Chapter 6

Patent Boxes before and after BEPS Action 5

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6.1. Patent boxes before BEPS

6.1.1. France, Ireland and the other pioneers

When France introduced its preferential tax rate for patent-related income in 1965,[1] OECD transfer pricing guidelines did not exist,[2] the Court of Justice of the European Union (the Court of Justice) had not yet been called to rule on State aid cases related to tax measures[3] and tax policymakers were more concerned with the harmful effects of custom duties than those of tax competition.[4]

The French regime granted a preferential tax rate for long-term income arising from the transfer or license of patents. The regime was immediately questioned – not so much for its potentially harmful effects in respect of other countries, but rather for the tax planning opportunities it offered to integrated companies in a purely domestic context. Groups of companies could indeed exploit the regime by centralizing intellectual property (IP) ownership in one company that would then further license those IP rights to other group companies. In this way, the latter companies could be entitled to full deduction of their expenses related to the acquisition of the IP licence, while the licensor could benefit from a reduced tax rate on the corresponding income. To fix this undesired outcome, an anti-abuse measure was enacted in 1971,[5] which excluded from the reduced tax rate the income corresponding to the tax-deducted royalty payments of the other group companies.

Unfortunately, such an anti-abuse measure did not stop the implementation of tax avoidance schemes, since it did not target patent-related income corresponding to royalty payments by group companies resident abroad. As a result, a distortion was also created based on the location of the companies involved in the licensing.

Hence, a measure established to fix a domestic tax planning scheme ended up fostering cross-border tax competition. It is therefore not surprising that, in 1999, the Primarolo group included the French IP income regime in its final list of 66 harmful tax measures.[6]

The Primarolo group also assessed the harmful character of a measure with a similar effect, namely the Irish Research and Technical Development regime.[7] The regime was introduced in 1973, the year of Ireland's accession to the European Economic Community, to encourage individuals and companies to invest in research

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[1] FR: *Loi Modifiant l'imposition des entreprises et des revenus de capitaux mobiliers* no. 65-566 of 12 July 1965, *Journal Officiel de la République Francaise* (JORF) (13 July 1965), p. 6003, art. 10, transposed into art. 39 *terdecies* of the *Code Général des Impôts* (CGI) (to be read in combination with art. 219). The regime repealed the old exoneration system for income derived from transfer or license of patents reinvested within three years (*see* art. 40 of the CGI).

[2] The first version of the OECD Transfer Pricing Guidelines was released in 1979; *see* OECD, *Transfer Pricing and Multinational Enterprises* (OECD 1979), International Organizations' Documentation IBFD.

[3] The first case dealing with reductions in (para)fiscal levies in the State aid context, known as the *Italian Textile* case, was filed in October 1973 and ruled by the Court of Justice of the European Union (the Court of Justice) on 2 July 1974; *see* IT: ECJ, 2 July 1974, Case 173/73, *Italian Republic v. Commission of the European Communities*, [1974] ECR I-709.

[4] F. Ellis, *The European Community and the Third World*, European Studies 19 (1974).

[5] FR: *Loi de finances pour 1972* no. 71-1061 of 29 Dec. 1971, JORF (30 Dec. 1971), p. 12904, art. 42. *See also Sénat de France, Rapport no. 107, Tome II, sur le Projet de Loi de finances pour 2012*.

[6] Council Report from Code of Conduct Group (Business Taxation) to ECOFIN Council on the Code of Conduct (Business Taxation), SN 4901/99 (23 Nov. 1999), Measure Code A012, para. 41.

[7] Id., Measure Code C014.

and development (R&D). It provided for an exemption from tax of all income from royalties on patents first registered in Ireland. In presenting the budget law for 1973/74, the then-Minister of Finance made it clear that the measure was specifically directed at improving Irish competitiveness, by covering "any invention where the work in connection with the actual devising of the invention is carried out in the State and the inventor resides [in Ireland]". He further noted that "the new relief will not extend to the proceeds from the outright sale of patents as I do not wish to encourage the disposal abroad of Irish inventions, to the detriment of our own industry".[8] Indeed, a qualifying patent was defined as a patent in relation to which the research, planning, processing, experimenting, testing, devising, designing, developing or similar activity leading to the patented invention was carried out in Ireland.[9]

