importance for well-being of social indicators and on the extent to which they are correlated

with GDP per capita. Second, it reviews monetary measures of economic resources derived from national accounts. Third, it looks at ways in which these monetary measures can be adjusted to take into account other factors that influence well-being, in particular leisure time, household size and aversion to inequality. Finally, it considers subjective measures of happiness and life satisfaction.

The second part of the paper deals with more recent initiatives undertaken at international level to measure sustainable development, especially to incorporate environmental concerns and phenomena. Finally, the third part describes recent OECD initiatives: the main conclusions of the recent Istanbul Forum and the content of the Global Project launched by the OECD to measure the “Progress of Societies”.

¹ This paper draws on analysis provided in Boarini *et al.* (2006) and in OECD (2006a).

Accounting for the Environment - The European Development

Elisabeth Møllgaard, 2007. European Commission, Eurostat, Unit Environment statistics and accounts.

Full paper available at: <http://www.beyond-gdp.eu/download/bgdp-bp-mollgaard.pdf>

Economic and social aspects of our society influence the pressures that are exerted on environmental systems. The environmental accounting framework (SEEA, 2003) is particularly useful to assess the influence of the economy on the environment both directly and indirectly. The environmental accounts have the advantage that they are consistent with National Accounts. Furthermore, they can be coupled to input-output tables, which make it possible to perform in-depth analyses of the relationship between the economy and the environment. In this paper we will summarise the activities in the European countries and the main future challenges in order to Account for the Environment.

The economy is a complex system of which extraction of natural resources, production, consumption, technology, investment, imports and exports, and release of wastes (and pollution) are just a few of the many different interrelated

dimensions. All these different aspects of the economy may have detrimental or beneficial effects on environmental pressures.

The System of Integrated Environmental and Economic Accounting (SEEA) has been developed to link environmental and economic statistics. An important characteristic of environmental accounting is that the data are consistent with the National Accounts which mean that the environmental data can be directly compared to well known macro-economic indicators such as GDP, inflation and investment rates, developed in the System of National Accounts (SNA).

Specific accounts in the SEEA cover e.g. (1) natural resources such as forests, oil and gas (stocks); (2) flow accounts for material use, air emissions, water, waste; and (3) economic accounts for environmental expenditure and revenues, eco-industries and taxes. Combined with

the national accounts, the environmental accounts provide a powerful tool to analyse to what extent our current production and consumption patterns are degrading natural resources or are polluting the environment. Up to now there no work to put these pressures in relation to potential thresholds in the environment beyond those the degradation becomes irreversible and how the degradation of the environment harms the economy. In addition the data includes information about policy measures such as environmental related taxes or subsidies.

Environmental Accounts can answer tricky political questions and give a complement to environmental

statistics: are we reaching the desired decoupling (economic growth with less and less impact on the environment)? Are we respecting the Kyoto targets in terms of greenhouse gas emissions or are we simply exporting the emissions by relocating production activities? What are the more or less harmful economic sectors for the environment? What is the productivity from natural resources at European level? How much employment is generated by environmental protection? Are eco-industries growing? Are Market-based policy instruments increasingly used?

Accounting fully for ecosystem services and human well-being

EEA contribution to the Beyond GDP conference, 2007.

European Environment Agency.

Full paper available at: <http://www.beyond-gdp.eu/download/bgdp-bp-eea.pdf>

"Because National Accounts are based on financial transactions, they account nothing for Nature to which we don't owe anything in terms of payments but to which we owe everything in terms of livelihood."

Bertrand de Jouvenel, Arcadie, 1968

Introduction: Ecosystem services and human well-being

An ecosystem is a dynamic complex of plant, animal, and micro-organism communities and the non-living environment interacting as a functional unit between themselves and with human economic and social systems. There are a wide range of ecosystems in Europe and globally – from those relatively undisturbed, such as natural forests, to landscapes with mixed patterns of human use, to ecosystems intensively managed and modified by humans, such as agricultural land and urban areas. For operational assessment and valuation, ecosystems have to be considered as socio-ecological systems.

Ecosystem services are the benefits people obtain from ecosystems. These include *provisioning services* such as food, water, timber, and fiber; *regulating services* that affect climate, floods, soil, disease, wastes, and water quality; *cultural*

services that provide recreational, aesthetic, and spiritual benefits (see Figure 1).

Human well-being is assumed to have multiple constituents, including the *basic material for a good life*, such as secure and adequate livelihoods, enough food at all times, shelter, clothing, and access to goods; *health*, including feeling well and having a healthy physical environment, such as clean air and access to clean water; *good social relations*, including social cohesion, mutual respect, and the ability of help others and provide for children; *security*, including secure access to natural and other resources, personal safety, and security from natural and human-made disasters; and *freedom of choice and action*, including the opportunity to achieve what an individual values doing and being.

People are integral parts of ecosystems and a dynamic interaction exists between them and other parts of ecosystems, with the changing human condition driving, both directly and indirectly, changes in ecosystems and thereby causing changes in human well-being. At the same time, social, economic, and cultural factors unrelated to ecosystems alter the human conditions, and many natural forces influence ecosystems. The actions that people take influence ecosystems not just from concern about human well-being but also from considerations of the intrinsic value of species and ecosystems.

Well Being Stories

Andrea Saltelli, Jochen Jesinghaus and Giuseppe Munda, 2007.

European Commission, Joint Research Centre, Ispra (Italy)

Full paper available at: <http://www.beyond-gdp.eu/download/bgdp-bp-saltelli.pdf>

Abstract

This paper deals with the difficult issue of measuring well-being. We are aware that this concept is very complex and we are not giving any final answer here. However we are convinced that even the simple attempt of measuring well-being may produce valu-

able lessons to be learned at a societal level. This paper tackles with three main issues:

1. *The role of GDP as main policy indicator*
2. *Lessons learned from already existing well-being stories*
3. *Practical steps to develop an empirical well-being composite indicator.*

The use of indicators in the European Commission

Stephen White and Oliver Zwirner, 2007. European Commission, Directorate-General Environment, Unit Sustainable Development and Economic Analysis.

Full paper available at: <http://www.beyond-gdp.eu/download/bgdp-bp-white.pdf>

Introduction

The European Commission is bound to propose evidence based policies to Council and Parliament. These policies originate in the social, economic or environmental policy spheres but often have impacts across a number of policy areas.

The European Commission uses a range of indicators to support policy making in its various

steps, from awareness rising, decision-making to monitoring of implementation. The overall indicator picture is dynamic rather than static – more indicators are being used and existing indicators are being continually updated and upgraded. The indicators used differ in their make-up, coverage, and the emphasis put on them. What they have in common is that they have been designed to be used, and since the policy context differs from situation to situation so does their design.



Annexes



Beyond GDP



Measuring progress, true wealth, and the well-being of nations

International Conference, 19 & 20 November 2007, Brussels

Dear participants,

On behalf of the conference partners, it is my pleasure to welcome you to the Beyond GDP conference.

The maxim that we need to “measure what matters” has grown increasingly important over the years. Never before has so much information been available on such a wide array of topics. And as new challenges emerge so do new measures. Who could have predicted decades ago that today’s society would be talking of CO₂ concentrations in our planet’s atmosphere?

