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The burden-sharing implications of the fixed-identity argument in climate ethics

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Abstract

Recently, it has been suggested that as the climate crisis intensifies, we can justify a rapid climate transition as a way of avoiding significant harm to people whose identities are already fixed, or in other words, without addressing the non-identity problem. This would allow those who take a comparative harm approach to climate justice to argue that a climate transition is preferable to a business-as-usual emissions scenario, even though the former will have a non-identity effect on the majority of people yet to be conceived. In this article, I explore the consequences that biting the philosophical bullet of the non-identity problem has for the fair distribution of the climate burden. I argue that using the fixed-identity argument to answer the climate action question of climate justice forces proponents of the comparative harm approach to move from compensatory to distributive arguments in answering the burden sharing question. Biting the bullet of the non-identity problem therefore makes no difference to the climatic future we should aim for as long as we can rely on the fixed-identity argument, but it does affect how much each of us should contribute to it, at least from a harm-based perspective.

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1. Introduction

The thorniest philosophical dilemma in the debate about how ambitious we should be in mitigating climate change is the non-identity problem (NIP). The general intuition among people is that we should peak the rising trajectory of global CO_2 emissions within a few years, in order to get as close as possible to carbon neutrality by 2050. This is the case, at least, for those who believe in the science of climate change and are not mired in intergenerational selfishness. However, philosophers have long argued that, within a comparative harm approach to climate justice, we can't claim that aiming for carbon neutrality is better than letting emissions follow a business-as-usual trajectory (McMahan 2020; Nedevska 2020; Huseby 2010). Indeed, on the one hand, radical climate mitigation would impose significant net costs on present people. On the other hand, this cannot be said to benefit future humans, because their identity would change as a result of changes in reproductive combinations, both in terms of the mating of individuals and the timing of reproduction (see Parfit 2017; Boonin 2014).

Consider, for example, two different climate policy strategies.

- *Business-as-usual*. Current policies continue; annual global emissions are slowly reduced from about 50 $GtCO_{2e}$ today to about 30 $GtCO_{2e}$ by 2100; global average temperature approaches 3°C above pre-industrial levels by 2100 and may continue to rise over the next century (IPCC 2022: 22).
- *Climate transition*. Present people implement transformative climate policies; global CO_2 emissions peak within a few years and fall to net zero by 2050; global warming settles between 1.5°C and 2°C above pre-industrial levels (IEA 2021).

The people who would live in a business-as-usual future world would not be born in a climate transition alternative world. In fact, the transformative measures of climate transition would have widespread socio-economic impacts, both locally and globally. As a result, the reproductive combinations of people today would be radically reshuffled compared to the business-as-usual scenario. If it is reasonable to assume that it is better to live in a world that is 3°C warmer than pre-industrial levels than not to live at all, then a comparative harm approach to climate justice runs counter to the NIP when it comes to deciding which climate future to choose.

In terms of definitions, the harm approach to climate justice states that CO_2 emissions are *prima facie* morally wrong to the extent that they cause harm to other people, and if the harm is unavoidable and/or has already occurred, compensation is due (Berkey 2017; Kyllönen 2016; Brooks 2012). The harm approach to climate justice is comparative when measured subjunctively against a historical baseline (see Meyer 2003): the harm caused by a given emission at time t_1 can be said to harm someone if it makes them worse off at t_2 than they would have been if the emission had not occurred.

The three main solutions to the NIP are to turn to a threshold view of harm, to resort to impersonal ethics, or to go distributive (see Roberts 2022; Gosseries 2023). The most straightforward solution for the proponents of the comparative harm approach to climate justice is, of course, the first. Broadly speaking, the idea behind the threshold view of harm is that if an action X causes person A to fall below a moralised threshold of well-being, then X is morally wrong, even if X is a necessary condition for A's existence (Rivera-Lopez 2009; Meyer 2004; see also Roberts 2022). Imagine, for example, that a murderer wanted by the police is waiting for A at home to kill her. While A is driving home, B runs over her car and cripples her. The ambulance takes A to hospital and in the meantime the police arrest the

killer. Those who hold to a threshold view of harm would of course recognise that B involuntarily saved A's life. But they would also argue that B acted wrongly towards A in that X caused A to live a “restricted” life (Kavka 1982).