Designed as an instrument to attract research, the new measure became a tax competition tool.[10] In the years following its introduction, the Irish government tried to limit the attractiveness of the regime for tax planners. Section 28 of the Finance Act 1994 reduced the scope of the relief by excluding from the definition of "income from a qualifying patent" royalties derived from non-manufacturing activities for which the payments were made between related persons.[11] Section 32 of the Finance Act 1996 further limited the scope of the measure by excluding royalties paid by a related company (for the purpose of manufacturing activities) in excess of the arm's length price. Despite these efforts, the Primarolo group reviewed the measure, because it did not prohibit the deduction of patent royalties against the taxable income of the payer insofar as such royalties were exempt from tax in the hands of the recipient (but excluded it from the final list).[12]

Paradoxically, the review of these two measures by the Primarolo Group did not prevent other Member States from adopting generous tax incentives related to IP. Between 2003 and 2010, Belgium, Hungary, Luxembourg, the Netherlands and Spain also introduced such measures into their domestic legislation.

The Hungarian regime, adopted in 2002,[13] consisted of a 50% deductibility of gross royalty income from the corporate tax base.[14] The Dutch regime (*Octrooibox*) entered into force in 2007[15] and applied to self-developed patent net income and capital gains, allowing for the application of a reduced tax rate of 10%.[16] The same year, Belgium followed its neighbour and introduced a patent income deduction,[17] allowing for a deduction of 80% of the patent-related gross income from the taxpayer's corporate tax base.[18] In December 2007, Luxembourg in turn emulated its neighbour[19] by adopting a similar deduction, with two main differences: (i) it included capital gains deriving from the disposal of a patent in the qualifying income; and (ii) it was calculated only on the net income.[20] Lastly, in 2008, Spain introduced a 50% deduction on gross royalty income from self-developed IP.[21] The Spanish measure was granted a positive ruling from the European Commission (the Commission) in respect of its compatibility with EU State aid rules. This decision paved the way for the further spreading of patent boxes all over Europe.

6.1.2. 2006-2008: The Commission's scrutiny of the Irish and Spanish regimes

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[8] IR: Financial Statement – Budget 1973, 265 Dail Eireann Debate 9, p. 53 (16 May 1973).
[9] D. Glynn and A. Loughlin, *Ireland's New Act Gives Relief*, 7 International Tax Review 8, pp. 41-42 (1996).
[10] W. Hill, *The Patent Box as the New Innovation Incentive for the Several States: Lessons from Intellectual Property-Tax Competition*, 42 AIPLA Quarterly Journal 1, pp. 13-38 (2014).
[11] IR: Irish Finance Act no. 13/1994.
[12] Council Report, *supra* n. 6, annex A, Measure Code C014, at 103.
[13] HU: Act XLII of 2002 on the Amendment of Certain Acts Concerning Taxes, Mandatory Contributions and Other Payments to the Central Budget, entering into force as of January 2003 and amending Act LXXXI of 1996 on Corporate Tax and Dividend Tax.
[14] P. Jalsovszky and M. Tarpai, *Group taxation: Hungary*, IFA Cahiers vol. 89b, pp. 325-340 (2004).
[15] NL: Law of 30 Nov. 2006, no. 631, art. 2, letter M.
[16] W. Eynatten, *European R&D and IP Tax Regimes: A comparative study*, 36 Intertax 11, pp. 502-519 (2008).
[17] BE: Programme Law of 27 Apr. 2007, Official Gazette of 8 May 2007, arts. 86-93.
[18] E. Warson and M. Foriers, *The Belgian Patent Income Deduction*, 48 Eur. Taxn. 2, pp. 70-77 (2008), Journals IBFD.
[19] LU: Law of 21 Dec. 2007, published on 27 Dec. 2007, Official Gazette Memorial A no. 234, p. 3949.
[20] F. Muntendam and J. Chiarella, *New Luxembourg Tax Regime for Intellectual Property Income*, 48 Eur. Taxn. 5, p. 229 (2008), Journals IBFD.
[21] ES: *Ley de reforma y adaptación de la legislación mercantil en materia contable para su armonización internacional con base en la normativa de la Unión Europea*, no. 16/2007 of 4 July 2007, published on 5 July 2007, BOE-A-2007-13023.