The conference partners – the European Commission, European Parliament, Club of Rome, WWF and OECD – are each committed to improving how we measure, evaluate, communicate and respond to the challenges of our times. Our hope is that this conference will be an important catalyst for the work to come in improving our measures of progress, true wealth, and the well-being of nations so that we can manage our new challenges.

I would like to thank all the organisers and staff for their hard work putting on this conference, and especially the European Parliament for their hospitality in offering to host the event in the Hemicycle. We have gathered an impressive array of speakers and chairs for both the conference and expert workshop, and I am grateful to each of them for sharing their experience and insights with us.

Lastly, and most importantly, I thank each of the participants for your contributions at the conference and in the future work to come.

Sincerely,

Stavros Dimas
Commissioner for the Environment
European Commission

Quotes from the Partners

- **José Manuel Barroso**

President of the European Commission

"It is not enough for us to talk about freedom, climate change, health, security and the environment. We need widely accepted communication tools that show progress in these fields. And that progress can only be measured with suitable indicators. So it's time to go beyond the tools developed for the very different world of the 1930s. It's time to go beyond today's confusing surfeit of unorganised data. It's time to go beyond GDP."

- **Hans-Gert Pöttering**

President of the European Parliament

"Major negative effects of globalisation such as climate change pose new risks not only to our eco-system but to our entire economies and eventually our societies as a whole. This is why new indicators of wealth are needed and the European Parliament - the EU's directly-elected body which is answerable to the citizens - can play a key role in helping to shape the required broad democratic consensus."

- **Ashok Khosla**

Co-President, Club of Rome

"If we are to end gross disparity and poverty, reduce rampant climate change and species extinction, avoid massive depletion and destruction of resources and preempt the resulting overshoot and collapse of societies, we must go well beyond simplistic indicators such as the gross domestic product that have today become the grossest mismeasures of progress."

- **Pier Carlo Padoan**

Deputy Secretary-General, OECD

"The OECD believes better statistical information is an essential support to democratic governance. So, yes, the OECD thinks it is time to move beyond GDP to provide better and more useful information. We believe that by using GDP and indicators covering other aspects of our life it is possible to develop new measures of progress and we are ready to support the growing global movement which shares these views. This is why we have launched a Global Project on "Measuring the Progress of Societies."

- **HE Chief Emeka Anyaoku**

President, WWF

"What we currently measure as development is a long way away from the EU and world's stated aim of sustainable development. This is because economic decisions routinely ignore natural capital expenditure."

"Economic indicators are essential, but without natural resource accounting, ecological deficits will go unnoticed and ignored. It is as if we spent our money without realizing that we are liquidating the planet's capital."

IP/07/1718

Brussels, 19 November 2007

Measuring progress, wealth and the well-being of nations

Measuring progress, true wealth and the well-being of nations are the topics that will be discussed at a high-level conference on 19-20 November organised by the Commission in partnership with the European Parliament, the OECD, the Club of Rome and WWF. The aim of the conference is to move towards a better appreciation of what progress, wealth and well-being actually are, decide how they should be measured, and highlight the benefits of integrating them into decision-making. The Beyond GDP conference will be opened by the President of the Commission, José Manuel Barroso on the first day and the President of the European Parliament, Hans-Gert Pöttering, on the second day.

GDP no longer a good measure of well-being

Moving towards a low-carbon economy, preserving biodiversity, promoting resource efficiency and achieving social cohesion are today as important as economic growth. Measuring these elements in a comprehensive manner to quantify the well-being of a country is highly complex and most economic indicators used today – such as GDP (Gross Domestic Product) – do not fully address these issues.

The GDP indicator was created in the wake of the great depression and the subsequent second world war as a means of providing decision-makers with a measure of economic performance and activity. But today's economy and society are substantially different from those of the mid-20th century when GDP was conceived.

GDP has arguably helped decision-makers avoid a second great depression, guide reconstruction efforts after the war and maintain unprecedented economic growth over the past 40 years. But the indicator alone cannot reflect all facets and needs of modern society. Indeed a growing GDP can mask substantial losses in wealth and well-being. A country could, for example, cut down all its forests or send children to work instead of school and this would have a positive effect on GDP or a hurricane killing thousands and wreaking widespread destruction could prove beneficial to GDP due to the ensuing reconstruction efforts.

Moving beyond GDP

GDP indicates that the output of the world's major economies have been growing steadily from the 1950s to date. But using other indicators it is clear that progress has not kept pace with GDP and that during certain periods some countries' economic welfare has even stagnated.

Over the last two decades a number of alternative indicators have been designed to complement GDP in measuring progress and the health of the economy. They introduce aspects not covered by GDP such as the long-term accumulation of wealth (natural, economic and social), the levels of life expectancy, literacy, and education and the negative impact of pollution and resource degradation.

Some of these indicators are already in use today to measure 'real progress' in setting targets and objectives. In March 2001 the Welsh Assembly was the first administration in the world to do so. However, these indicators are neither homogeneous nor is their use widespread.

The European Union is now developing an indicator that would measure environmental progress and also use integrated accounting and other sub-indicators to improve policy-making. A preliminary version is due to be operational by 2009. The initiative is linked to the Global Project launched by the OECD at the Istanbul World Forum (June 2007) where a call was made on the need for international indicators to measure the progress of societies. Another Beyond GDP conference partner – the World Wildlife Fund for Nature (WWF) – has established an indicator which takes into account the depletion of ecological assets.

The Beyond GDP conference

The Beyond GDP conference is the launching pad for the political debate on the need to move beyond the principles of Gross Domestic Product. It will be held at the European Parliament building in Brussels. Some 600 participants from the economic, social and environmental sectors will be attending. Speakers include José Manuel Barroso (President of the European Commission), Hans-Gert Pöttering

(President of the European Parliament), HE Chief Emeka Anyaoku (President, WWF), Ashok Khosla (Co-President, Club of Rome), and Pier Carlo Padoan (Deputy Secretary General, OECD).

The entire conference will be webstreamed live and can be viewed on the conference's website
<http://www.beyond-gdp.eu>

The 12:30 press conference on 19 November and some sessions will also be available to television stations
<http://ec.europa.eu/avservices/ebs/schedule.cfm>.

MEMO/07/472

Brussels, 19 November 2007

Questions and Answers on Gross Domestic Product (GDP)

1) What is GDP?

GDP is the gross domestic product of a country. It measures the total final market value of all goods and services produced within a country during a given period. GDP is the most frequently used indicator of market activity and is most often measured on an annual or quarterly basis to gauge the growth of a country's economic activity between one period and another. GDP is also a measure of total consumer, investment and government spending plus the value of exports minus imports.

GDP is the most widely used indicator from the System of National Accounts (SNA). Its methodology is standardised internationally thus enabling comparison between countries anywhere in the world. GDP was created in the wake of the great depression and second world war to provide decision-makers with a measure of economic performance and activity.

2) What are the limits of GDP?

There is nothing wrong with GDP itself. It is a valuable economic indicator which serves an important purpose in economic policy making. Due to the implicit link between economic growth and aspects of well-being such as employment and consumption, GDP is often regarded as a proxy indicator of human development and well-being. Within the existing framework of national accounts the information covered could be broadened by putting more emphasis on net domestic product

such as GDP corrected for depreciation or by better measuring nations' balance sheets.