Applied to the climate case, the threshold view of harm would tell us that we must pursue the climate transition even if it results in different people being born, as long as the other possible alternatives result in some people, regardless of who they are, living below a decent standard of living. Opening up to the view that harm is (only or also) threshold-based would allow proponents of the comparative harm approach to defend the very set of claims that the NIP seems to preclude them from making. Namely, that we must pursue the climate transition to enable all people, near and far in the future, to live decent lives. And that historical emissions are wrong insofar as they hinder present and future people from living a decent life. The challenge, of course, is to show that the threshold view of harm, or any other philosophical response to the NIP, is defensible (see Gosseries 2023: 36-42; Boonin 2014: 61-65).

Against these concerns, Lukas Tank (2022) has recently argued that proponents of the comparative harm view do not need to make philosophical compromises in order to say that climate transition is better than business-as-usual. Indeed, the climate crisis is now so profound that some of the people who would suffer the dramatic consequences of a higher average global temperature are already conceived – or, more generally, their identities are already fixed. Reducing global CO_2 emissions less than is technologically and economically feasible means inflicting avoidable harm on these people, which is morally wrong.

In this article, I acknowledge that the fixed-identity argument allows proponents of the comparative harm approach to give an answer to the climate action question that is not substantially different from the one they would give if they were instead providing a

philosophical solution to the NIP. In particular, I will say nothing about the empirical aspects of the fixed-identity argument, both because I am not an empiricist and because they seem convincing to me. I will argue, however, that once they embrace the fixed-identity argument, proponents of the comparative harm approach can no longer give an answer to the burden sharing question that is consistent with the one they would give if they instead challenged the NIP on philosophical grounds[2]. That is that historical over-polluters should compensate historical under-polluters because they are outcome responsible for harmful emissions (Neumayer 2000; Zellentin 2015) and/or have unjustly benefited from harmful emissions (Gosseries 2004; Baatz 2013; Page 2012)[3]. Once proponents of the comparative harm approach choose to bite the NIP bullet, they are left with two options regarding historical emissions. Either they refrain from assigning remedial responsibility for historical emissions on the grounds that these emissions have not harmed anyone in the present. Or they assign remedial responsibility for historical emissions on the basis of a distributive principle

[2] On the difference between the two distinct questions of climate justice, see Caney 2021.

[3] I will consider individuals as the ultimate units of moral concern, as both victims and perpetrators of climate harm. However, since climate action, including international compensation for climate harm, cannot take place between individuals, but requires the mediation of governments, I will speak of states as agents of climate justice. In doing so, however, I will consider per capita emissions rather than the cumulative emissions of states. This is because, in the end, it is the individual that counts. More generally on remedial responsibilities see Brooks 2011. The choice of whether the remedial responsibility for historical emissions should fall more on those who caused the historical emissions, or more on those who benefited from those emissions, usually depends on how much weight the proponents of the harm approach give to both the "unfairness objection" and the "excusable ignorance objection" (Tan 2023: 2-5; see also Gosseries 2004: 39-42; Neumayer 2020: 188-190). The former argues that children should not be held liable for the actions of their parents. The latter argues against imposing strict liability on those who emitted CO_2 before science reached a near-unanimous consensus on global warming. It should also be stressed that a further complication in applying the beneficiary pays principle to historical emissions is that without these emissions, not only the victims but also the beneficiaries of historical emissions would not be here today. Therefore, it cannot be said that anyone today has benefited from the very emissions on which their existence depends. Whether and how the beneficiary pays principle can withstand this argument is a matter of debate in the literature (Baatz 2013; Meyer and Roser 2010; Das 2014). I will not go into these complexities in this article. This is also because in practice there is little difference between the two different justifications for compensation obligations, since emitters usually also derive a significant proportion of the benefits from their emissions. For me, the simple point is that without evidence that historical emissions have caused harm to some present persons, the responsibility to remedy those emissions cannot be attributed to either those who caused them or those who benefited from them (because there would be no harm from which the unjust benefits would flow).

unrelated to harm, such as the ability to pay principle. In both cases, there will be practical consequences in terms of who should pay for climate action.