But the way GDP takes into account social and environmental issues in measuring economic growth is questionable. GDP does not factor in a number of elements important in determining the well-being of people. For example, it overlooks the value of certain non-market goods and services such as natural resources and unpaid activities and leisure. GDP highlights average income which may not correspond to the actual income of any specific group of the population. Average income provides no indication about the distribution of income between citizen. And it focuses on short-term economic activities rather than longer-term sustainable development aspects such as the growth of natural, economic and human capital.

Most other mainstream economic indicators are also limited in the way they tackle non-economic issues such as progress and well-being. It is not alternatives to GDP that are needed, but additional indicators to complement it. It is still important to know how many goods and services are produced or how strong an economy is. But more needs to be taken into account, such as the state of the environment, the evolution of social issues, and progress towards sustainable development.

Citizens are as a general rule better off if they are richer. However, the quality of life or well-being also depends on the type of goods consumed,

the amount of leisure time available, the relationship with families and friends, and the health of the surrounding environment. Today a greater number of people feel their well-being is undermined by too much pressure of work, unemployment, family break-ups, pollution and climate change. This is why policy makers are interested in having more statistics that address these issues instead of pure economic indicators.

3) What other indicators besides GDP are there to measure wealth and well-being?

To compensate for the limits of GDP a number of alternative and complementary indicators have been developed. These can be grouped according to the aspects of social progress they cover.

Some indicators such as the Genuine Progress Indicator considers additional economic factors not covered by GDP while others such as the Genuine Savings approach look at long-term capital accumulation, including the value of natural, economic and social capital. Another approach is to produce a single index – such as the Human Development Index - which weighs a number of sub-indicators by combining measures of life expectancy, literacy, and education in addition to GDP. Indicator sets such as those they comprise environmental, economic and social indicators are another way to complement the use of GDP. Such an indicator is being developed in Canada (the Canadian Index of Well-being).

Some countries have also applied the internationally recognised environmental and economic national accounting standards found in the

Handbook of National Accounting: Integrated Environmental and Economic Accounting 2003 (SEEA 2003).

More information on various indexes can be found on the Beyond GDP website:

<http://www.beyond-gdp.eu/links.html>

4) What is the European Union doing to move beyond GDP?

The European Union is committed in taking leadership in the move to integrate non-economic factors into policy-making beyond those currently used by mainstream economic indicators. A preliminary version of an integrated environmental economic accounting system is due to be operational by 2010. The special importance of this system is that it

would include stock taking of natural resources and human and social capital rather than just the use of these resources. The system would also focus on the role of eco-systems in providing welfare.

The EU is also committed to developing an indicator to measure environmental sustainability and to use integrated accounting and other indicators to improve policy-making.

The European initiatives are being co-ordinated by the European Commission as part of a global process linked to the Global Project launched at the Istanbul World Forum (June 2007) where the European Commission, the OECD, the Organisation of the Islamic Conference, the United Nations, the UN Development Programme, and the World Bank made a commitment to measure and foster the progress of societies in all dimensions with the ultimate goal of improving policy making, democracy and citizens' well-being.

5) How can measure wealth and well-being?

GDP does not measure wealth. It measures consumption and investments in a given year, not how rich people are, or how much wealth society has through the accumulation of buildings, machinery, consumer goods, schools, universities, road and rail networks, and art.

There are very few statistics on material wealth and even fewer on natural, environmental, social and cultural wealth. Material wealth too often overshadows the pursuit of non-material wealth. Access to improved data on non-material and non-economic wealth would help citizens and policy-makers better balance the various aspects of well-being. This is what sustainable development is all about.

Other facets of well-being such as happiness are more difficult to measure. But researchers have now developed reliable ways of measuring how satisfied people are with life in general and with specific aspects such as the level of satisfaction with work, family, friends, neighbourhood, income and wealth, and country and government. This research is important for policy-makers in implementing policies that foster a higher degree of public satisfaction and happiness.

Further information on the GDP is available at:

<http://www.beyond-gdp.eu/links.html>

Gross domestic product (2007) and other indicators

Member State	GDP per capita (\$)	GDP rank (EU)	Ecological footprint / person (hectares)	Ecological footprint rank (EU)	Healthy life indicator (years)	Healthy life Rank (EU)	Unemployment rate (%)	Unemployment rank (EU)	Greenhouse gas emissions per capita (tonnes)	Greenhouse gas Emissions Rank (EU)	Happy life (years)	Happy life rank (EU)
Luxembourg	81,511	1	NA	NA	71.5	6	4.4	3	NA	NA	59.0	5
Ireland	44,676	2	5.0	16	69.8	15	4.4	2	17.2	24	58.3	7
Netherlands	36,937	3	4.4	11	71.2	8	3.9	1	13.4	19	58.7	6
Denmark	36,920	4	5.8	20	69.8	14	4.5	5	12.9	17	62.7	1
Austria	36,368	5	4.9	13	71.4	7	4.8	6	11.2	15	61.0	2
Finland	35,559	6	7.8	23	71.1	10	7.7	18	15.6	22	59.8	4
United Kingdom	35,486	7	5.6	19	70.6	13	5.4	8	11.0	14	55.2	11
Belgium	34,749	8	NA	NA	71.1	9	8.2	21	14.3	20	56.5	9
Sweden	34,735	9	6.1	21	73.3	1	4.8	7	7.8	4	60.8	3
Greece	33,004	10	5.0	15	71.0	11	8.9	23	12.9	18	49.6	17
OECD Average	32,330		5.1		70.2		6.2		13.0		53.9	
France	31,825	11	5.6	18	72.0	4	9.5	25	9.0	8	51.4	15
Germany	31,390	12	4.5	12	71.8	5	8.1	20	12.3	16	55.7	10
Italy	31,051	13	4.2	8	72.7	2	6.8	13	10.0	11	54.2	12
Cyprus	29,870	14	NA	NA	67.6	19	4.5	4	NA	NA	53.7	14
EU-27 Average	28,899		4.6		68.9		7.1		10.6		49.7	
Spain	27,914	15	5.4	17	72.6	3	8.5	22	10.6	13	54.1	13
Slovenia	24,571	16	3.4	6	69.5	16	6.0	11	10.0	10	50.4	16
Czech Republic	23,399	17	4.9	14	68.4	18	7.1	14	14.4	21	47.9	18
Portugal	22,937	18	4.2	9	69.2	17	7.7	19	8.0	5	45.7	19
Malta	22,239	19	NA	NA	71.0	12	7.3	15	NA	NA	58.2	8
Hungary	20,047	20	3.5	7	64.9	22	7.5	17	8.4	6	40.0	21
Estonia	19,692	21	6.5	22	64.1	24	5.9	10	15.9	23	35.8	23
Slovakia	17,913	22	3.2	4	66.2	20	13.4	26	9.4	9	40.0	22
Lithuania	16,373	23	4.4	10	63.3	25	5.6	9	5.6	2	33.2	25
Latvia	15,806	24	2.6	2	62.8	27	6.8	12	4.7	1	32.9	26
Poland	15,149	25	3.3	5	65.8	21	13.8	27	10.1	12	43.1	20
Romania	10,125	26	2.4	1	63.1	26	7.3	16	6.9	3	35.2	24
Bulgaria	10,022	27	3.1	3	64.6	23	9.0	24	9.0	7	30.0	27
BRIC ¹ Average	8,444		2.2		59.0		NA		NA		39.6	

Source: IMF (2007) and WWF (2003), WHO 2002, Eurostat (2007), UNFCCC (2004) and US Census Bureau, and Veenhoven (2006).

¹BRIC: Brazil, Russia, India and China.

Interesting Facts and Quotes on GDP and measuring progress, true wealth and well-being

Did you know...?

On GDP¹

- *"Without measures of economic aggregates like GDP, policy makers would be adrift in a sea of unorganized data. The GDP and related data are like beacons that help policy makers steer the economy toward the key economic objectives".* Paul Samuelson, in Samuelson and Nordhaus (1995)
- *"Distinctions must be kept in mind between quantity and quality of growth, between its costs and return, and between the short and the long term. Goals for more growth should specify more growth of what and for what."* Simon Kuznets, the creator of GDP, in 1962

On GDP and well-being

- *"The welfare of a nation can scarcely be inferred from a measurement of national income".* Simon Kuznets in 1934
- For countries above \$15,000 per capita per year, a rise in average income has very little effect on average happiness. *Source* Lord Layard (2004)

On GDP and natural resources

- A country could cut down all its forests and deplete its natural resources and this would show only as a positive gain to GDP despite of the loss of capital. *Source*: Millenium Ecosystem Assessment (MA) 2005 see <http://www.millenniumassessment.org>

On GDP and social equity

- *"Progress measured by a single measuring rod, the GNP, has contributed significantly to exacerbate the inequalities of income distribution"* Robert McNamara, President of the World Bank, 1973

On GDP and learning from business

- *"No one would look just at a firm's revenues to assess how well it was doing. Far more relevant is the balance sheet, which shows assets and liability. That is also true for a country."* Joseph Stiglitz, 2005 in *Foreign Affairs*, see <http://www.foreignaffairs.org/.html>

On One Planet Economy and Footprints

- If everyone lived and consumed like Europeans do, we would need 2.6 planets. *Source*: WWF / Global Footprint Network, 2007
- The Welsh Assembly was the first administration in the world to use the Ecological Footprint (EF) as an indicator of 'real progress'. The EF was formally adopted in the National Assembly's Sustainable Development Scheme, 'Learn to Live Differently' in March 2001.
- South Australia is using the Ecological Footprint as a regional target – aiming to reduce its Footprint by 30% by 2050. *Source*: South Australia's Strategy Plan (2007)

On Adjusting GDP

- In the USA, the GDP indicator suggests that the economy has been growing steadily from the 1950s to date, but using the 'genuine progress indicator' (GPI) suggests that the economy has been stagnating since the 1970s. Which is right about the health of the economy? Which is a better progress indicator? See <http://www.rprogress.org/>
- The World Bank uses *adjusted net saving* (also called *genuine saving*) to measure the true rate of savings in an economy after taking into account investments in education, depletion of natural resources and damage caused by pollution. For country data see <http://www.worldbank.org/>

Examples of Country Performance ...

- Within the EU, Ireland was #1 on genuine savings in 2004. See World Bank, 2004 <http://www.worldbank.org/>

¹ Gross domestic product (GDP) is the total monetary, market value of all final goods and services produced in a country over a period of a year. GDP is also equal to the total consumer, investment and government spending, plus the value of exports, minus the value of imports in that year.

- Norway was ranked #1 in the Human Development Index (HDI) in 2004. see <http://hdrstats.undp.org/indicators/10.html>
- Norway is also currently #1 in the Sustainable Society Index (SSI). Though being the best in class, even Norway is way below full sustainability. See <http://www.sustainablesocietyindex.com/>
- The Danes were ranked #1 on happiness (or 'subjective well-being') in 2006. see the University of Leicester <http://www2.le.ac.uk/ebulletin/news/press-releases/2000-2009/2006/07/nparticle.2006-07-28.2448323827/?searchterm=happiness>
- The United States of America have the largest Ecological Footprint in the world (9.57 global hectares per capita). See <http://www.worldcentric.org/stateworld/footprint.htm>
- Within the EU-27, Latvia had the lowest carbon footprint in 2006, with 4.7 tonnes green house gas emissions (measured in CO2 equivalent) per capita. Source: UNFCCC, 2004 (green-house gas inventory)

For further details on indicators see <http://www.beyond-gdp.eu/indicators.html> and you are also welcome to visit the indicator exhibition at the Beyond GDP conference taking place on the 19th and 20th November 2007 at the European Parliament.



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Useful Information for the Press

OVERVIEW

- A **VNR** (video news release) on the topic of progress, true wealth and well-being will be available to the press. Circulated week starting 12 November. Contact Thea.PIERIDOU@ec.europa.eu
- Live **web-streaming** will be available on www.beyond-gdp.eu.
- **EU-27 benchmarking** for different issues & indicators available on the day.
- **GlobeScan survey** results for BGDG questions launched 12:00 on 19 November.
- **Exhibition stands** for a range of indicators will provide facts and figures.
- The **Press pack** will contain further interesting facts on practice (see further below)

PRESS EVENTS

- **Commission press conference** at 12:30 of the 19th November 2007 at the Berlaymont.
- **Press reception: meet the partners and speakers** at 14:10 of the 19th November 2007 at the 'Bar Presse' of the EP. Short speeches by partners at 14:30.

USEFUL DOCUMENTS & INFORMATION

- **List of speakers** – on www.beyond-gdp.eu + see attached
- **Conference and Workshop Programme** – on www.beyond-gdp.eu + see attached
- **Interesting facts and quotes** - see attached
- **Information on indicators**
 - **Virtual indicator exhibition** – series prepared for Beyond GDP – attached and also available on <http://www.beyond-gdp.eu/background-papers.html#selected>
 - **Useful links to indicator home pages** - <http://www.beyond-gdp.eu/links.html>
 - There will be **indicator stands** at the EP during the conference
- **Background reports**
 - Canoy, Marcel and Frédéric Lerais. 2007. *Beyond GDP: Overview paper for the Beyond GDP conference*. Bureau of European Policy Advisers (BEPA), European Commission on <http://www.beyond-gdp.eu/background-papers.html#background>
 - European Parliament, Policy Department A, Economic and Scientific Policy, *Alternative progress indicators to Gross Domestic Product (GDP) as a means towards sustainable development*, Study carried out in October 2007. see <http://www.europarl.europa.eu/comparl/envi/pdf/externalexpertise/gdp.pdf>
 - *EUROPE 2007: Gross Domestic Product and Ecological Footprint*. WWF Report to be launched at the Conference.
 - *Eurostat – the EU environmental accounting – a tool for decision making* – attached
 - Giovannini, Enrico, Jon Hall and Marco Mira d'Ercole. 2007. *Measuring Well-being and Societal Progress*. Organisation for Economic Co-operation and Development. Background paper for the conference 'Beyond GDP', 19-20 November, Brussels on <http://www.beyond-gdp.eu/background-papers.html#background>
 - Istanbul Declaration – signed during the II OECD World Forum on "Statistics, Knowledge and Policy" can be downloaded for printing in English, French and Spanish from the Istanbul Forum website: <http://www.oecd.org/oecdworldforum>.
 - Wesselink, Bart, Jan Bakkes, Aaron Best and Friedrich Hinterberger. 2007. *Measurement Beyond GDP*. Background paper for the conference Beyond GDP: Measuring progress, true wealth, and the well-being of nations <http://www.beyond-gdp.eu/background-papers.html#background>
 - White, Stephen and Oliver Zwirner. 2007. *The use of indicators in the European Commission*. Directorate-General Environment, Unit Sustainable Development and Economic Analysis, European Commission on <http://www.beyond-gdp.eu/background-papers.html#background>