I am not getting into the issue of whether the philosophical solutions to the NIP available to proponents of the comparative harm approach, such as opening up to the threshold view of harm, are more or less sound. My only point is that the fact that the fixed-identity argument allows proponents of the comparative harm approach to satisfactorily answer the climate action question is not a sufficient reason for them to stop exploring philosophical solutions to the NIP. In short, the NIP remains relevant to climate ethics despite the fixed-identity argument.

2. The fixed-identity argument

The reference to the present victims of climate change in response to the NIP is not entirely new in the climate justice literature. Indeed, in discussing why the NIP is not a significant obstacle to talking about unjust enrichment from emissions, Edward Page (2012: 320-321) gives the following reason, among others:

> "[…] many of the current benefits associated with CO_2 emitting activities have accrued in the lifetimes of existing individuals and at least some of the associated damages will impact on persons who already exist […] For illustration, roughly half of all the CO_2 released into the atmosphere from human activity since 1750 (over 600 billion tonnes) was emitted between 1980 and 2008 (Boden et al. 2011) and during the same period global world output rose from $12 trillion to $72 trillion […] Given the huge benefits involved in activities that rely on fossil fuel energy sources, the resulting benefit stream could fund a climate response of a far greater magnitude than that proposed

by the international community at present, even if narrow person-affecting principle was adopted".

In this article, I am mainly interested in Tank's treatment of the fixed-identity argument, as to my knowledge it is the first fully articulated version in the literature (Tank 2022). In the following, I will refer to the fixed-identity argument as the one that says that from time *t* we must reduce CO_2 emissions as much as possible, for the main reason that the CO_2 emissions produced from *t* onwards will have devastating and far-reaching effects on people, born or not yet born, whose identities are already fixed at *t*. This is the case even if reducing emissions imposes aggregate net costs on people from *t* onwards and alters the identities of people conceived after *t*. I also interpret the use of the fixed-identity argument as a consequence of biting the bullet of the NIP. That is, not wanting to question the main philosophical point of the NIP, which is that emissions cannot be said to harm people whose identities are not fixed at the time the emissions are produced.

The obvious merit of the fixed-identity argument is that it aligns the academic debate on climate justice with the sense of urgency that has long emerged in the public debate on the issue. One need not think of people yet unborn to imagine what it means to live on a planet ravaged by global warming; the first generations to experience this on a large scale will be today's youth, if nothing changes. A vivid example is Greta Thunberg's famous speech at the UN Climate Action Summit in 2019: "You are failing us. But the young people are starting to understand your betrayal. The eyes of all future generations are upon you. And if you choose to fail us, I say: We will never forgive you" (NPR 2019).

Philosophically, the fixed-identity argument is relevant insofar as it allows those who take the harm approach to climate justice to justify a climate transition strategy while adhering to

the comparative view of harm (Tank 2022: 88-89). More schematically, the fixed-identity argument allows two philosophical desiderata to be held together:

1. to justify a collective duty on the part of present people to bring about a rapid climate transition
2. to adhere to a comparative harm-based justification of climate action

There is, however, a further philosophical desideratum that is central to anyone concerned about climate justice:

3. to distribute the climate burden fairly among present people

The main claim of this article is that if the proponents of the comparative harm approach rely on the fixed-identity argument to satisfy desiderata 1-2, then they cannot satisfy desideratum 3 in the same way as they would do if they addressed the NIP philosophically. This is for the simple reason that they cannot explain why historical over-polluters have harmed historical under-polluters, and why the heirs of the former should therefore bear a greater share of the climate burden than the heirs of the latter. The main option available to them is the distributive one, for example by arguing that the burden of remedying historical emissions should be borne by those with the broadest shoulders. It follows that the NIP still has significant practical relevance in the climate justice discourse, despite the fixed-identity argument. More precisely, biting the bullet of the NIP does not make a difference to the climatic future we should aim for, but it does affect how much each of us should contribute to it if we adopt the harm approach to climate justice.