- **Existing Press Coverage**, includes
 - Article by Commissioner Dimas on the Wealth of Nations in The Parliament Magazine
http://www.theparliament.com/NR/rdonlyres/1025D9E2-468B-4223-9D0E-7E5B78DB0B06/0/parl_mag_29oct07_fullmag.pdf
 - Environment for Europeans EFE on Beyond GDP
http://ec.europa.eu/environment/news/efe/index_en.htm
- **List of participants** – Conference and Workshop and potentially press - attached

PRESS PACK

Commissioner Dimas' welcome letter then:

- **#1 Joint press release** of the Beyond GDP partners
- **#2 Beyond GDP Memo** – annex to joint press release
- **#3 List of background documentation and indicators** – this doc
- **#4 Information on Beyond GDP partners**
- **#5 Conference and Workshop programmes**
- **#6 Supporting press releases**
 - **GlobeScan press release** – embargoed until 12:00 19 November
 - **WWF press release** – embargoed until 12:00 19 November
- **#7 Information from Beyond GDP partners**
 - **WWF:** GDP and Ecological Footprint
 - **OECD:** The Istanbul Declaration
 - **Eurostat:** EU Environmental Accounting brochure
 - **EP:** Executive summary of Alternative progress indicators to Gross Domestic Product (GDP)
 - **CoR:** About the Club of Rome; Ex. sum Money and Sustainability – the Missing Link
- **#8 Interesting and (newsworthy) facts**
- **#9 Participants list**
- **#10 Beyond GDP contacts for press:** contacts for each organisation

Beyond GDP Partners

The five host organisations are the European Commission, European Parliament, Club of Rome, OECD and WWF. This note presents a short background on each partner and why they are co-sponsoring Beyond GDP.



European Commission

The European Union (EU) is a family of democratic European countries, committed to working together for peace and prosperity. Now the EU embraces 27 countries and 490 million people, and it deals with a wide range of issues of direct importance for our everyday life.

The European Commission represents and upholds the interests of Europe as a whole. It is independent of national governments. It drafts proposals for new European laws, which it presents to the European Parliament and the Council. It manages the day-to-day business of implementing EU policies and spending EU funds. The Commission also keeps an eye out to see that everyone abides by the European treaties and laws.

Why the Beyond GDP conference? The European Commission recognises a need for a better appreciation of what progress, true wealth and well-being are, that there is a need for improved measurement, scope for wider set of evidence for decision making and potential for greater discussion in press and public.

The EU, and indeed the planet, face a range of new important challenges – climate change, globalisation, growth and competition for finite resources, security, social cohesion and equity, employment, migration, health and education in a fast changing world.

The European Commission initiated the Beyond GDP conference to bring together key institutions, organisations and expertise to explore how we can improve our measurement of progress, true wealth and well-being and launch a process for this improvement. The European Commission is committed to responding to the range of challenges through its policies, legislation, research and assistance. It is a global challenge, involving actors from across the globe, and the European Commission welcomes collaboration to bring forward solutions.

<http://ec.europa.eu/>



European Parliament

The European Parliament is the only directly-elected body of the European Union. The 785 Members of the European Parliament are there to represent the 492 million citizens of Europe. They are elected once every five years by voters right across the 27 Member States of the European Union. Parliament plays an equal role with the Council (of Ministers) in amending, adopting or rejecting legislation which has an impact on the daily lives of its citizens, in fields such as environmental protection, consumer rights, equal opportunities, transport, and the free movement of workers, capital, services and goods. Parliament also has joint power with the Council over the annual budget of the European Union.

Assessing existing policies or developing new policy options require indicators showing where policy stands, where it is going and how far it is from where it wants to be. The Gross Domestic Product (GDP) is only an indicator for economic performance. GDP does not properly account for social and environmental costs and benefits. It is difficult to achieve sustainable decision-making aiming at sustainable progress and well-being if welfare is being considered from a purely economic point of view. Therefore, in order to measure 'progress, wealth and well-being', political decision-makers must go BEYOND GDP.

Different institutions and organisations at all levels have carried out a significant number of activities to develop indicators for measuring policy progress beyond GDP. The "Beyond GDP Conference" is aiming at presenting and discussing these initiatives in order to identify possibilities to make such approaches applicable in practical decision-making at national, European and global level. This is especially important given global challenges such as climate change, global poverty, pressure on resources and their potential impact on societies, but it is also important given the national and European challenges having an impact on the daily lives of our citizens.

<http://www.europarl.europa.eu>



Club of Rome (CoR)

Mission statement: The Club of Rome's essential mission is to act as an independent, global, non-official catalyst of change. Thus it aims at the following:

- The identification of the most crucial problems facing humanity, their analysis in the global context of the world-wide problematique, the research of future alternative solutions and the elaboration of scenarios for the future.
- The communication of such problems to the most important public and private decision-makers as well as to the general public.

Why the Club of Rome decided to co-sponsor the Beyond GDP conference: The Club of Rome, pursuant to its own research on the problems of conventional economic measurement, joined in the co-sponsorship of the Beyond GDP conference as an important new initiative by the European Commission. The Club of Rome has fully participated in the design of this conference and will continue to support further efforts to measure national progress by integrating into national accounts all the broader indicators of quality of life already available.

<http://www.clubofrome.org>



WWF - World Wide Fund for Nature

Mission statement: WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- Conserving the world's biological diversity
- Ensuring that the use of renewable natural resources is sustainable
- promoting the reduction of pollution and wasteful consumption.

The WWF European Policy Office contributes to the achievement of WWF's mission by helping shape European Union policies impacting on the European and global environment.

Why WWF decided to co-sponsor the Beyond GDP conference: GDP only addresses one question: "How much value added an economy generates". But it fails to adequately account for the depletion of our ecological assets. As natural resources are treated as "free unlimited

goods" that do not have a price, CO₂ emissions, depletion of minerals and forests, degradation of air and water caused by economic activities are barely counted as costs. Also, national accounting includes as benefits the costs of reparative measures arising from the negative environmental effects of economic activities.

Today the planet is facing squeeze from two sides: resource use which underpins development, and pollution resulting from the development process. It is becoming abundantly clear that we are living in a natural resource constrained world. As long as these resources are not given proper political and economic weight, decision-makers are flying blind into the future.

<http://www.wwf.org/>



OECD - Organisation for Economic Cooperation and Development

The **OECD** brings together the governments of 30 member countries committed to democracy and the market economy. It aims to support sustainable economic growth, boost employment, raise living standards, maintain financial stability, assist other countries' economic development and contribute to growth in world trade. The OECD also shares expertise and exchanges views with more than 100 other countries and economies. It is one of the world's largest and most reliable sources of comparable statistics, and economic and social data.

Why the OECD decided to co-sponsor the Beyond GDP conference: Developing a broader range of indicators to assess progress and well-being is a key aspect of the OECD's global project on "Measuring the Progress of Societies", launched after the Istanbul World Forum. The project promotes international debate and cooperation to establish a culture of evidence-based decision making and to develop reliable and shared measures of societal progress. Underpinning the project is the conviction that access by the public and governments to reliable economic, social, and environmental indicators can improve governance and strengthen the capacity of citizens to influence the decisions which affect their lives.

<http://www.oecd.org/>

Press release

19 November 2007

Worldwide Support for True Wealth Measures: Three-Quarters Say Governments Should Look Beyond Economics and Measure Social and Environmental Progress

Three-quarters of people in ten countries believe their governments should look beyond economics, and include health, social and environmental statistics in measuring national progress. Only 19 percent believe that economic growth alone is the most important measure.

Around 1,000 respondents in each country were asked which of two points of view was closest to their own:

- that governments should measure national progress using money-based statistics because economic growth is the most important focus for the country; or
- that health, social and environmental statistics are as important as economic ones and that governments should also use these for measuring national progress.

Support for the 'beyond GDP' statement is especially strong in developed countries. The French

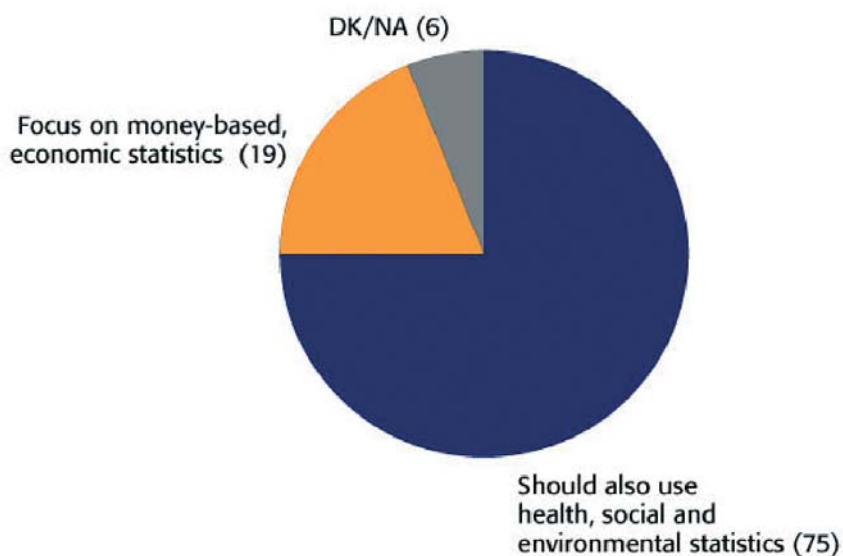
and Italians are most enthusiastic, with 85 percent of people supporting true wealth measures from health and social statistics. Only 10 percent support purely economic indices. In the developing nations of India and Kenya, around 70 percent agree with the broader growth measures, but a significant minority of 27 percent still believe in economics alone.

This survey was conducted by GlobeScan, on behalf of Ethical Markets Media, in June to August 2007, and looked at opinions in Australia, Brazil, Canada, France, Germany, Great Britain, India, Italy, Kenya and Russia. Alignment in the United States seems likely. Previous studies (from the Americans Talk Issues Foundation) have shown up to 79 percent approval of a 'scorecard' of quality of life indicators in the United States.

These international polling results are timely as a handful of governments have started using growth measures that look beyond pure economics. The 'Green GDP', unveiled by Chinese Premier

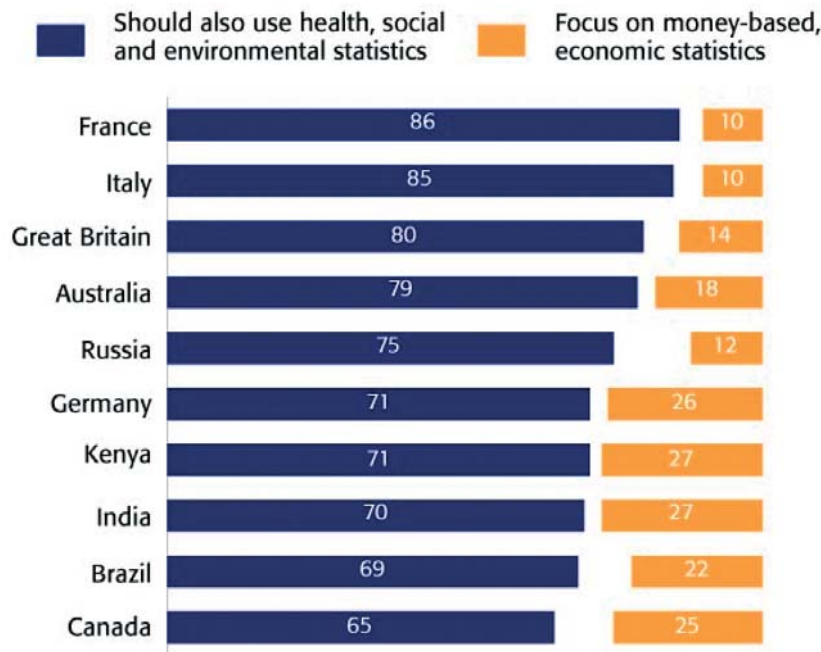
Best Approach to Measure National Progress and Development

10 Country Average, 2007



Best Approach to Measure National Progress and Development

By Country, 2007



The white space in this chart represents "DK/NA."

Wen Jiabao in 2004, was an effort to adjust China's economic model to take more account of its environmental consequences. Although recently suspended, the concept was popular with the Chinese population. And Bhutan's Gross National Happiness Indicators have received media attention worldwide. More recently, the British Conservative Party policy paper recommended using a beyond GDP index as a superior measure to GDP.

Further, many governments and non-government organizations have taken the initiative and devised their own indices. The best-known and emulated worldwide is the United Nation's Human Development Index, founded in 1990, which measures quality of life criteria. The World Wildlife Fund's (WWF) Living Planet Index employs data on species loss. Ecological Footprint analyses measure hectares used to sustain our lifestyles. Other similar indices include the Canadian Index of Well-being (CIW) and the Calvert-Henderson Quality of Life indicators, assessing national trends in the USA since 2000. Many local and city indexes are now in use worldwide, such as those in Sao Paulo, Brazil and Jacksonville, Florida since 1985.

This research across 10 countries shows public support for such broader measures of true wealth, looking beyond GDP. Clearly, international public opinion would be supportive of the goals of the Beyond GDP Conference in the European Parliament in November 2007.

For media interviews, please contact:

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GlobeScan Incorporated is a global public opinion and stakeholder research consultancy. For more information, please visit: www.GlobeScan.com

Press release

Embargo: 19 November 2007, 12:00 CET



EU economies living beyond ecological means: WWF

Brussels, Belgium – The growing economic strength of the European Union has doubled the ecological pressure on the planet in the past 30 years, according to a new report from WWF, the global conservation organisation. Despite technological advances, environmental pressure has been growing at a faster rate than the European population, creating a deficit of natural resources for the rest of the world and for future generations.