Two clarifications are necessary before proceeding. First, in this article I will define emissions from 1980 backwards as historical. This is both because more than 70% of the world's current living population was conceived after that date (World Demographics Profile 2021), and because it is a reasonable date to indicate when the scientific consensus on climate change began to form – the first IPCC reports were published in the early 1990s (Butt 2017). Emissions from 1980 to the time you are reading this article are recent, and those that will occur after you finish reading the article are either present or future. Second, sharing the climate burden means not only reducing your own CO_2 emissions, but also mobilising resources for mitigation and adaptation by others (see Page 2011).

3. Why the fixed-identity argument forces those who take the harm approach to climate justice to go distributive

There are different views in the literature on what constitutes a fair distribution of the climate burden (Roser and Seidel 2017). In order for the distribution of the climate burden to be considered fair according to at least one reasonable view, a predominant part of the it must be allocated to at least one of three categories of actors: a) those who have caused most of the harmful emissions – the so-called polluter pays principle (see Tan 2023); b) those who have benefited most from the harmful emissions – the beneficiary pays principle (see Baatz 2013); c) those who are wealthier today – the ability to pay principle (see Caney 2010). These three categories of actors do not always overlap, which is why different philosophical answers to the climate burden-sharing question can lead to conflicting policy recommendations. For example, a country whose economy is mainly based on financial services may be a wealthy beneficiary of other countries' emissions without having emitted significantly itself. Similarly, a rich country may have long since decoupled economic growth

from emissions, and a country that was a big emitter in the past may have become relatively unrich today.

Given that around a third of fossil fuel and industrial emissions were produced before 1980 (Ritchie et al. 2023a), it can be argued that a fair distribution of the climate burden requires, among other things, that responsibility for remedying historical emissions be assigned to either (a), (b) or (c). There are three main ways in which someone who relies on the fixed-identity argument to satisfy desiderata 1-2 could also satisfy desideratum 3.

First, one could draw on the threshold view of harm to assign remedial responsibility for historical emissions. These emissions would be morally wrong to the victims and therefore demand compensation because they pushed the victims, regardless of their identity, below some moralised threshold of well-being. This, in turn, would justify placing most of the burden of remedying historical emissions on historical emitters.

Second, one could adopt the harm approach in answering the climate action question and the distributive approach in answering the burden sharing question. That is, one could justify the climate transition in terms of minimising harm to people with fixed identities, and then claim that the costs of doing so should be shared according to the ability to pay principle (see Moellendorf 2012: 136-137). Third, one could insist on the harm approach to answer the climate action question and use a hybrid model, partly harm-based and partly distributive, to answer the burden sharing question (see Caney 2010). For example, one could say that we should pursue the climate transition to minimise harm to fixed-identity people, and then make a distinction between how we should share the burden of remedying historical and recent emissions. The burden of remedying recent emissions should be allocated to countries according to their respective recent emissions and/or benefits derived

from those emissions, while the burden of remedying historical emissions should be allocated to countries according to their ability to pay.

The first philosophical strategy is simply contradictory for those who, starting from the comparative harm approach to climate justice, use the fixed-identity argument to answer the climate action question. Indeed, if the threshold view of harm can be used to answer the burden sharing question, why not use it to also answer the climate action question, rather than focusing only on the comparative harm that current emissions cause to people with fixed identities?

The other two philosophical strategies, on the other hand, make it possible to combine desiderata 1-3 without normative inconsistencies. However, for the proponents of the comparative harm approach to climate justice, they come at a price, namely the partial abandonment of the compensatory logic underlying the approach in the answer to the burden sharing question. This would entail a shift of remedial responsibility from those countries that have emitted and/or benefited most from historical emissions to those countries that are now more affluent.