“Just a generation ago much of Europe was an ecological creditor, using fewer resources than it had,” said Tony Long, Director of WWF’s European Policy Office. “But today Europe lives beyond its means. If the world’s citizens lived as Europeans, we would need 2.6 planets to provide the necessary resources and absorb the waste.”

In the new report, *“Europe 2007 – Gross Domestic Product and Ecological Footprint”*, WWF has compared EU countries’ performance in three key areas since 1971: economic growth measured by Gross Domestic Product (GDP), pressure on natural resources measured by Ecological Footprint, and human development measured by the UN’s Human Development Index.

“What we currently measure as development is a long way away from the EU and world’s stated aim of sustainable development. This is because economic decisions routinely ignore natural capital expenditure,” says WWF’s President Chief Emeka Anyaoku. “Economic indicators are essential, but without natural resource accounting, ecological deficits will go unnoticed and ignored. It is as if we spent our money without realizing that we are liquidating the planet’s capital.”

All but three EU Members – Finland, Latvia and Sweden – run an ecological deficit. Though these three countries have greater ecological reserves than others, they do not necessarily manage their assets well. Finland’s pressure on environment, for example, has grown by 70 per cent since 1975 and is now the highest among EU countries.

Germany, together with Bulgaria and Latvia, managed to reduce their ecological footprint in the past three decades while growing in human development. Nevertheless, its footprint is two-and-a-half times its natural resources and remains more than double the world average per person.

On the other hand, Greece and Spain are still expanding in both economic and consumption terms. Greece has experienced the highest growth of ecological footprint, accompanied by a limited growth in terms of human development.

France parallels the general EU trend. With improved technology, its resource availability is increasing but is outpaced by growth of consumption, with the largest component being energy.

Among Eastern European countries, Hungary’s footprint – as other former centrally planned European economies – has fallen since 1991, mainly because of economic shifts resulting from the ending of the Soviet era. Back in 1995, Slovenian citizens were practising, in global terms, sustainable development, but in 2003 Slovenia’s ecological footprint per capita had more than doubled while the development level rose by less than 5 per cent. Romania has the lowest ecological footprint in the EU-27, yet it remains an ecological debtor.

“Countries are increasingly realizing the significance of ecological assets for economic competitiveness, national security and social justice,” says Tony Long, Director of WWF’s European Policy Office. “Development has to be redefined. Improving the quality of life for hundreds of millions of people will have to be separated from ever growing material consumption and waste.”

The report was produced as a contribution to the conference “Beyond GDP”, organised by the European Parliament, European Commission, OECD, WWF and the Club of Rome in Brussels from 19 to 20 November 2007. WWF has co-sponsored the conference in Brussels with the expectation that it will lead to an action plan to reform Europe’s accounting procedures so that natural resources are considered when accounting for economic growth and progress.

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Notes to the editors:

- The Ecological Footprint measures humanity's demand on the biosphere in terms of the area of biologically productive land and sea required to provide the resources we use and to absorb our waste. The footprint of a country includes the cropland, grazing land, forest and fishing grounds required to produce the food, fibre and timber it consumes and absorb the waste it emits. Biocapacity is the total supply of productive area. The difference between Ecological Footprint and Biocapacity shows whether countries are ecological creditors or debtors.
- The EU is home to 7.7 per cent of the global population and 9.5 per cent of the world's biocapacity. The EU is also responsible for 16 per cent of global ecological footprint. Europe's shares have diminished since 1971, largely as a result of increase in global population.
- The report "Europe 2007 – Gross Domestic Product and Ecological Footprint" is available under embargo on http://assets.panda.org/downloads/europe_2007_gdp_and_ef.pdf. Graphs can be downloaded from http://assets.panda.org/downloads/europe_2007_figures.pdf and http://assets.panda.org/downloads/europe_2007_table.pdf.
- Full data on EU and world countries' ecological footprint are available on the WWF's Living Planet Report 2006: http://www.panda.org/news_facts/publications/living_planet_report/index.cfm.
- Photos to illustrate WWF Press Release: "Europe 2007 - Gross Domestic Product & Ecological Footprint" are available on <https://intranet.panda.org/photos/albums/ext/index.cfm?action=list&alid=825>. The image(s) made available through the above link are copyright protected and can only be used to illustrate the above mentioned press release. Any other subsequent rights are not allowed and are subject to approval by WWF International and by the photographer(s) concerned. This restriction includes that the link must not be made available to any third party, in particular it may under no circumstances be published on a public web site. Individual photo credits are mandatory. Credit information is available from the IPTC file info of the downloaded images or you can download a separate text file with the relevant information.
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The Club of Rome

The Club of Rome is one of the world's oldest, yet most innovative global think tanks. For more than 30 years, the Club of Rome has put tomorrow's issues on today's agenda. With its network of outstanding members, the Club examines and proposes future topics in the fields of governance, economy, ecology and civil society across cultures and across generations. The Club's reports, conferences and publications are designed as an early warning system for opinion leaders, decision makers and everyone interested in our planet's future.

The Club of Rome is independent of any political, ideological or business interest.

Birth of the Club of Rome

In April 1968, a small group of leaders from diplomacy, industry and civil society met at a quiet villa in Rome. Invited by Italian industrialist Aurelio Peccei and Scottish scientist Alexander King, they came together to identify and address the world's most critical problems. This group agreed to launch for the first time an initiative on what they called "World Problematique"*, long before many problems which today dominate the global agenda were even recognised as issues for wider discussion. Named after the place where the first meeting was held, the Club of Rome was born. The outcome of this meeting was a process that led to the first *Report to the Club of Rome*: "The Limits to Growth" in 1972. With its future-orientated views and provoking scenarios the report sold more than 12 million copies in some 30 languages and established the serious reputation of the Club, particularly among leaders and decision-makers in all spheres of society.

Following the example of *Limits to Growth*, many other reports have continued to inspire whole generations of economists, politicians and scientists. In the more than 30 years since the Big Bang created by the publication of *Limits to Growth* the Club of Rome has continued its unique and insightful way of identifying important aspects of the *World Problematique* and evolving practical, credible solutions for them.

***The World Problematique**

"World Problematique" is a concept created by the Club of Rome to describe humanity's most crucial problems. This includes politics, economy and technology as well as culture and ethical values. The complexity of the World Problematique lies in the way these problems depend mutually on each other, and on the incapacity of societal systems to recognise them, let alone deal with them. They are aggravated by the length of time the impact of acting and reacting in this complex system becomes evident.

The approach of the Club of Rome to the solution of the world problems is to identify crucial problems before they actually emerge as issues in the general public. It proposes analysis from an integrated, global, interdisciplinary and long-term perspective which addresses alternative solutions and scenarios. The results of this work are communicated to high-level decision-makers and to the general public worldwide.

Club of Rome Reports

Club of Rome reports provide unique insights into the world's key issues far away from fashionable statements and short-term thinking. Even the scenarios and warnings in the Club's earlier reports are still as valid as they were at the time of their publication. It is this quality which makes the Club of Rome reports a classic reading for all who are interested in value-based, future-oriented thinking.

The upcoming Report "Money and Sustainability – the Missing Link" by Bernard Lietaer and Stefan Brunnhuber (see below) looks at essential linkage between our money system and sustainability which tends to be overlooked by both ecologists and monetary specialists. This study shows compellingly why this linkage is so powerful and its effects so ubiquitous.

Club of Rome Members

Members of the Club of Rome include former Heads of State, decision makers and opinion leaders from government, civil society and business, international civil servants, and top scientists. These members bring in top-quality, highly diverse thinking. The Club continues to appoint members with outstanding intellectual and moral qualities only. Their number is limited to 100.

The Limits to Growth¹

More than 30 years ago, a book called *The Limits to Growth* created an international sensation. Commissioned by the Club of Rome, *The Limits to Growth* was compiled by a team of experts from the U.S. and several foreign countries. Using system dynamics theory and a computer model called "World3," the book presented and analyzed 12 scenarios that showed different possible patterns – and environmental outcomes – of world development over two centuries from 1900 to 2100. The World3 scenarios showed how population growth and natural resource use interacted to impose limits to industrial growth, a novel and even controversial idea at the time. In 1972, however, the world's population and economy were still comfortably within the planet's carrying capacity. The team found that there was still room to grow safely while we could examine longer-term options.

In 1992, this was no longer true. On the 20th anniversary of the publication of *Limits to Growth*, the team updated *Limits* in a book called *Beyond the Limits*. Already in the 1990s there was compelling evidence that humanity was moving deeper into unsustainable territory. *Beyond the Limits* argued that in many areas we had "overshot" our limits, or expanded our demands on the planet's resources and sinks beyond what could be sustained over time.

The main challenge identified in *Beyond the Limits*.

In a new study, *Limits to Growth: The 30-Year Update*, the authors have produced a comprehensive update to the original *Limits*, in which they conclude that humanity is dangerously in a state of overshoot. While the past 30 years has shown some progress, including new technologies, new institutions, and a new awareness of environmental problems, the authors are far more pessimistic than they were in 1972. Humanity has squandered the opportunity to correct our current course over the last 30 years, they conclude, and much must change if the world is to avoid the serious consequences of overshoot in the 21st century.

As noted energy economist Matthew Simmons recently wrote, "The most amazing aspect of the book is how accurate many of the basic trend extrapolations ... still are some 30 years later." For example, the gap between rich and poor has only grown wider in the past three decades. Thirty years ago, it seemed unimaginable that humanity could expand its numbers and economy enough to alter the Earth's natural systems. But experience with the global climate system and the stratospheric ozone layer have proved them wrong. All the environmental and economic problems discussed in *Limits to Growth* have been treated at length before. There are hundreds of books on deforestation, global climate change, dwindling oil supplies, and species extinction. Since *The Limits to Growth* was first published 30 years ago, these problems have been the focus of conferences, scientific research, and media scrutiny. What makes *Limits to Growth: The 30-Year Update* unique, however, is that it presents the underlying economic structure that leads to these problems. The authors include 80 tables and graphs that give a comprehensive, coherent view of many problems.

¹ Source: A Synopsis: *Limits to Growth: The 30-Year Update* (Donella Meadows, Jorgen Randers & Dennis Meadows; White River Junction, VT: 2004), Web: <http://sustainer.org/limits/>

The following non-governmental organisations and government agencies exhibited their work at the Indicator Exhibition at Beyond GDP. Each group represents some aspect of the “state of the art” in indicator development. At the exhibition booths, representatives provided information on the methodologies and practical applications of these measures.

- Calvert-Henderson Quality of Life Indicators
- Club of Rome
- Erasmus University Rotterdam (World Database of Happiness)
- European Commission, DG Environment
- European Environment Agency
- Eurostat
- Global Footprint Network
- Global Reporting Initiative
- Happy Planet Index
- International Institute for Sustainable Development
- Jacksonville Community Council Inc.
- Joint Research Centre of the European Commission
- Mapping Worlds
- new economics foundation
- OECD
- Transparency International
- WWF



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ISTANBUL DECLARATION

We, the representatives of the European Commission, the Organisation for Economic Cooperation and Development, the Organisation of the Islamic Conference, the United Nations, the United Nations Development Programme and the World Bank,

Recognise that while our societies have become more complex, they are more closely linked than ever. Yet they retain differences in history, culture, and in economic and social development.

We are encouraged that initiatives to measure societal progress through statistical indicators have been launched in several countries and on all continents. Although these initiatives are based on different methodologies, cultural and intellectual paradigms, and degrees of involvement of key stakeholders, they reveal an emerging consensus on the need to undertake the measurement of societal progress in every country, going beyond conventional economic measures such as GDP per capita. Indeed, the United Nation's system of indicators to measure progress towards the Millennium Development Goals (MDGs) is a step in that direction.

A culture of evidence-based decision making has to be promoted at all levels, to increase the welfare of societies. And in the "information age," welfare depends in part on transparent and accountable public policy making. The availability of statistical indicators of economic, social, and environmental outcomes and their dissemination to citizens can contribute to promoting good governance and the improvement of democratic processes. It can strengthen citizens' capacity to influence the goals of the societies they live in through debate and consensus building, and increase the accountability of public policies.

We affirm our commitment to measuring and fostering the progress of societies in all their dimensions and to supporting initiatives at the country level. We urge statistical offices, public and private organisations, and academic experts to work alongside representatives of their communities to produce high-quality, facts-based information that can be used by all of society to form a shared view of societal well-being and its evolution over time.

Official statistics are a key "public good" that foster the progress of societies. The development of indicators of societal progress offers an opportunity to reinforce the role of national statistical authorities as key providers of relevant, reliable, timely and comparable data and the indicators required for national and international reporting. We encourage governments to invest resources to develop reliable data and indicators according to the "Fundamental Principles of Official Statistics" adopted by the United Nations in 1994.

To take this work forward we need to:

- encourage communities to consider for themselves what “progress” means in the 21st century;
- share best practices on the measurement of societal progress and increase the awareness of the need to do so using sound and reliable methodologies;
- stimulate international debate, based on solid statistical data and indicators, on both global issues of societal progress and comparisons of such progress;
- produce a broader, shared, public understanding of changing conditions, while highlighting areas of significant change or inadequate knowledge;
- advocate appropriate investment in building statistical capacity, especially in developing countries, to improve the availability of data and indicators needed to guide development programs and report on progress toward international goals, such as the Millennium Development Goals.

Much work remains to be done, and the commitment of all partners is essential if we are to meet the demand that is emerging from our societies. We recognise that efforts will be commensurate with the capacity of countries at different levels of development. We invite both public and private organisations to contribute to this ambitious effort to foster the world’s progress and we welcome initiatives at the local, regional, national and international levels.

We would like to thank the Government of Turkey for hosting this second OECD World Forum on “Statistics, Knowledge and Policy”. We also wish to thank all those from around the world who have contributed to, or attended, this World Forum, or followed the discussions over the Internet.

Istanbul, 30 June 2007

Signed during the II OECD World Forum on “Statistics, Knowledge and Policy”

The Beyond GDP conference built on the ongoing work of many international organisations and benefitted from the collaboration of high-level experts from around the world. On the initiative of Commissioner for Environment Stavros Dimas, the conference was organised by the **European Commission**, together with the **European Parliament**, **Club of Rome**, **OECD**, and **WWF**, and the organisational support of **Ecologic**, the **Institute for European Environmental Policies (IEEP)** and the **Netherlands Environmental Assessment Agency (MNP)**. The conference was part of the official list of events of the **Portuguese EU Presidency**.

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