It follows that while the fixed-identity argument has no practical implications for how proponents of the harm approach answer the climate action question, it does have practical implications for the answer they could give to the burden sharing question, compared to if they did not bite the bullet of the NIP. In the remainder of this article, I will defend this claim against two objections. The first objection is that by relying on the account of indirect intergenerational harm, it is possible to hold historical polluters remedially responsible for historical emissions while satisfying desiderata 1-2 with the fixed-identity argument. The second objection is that it is possible to make historical polluters pay relatively more than

others for climate action without holding them remedially responsible for historical emissions, and by focusing only on the harm caused by recent and/or future emissions.

4. Objection one: Indirect intergenerational harm from historical emissions

If we take the NIP's conclusions at face value, we have to accept that historical emissions have not harmed people today, at least not directly. The existence of the current victims of climate change is predicated on all the social activities that pumped CO_2 into the atmosphere, at least from the Industrial Revolution to 1980. If existing today in a world affected by climate change is better than not existing, then none of us can claim to have been harmed by historical emissions, at least according to the comparative view of harm. This would seem to suggest that no one today can claim compensation from anyone for the detrimental effects of historical emissions (Meyer and Roser 2010). However, one way of trying to resist this conclusion is to resort to an indirect account of intergenerational harm (see Sher 2005; Boxill 2003).

Consider five successive past generations, G1-G5, each corresponding to a 30-year birth cohort. The emissions of G1 contribute, among other things, to aggravating the climatic phenomena that affect G5. But the emissions of G1 do not harm the members of G5 in a comparative sense, because they are also a necessary condition for the conception of the members of G5. On the basis of the fixed-identity argument, however, we can say that the emissions of G1 have negative effects on the closer members of G2-G4, whose identity is already given at the time of G1's emissions. G1 members should therefore compensate, in proportion to their emissions, those among G2-G4 members who are more exposed to climate threats. This would generally mean that people living in countries that have emitted the most should compensate people living in countries that have emitted the least.

Suppose, however, that G1 does not fulfil its obligation to compensate G2-G4. Can G5 complain to G1 about this despite the NIP? According to the theory of indirect intergenerational harm, yes. If G4 had been compensated by G1 after the conception of most of the members of G5, the latter would have had a better life. Trivially, the parents of G5, i.e. G4, would have been better off thanks to the compensation from G1, and they would have been able to ensure a better childhood for G5. The failure of some G1 members to compensate some G2-G4 members, which in turn adversely affects some G5 members, may justify compensation claims among G5 members. The most climatically disadvantaged of the G5 members may claim compensation from the least disadvantaged of the G5 members, as heirs of the most and least disadvantaged of the G2-G4 members, respectively, in relation to G1 emissions.

If the theory of indirect intergenerational harm were broadly applicable to global warming, then it would be possible to use historical emissions for the purposes of desideratum 3. In other words, we could argue that today's heirs of historical over-polluters should shoulder a greater mitigation burden than people living in other countries. This is because their predecessors should have compensated the victims of their own emissions, but failed to do so. However, I fear that this is far from obvious, because of at least two complications in the climate case.

First, suppose that G1-G4 lived at a time in history when it was not reasonable to expect people to know about the link between CO_2 emissions and global warming. The members of G1 are not morally blameworthy for the climate consequences of their emissions. Is causation sufficient to impose remedial obligations on G1 members, despite the so-called "excusable ignorance objection"? Some argue that it is, and/or that people should have taken reasonable preacutions against risks they did not fully understand (Tan 2023; Zellentin

2015; Neumayer 2000). Others argue instead that if the harm is not foreseeable, the polluter pays principle should leave room for the beneficiary pays principle in allocating responsibility for remedying harm (see Page 2012; Baatz 2013). For the sake of argument, let us assume that G1 members should be held remedially accountable for their emissions. The fact that we do not consider G1 members' ignorance of the negative effects of their emissions to be excusable does not change the fact that they were ignorant of these effects and therefore ignorant of their climate-related compensation obligations owed to G2-G4 members. More generally, if a person causes an injustice at time *t* but, for reasons for which no one is responsible, only becomes aware of this injustice at time t_1, that person can be required to compensate the victims of the injustice at t_1, but cannot also be held responsible for not having provided compensation before t_1. This is because between *t* and t_1 the person had no way of knowing that they were obliged to compensate for the harm caused at *t*.

In our case, G5 members are the first to understand that G1 members have compensatory obligations towards G2-G4 members for climate-related reasons. Accordingly, G5 members cannot claim that they are owed compensation on the grounds that G1 members have not fulfilled their compensation obligations to G2-G4. Indeed, if G1 members did not know that they had climate-related compensation obligations towards G2-G4, how could they have been expected to fulfil those obligations? Nor can G5 members claim to have been directly harmed by G1's emissions, because when G1 emitted, the identity of G5 members was not yet fixed.

Second, for the theory of indirect intergenerational harm to succeed in circumventing the NIP, it must be made clear how much better off the most disadvantaged members of G2-G4 would have been if G1 members had not emitted CO_2 in the first place, and consequently how much better off G5 members would have been as a result of the improved conditions of

G2-G4 members. On the one hand, this is much more difficult to quantify than direct harm. Indeed, it is not enough to assess how much the emissions of the G1 members have harmed G2-G4 members, but we should also necessary to assess how much the harm suffered by G2-G4 members has translated into fewer resources and/or opportunities for G5 members – not compared to if G1 had not emitted, but compared to if G1 had emitted and then compensated G2-G4. On the other hand, it is not a foregone conclusion that the welfare losses suffered by G2-G4 as a result of G5's emissions have translated into equivalent welfare losses for G5. For example, it is possible that some G2-G4 members have made additional sacrifices to enable some G5 members, primarily their own children, to have the same standard of living that they would have had if G1 members had compensated G2-G4 members. As George Sher (2005: 193) noted in discussing the problem of quantifying indirect intergenerational harm: "because this result is so vague, it may seem unlikely that the amount of compensation that the child is owed for the wrongful failure to compensate his parent will match the amount that we take him to be owed as compensation for the original injustice".

In short, the account of indirect intergenerational harm does not allow us to use emissions from people who are unaware of climate change for the purposes of desideratum 3. In addition, the quantification of indirect intergenerational harm is extremely difficult and not necessarily equivalent to that of direct intergenerational harm.

5. Objection two: Climate harm from recent and present emissions

The above discussion leads to the following question. If, after biting the bullet of the NIP, historical emissions are out of the picture for the reasons just discussed, is it possible for proponents of the comparative harm approach to shift a large part of the climate burden

onto historical emitters based only on the direct harm caused by either recent emissions or present emissions, or both? I will address both issues in turn.

5.1 Recent emissions

As noted above, most of the cumulative CO_2 emissions to date have occurred since 1980, and most of the people born since 1980 are still here. One might therefore be tempted to think that, in the final analysis, there is no significant difference between sharing the climate burden through a compensatory approach and sharing it through a hybrid approach – i.e. distributive for historical emissions and compensatory for recent and present emissions. This might be sufficiently true if sharing the burden of recent and future emissions in a compensatory way produced results that were not too different from those that would be obtained by sharing the burden of historical emissions in a compensatory way. However, three considerations show that this is not the case.

First, the climate harm that humans are suffering today is a direct consequence of the stock of CO_2 that has built up in the atmosphere since humans started emitting more CO_2 than could be absorbed by natural carbon sinks or offset by negative emission technologies. About one third of the existing stock of CO_2 was produced before 1980 (Ritchie et al. 2023a)[4]. Therefore, a relevant part, tending to one third we might say, of the negative impacts that a marginal tonne of CO_2 emitted today causes in the world does not call for compensation from present people. Certainly, it could be argued that the most recent emissions, as opposed to those produced long ago, are the ones that are causing dangerous tipping points in the Earth's systems to be crossed, inflicting immense harm to people and

[4] The data on CO_2 emissions that I refer to in this article concern fossil fuels and industry.

nature (ESA 2023). However, in order to assign responsibility for breaking the camel's back, it is necessary to look not only at who produced the last stroke, but also at all the strokes that accumulated until the situation was reached where a marginal stroke would break the camel's back (Shue 2015: 15-16). This justifies the unit-based application of compensatory principles of climate justice even in the face of the scientific complexity of global warming.

Second, not all recent emissions have been comparatively harmful to people today. For example, a rapid reduction in global emissions from 1980 onwards would have had a non-identity effect on all people born since 1990, which is about 50% of the world's population today. Similarly, an ambitious emissions reduction from 1990 onwards would have had a non-identity effect on people born from 2000 onwards, i.e. over 40% of the world's population (Index Mundi 2021). Third, the international distribution of historical emissions is not the same as that of recent emissions. In fact, since 1980, the gap in emissions, both cumulative and per capita, between early industrialised countries and emerging economies has narrowed to the point that, for example, China's per capita emissions in 2023 are more than twice those of Sweden (Ritchie et al. 2023b).

None of these three observations shows that biting the bullet of the NIP is incompatible with justifying a distribution of the climate burden that is broadly consistent with desideratum 3. That is, that developed countries should contribute more to climate action than developing countries. However, all three observations show that this distribution is much more favourable to historical emitters than it would be if the proponents of the harm approach did not bite the NIP bullet. Again, biting the NIP bullet makes a difference in how proponents of the comparative harm approach respond to the burden sharing question of climate justice.

2.2 Present emissions

It remains to be seen whether taking into account the harm caused by present emissions, in addition to the harm caused by recent emissions, can help proponents of the comparative harm approach to place a sufficiently large share of the climate burden on historical emitters.

The main problem with this strategy is that historical over-emitters do not always match present over-emitters. Consider, for example, two key actors in the climate transition, the EU27 and China. The historical (i.e. pre-1980) emissions of the EU27 are more than six times higher than those of China (Ritchie et al. 2023a). This is despite the fact that China's population has always been significantly larger than that of the EU27 since the Industrial Revolution (Ritchie et al. 2023c). On the contrary, China now emits more per capita than the EU27 – 8.4 $GtCO_2$ vs. 5.6 $GtCO_2$ in 2023 (Ritchie et al. 2023b). In such cases, therefore, sharing the climate burden based on the harm from present emissions alongside the harm from recent emissions ends up being more lenient on historical emitters than considering only the harm from recent emissions[5].

Nevertheless, in cases like the one just examined, one might still want to look at the different impacts of current CO_2 emissions on fixed-identity people. For example, it could be

[5] One objection to this conclusion is that China's current production emissions should be adjusted for trade. China is a net exporter of CO_2. More than the 9% of China's domestic production emissions are embedded in goods and services consumed abroad. In contrast, EU countries are net importers of CO_2. The EU27 imports goods and services with embedded emissions equivalent to more than 26% of the EU27's domestic production emissions (Ritchie 2019). The question of who bears remedial responsibility for the emissions embedded in trade is a complex one. There are good arguments for assigning part of the remedial responsibility for the emissions embedded in consumer goods to those who drive demand and therefore consume these goods, and equally good arguments for assigning part of the responsibility to those who profit from the production and therefore sale of these goods (Afionis et al. 2017). I won't go into this complex issue here. I will simply emphasise that even if we were to discount some of the remedial responsibility for China's production emissions the difference between China's per capita production emissions and those of the EU27 is so large that a larger share of the remedial responsibility would still fall on China, at least from a harm-based perspective.

observed that fixed-identity people living in the EU27 from now until the end of the century are less vulnerable to the climate threats caused by present emissions than those living in China, for both geographical and socio-economic reasons. Indeed, the global marginal harm caused by a tonne of CO_2 is the same wherever it is emitted, but the proportion of domestic harm caused by that tonne of CO_2 is higher if it is emitted in China than in the EU27 (Drouet n.d.). This would justify that, for the same per capita emissions, people in the EU27 bear a greater climate burden than people in China, because the climate harm caused abroad by one tonne of CO_2 emitted by the former is greater than the harm caused abroad by one unit of CO_2 emitted by the latter. It does not necessarily follow that the EU27 should reduce its emissions less than China, but it might mean, for example, that the EU27 should help third countries to reduce their emissions more than China because its emissions cause more harm to these countries.

Although these considerations seem to point in the direction of holding historical polluters more accountable for climate change than other countries, there are two problems. First, there is the problem of the temporal scope of the harm. Typically, the marginal harm caused by a tonne of CO_2 from the moment it is emitted until it remains in the atmosphere is calculated in terms of its social cost. The latter corresponds to the economic losses it generates over time, also using a discount rate of future utility (Pindyck 2019). Estimates of the social cost of CO_2 are now very high, not only globally but also at the country level, especially for those countries most exposed to economic and social losses as a result of a worsening climate crisis – most of which are historically under-polluters (Rennert et al. 2022). However, if we bite the NIP bullet, we cannot hold today's polluters remedially responsible for the full social costs of their present emissions, but only for the social costs to fixed-identity people. There is, of course, no hard data on this, but it is to be expected that

the fixed-identity social cost of carbon would be lower than the full social cost of carbon. This means that any estimate of the harm caused by a tonne of CO_2 emitted today, whether by a developed or a developing country, has to be scaled down from what it would normally be if we did not bite the NIP bullet. Whether it can still be said that the EU27 causes more harm abroad than China for the same amount of CO_2 emissions, despite the fixed-identity constraint, remains an empirical fact to be verified by appropriate methodologies.

The second problem concerns what we might call vulnerable polluters, i.e. historical polluters that are relatively highly exposed to climate impacts. The US is a clear example. While the US is the largest historical polluter in terms of cumulative emissions, it is also very much at risk from climate-related wildfires, extreme and violent weather events, sea level rise, droughts and extreme heat (Moody's Analytics 2023). Therefore, if the comparative harm approach takes into account differences in exposure to climate losses, the US share of the climate burden would be lower than for a country with the same level of present emissions but less vulnerability. In effect, both countries would be causing the same climate harm in the world, but in the case of the US, more of that harm would occur domestically and therefore would not require international compensation. Again, this does not mean that the US would have less reason to mitigate climate change, but that it would have less responsibility to, for example, provide climate finance and technology to other countries. While it is possible to imagine ways of addressing the problem of vulnerable polluters through further adjustments to the comparative harm approach, this would require going beyond the classical version of the approach and, moreover, would not in itself solve the first problem of temporal scope. Once again, this seems to indicate that biting the bullet of the NIP makes a significant practical difference in terms of climate burden sharing.

Conclusions

Proponents of the fixed-identity argument rightly claim that those who adhere to a comparative harm approach to climate justice can justify a rapid climate transition regardless of the identity transforming effects it would have. They are able to do this by focusing on the harms that would be prevented by reducing emissions for people whose identities are already fixed. In this article, I argue that this easy answer to the question of climate action has a price when it comes to the question of climate burden sharing. The basic intuition of any harm-based approach to climate justice is that emissions are morally wrong to the extent that they cause harm, which in most cases is avoidable. Therefore, emissions require compensation, either from those who produced them or from those who benefited from them. If proponents of the comparative harm approach resort to the fixed-identity argument, it is because they have bitten the NIP bullet – otherwise there would be no need to limit the normative focus on harm to fixed-identity persons. But biting the NIP bullet also means abandoning the argument that historical over-polluters should compensate historical under-polluters. In other words, if proponents of the comparative harm approach settle for the fixed-identity argument in answering the climate action question, a significant chunk of the climate burden will have to be shifted from those who have emitted most to those who are now wealthier, and the two are not necessarily the same. Whether it is worth paying this philosophical price in exchange for an easy answer to the climate action question is something that should at least be carefully debated. I think this is enough to keep the discussion open as to whether proponents of the harm approach should philosophically engage with the NIP or rather bypass it with the fixed-identity argument.

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