The Commission first approached patent boxes from an EU treaty freedoms angle. About a year after the Court of Justice's judgment on the French tax credit for research,[22] in which the Court ruled that article 56 (then article 49 TEC) of the Treaty on the Functioning of the European Union (TFEU) precluded legislation of a Member State from restricting the benefit of a tax credit for research only to research carried out in that Member State, the Commission started an infringement procedure against Ireland.[23] This was based on concerns over the fact that the tax exemption for royalty income was only granted when the research leading to the patentable item was carried out in Ireland. This limitation, according to the Commission, was incompatible with EU law in two ways: (i) it dissuaded Irish companies and individuals from contracting out research to institutions established abroad; and (ii) it dissuaded Irish undertakings and individuals from setting up their research centres in other Member States, thus infringing their freedom of establishment.[24] As a consequence, Ireland broadened the definition of "qualifying patents" to provide that the work leading to the patentable invention could be carried out in an EEA Member State.[25]

A few months later, Spain notified a measure under article 108 (then article 88 TEC) of the TFEU to the Commission to reduce corporate tax on the revenue from certain intangible assets.[26] It consisted of counting only 50% of the revenue from certain intangible assets for corporate tax purposes. The revenue that qualified for exemption was the remuneration from the transfer of the right to use or exploit patents, designs and models, plans and secret formulae or processes. To be eligible for such tax relief, the taxpayer had to be able to demonstrate that he developed the asset, either directly or indirectly.

The Commission ruled that it was admissible to externalize and entrust to third parties, also located abroad, the creation of these assets, saying that "[i]t is perfectly admissible to externalise and entrust to third parties drawing up or creating those assets",[27] as long as the risks and the benefits of the research were borne by the taxpayer.[28] This statement is relevant for two reasons. First, the broad geographical scope is to be read in connection with the Commission's infringement letter to Ireland, as well as with the rulings of the Court of Justice on the French[29] and Spanish[30] tax credits for research. A measure limiting a tax benefit to research carried out (or to patentable items developed) in only one Member State is indeed likely to infringe upon the fundamental freedoms, as it would restrict cross-border activities. Second, there is the possibility to entrust others with the development of the asset, as long as the risks are clearly borne by the taxpayer. Indeed, one could argue that, from a State aid angle, selectivity lies precisely in the capability to fully develop an intangible asset, i.e. in having (or not having) the actual means to develop the asset and hence to benefit from the relief, regardless of any consideration of geographical limitation. In this respect, one could argue that granting the relief to any undertaking that invests in IP, whether having the technical means to carry out the relevant research or not, makes the measure truly applicable to any undertaking. Nevertheless, the Commission did not explicitly make this point and generically concluded that "any corporate tax payer, independently from its size, legal structure and sector in which it operates can be the beneficiary",[31] without elaborating on the exact meaning of the first requirement of article 23, as amended by Law 16/2007, *que la entidad cedente haya creado los activos objeto de*

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[22] FR: ECJ, 10 Mar. 2005, Case C-39/04, *Laboratoires Fournier SA v. Direction des vérifications nationales et internationales*, ECJ Case Law IBFD.
[23] For more information, *see* http://ec.europa.eu/atwork/applying-eu-law/infringements-proceedings/infringement_decisions/index.cfm?lang_code=EN&r_dossier=20052427&noncom=0&decision_date_from=&decision_date_to=&active_only=0&title=&submit=Search (last accessed 17 Dec. 2016).
[24] *See* European Commission **(correct? OK)**, *Press Release – Direct taxation: Commission requests Ireland to end discriminatory rules on tax treatment of patent royalties*, 23 Mar. 2007, available at http://europa.eu/rapid/press-release_IP-07-408_en.htm (last accessed 14 Nov. 2016).
[25] *See* IR: Finance Bill 2007 explanatory memorandum, available at https://www.oireachtas.ie/documents/bills28/bills/2007/0707/b7b07D.pdf (last accessed 14 Nov. 2016).
[26] *Ley de reforma*, *supra* n. 21, additional rule no. 8(8) amending art. 23 of the Spanish Corporate Income Tax Law (*Real Decreto Legislativo* 4/2004).
[27] ES: European Commission Decision of 13 Feb. 2008, Case 480/2007, OJ C80/2008, para. 6.
[28] F.A. Murillo, *Spain*, in *Tax incentives on Research and Development (R&D)*, IFA Cahiers vol. 100a, p. 694 (2015).
[29] *Laboratoires Fournier*, *supra* n. 22.
[30] ES: ECJ, 2 June 2006, Case C-248/06, *Commission v. Spain*, ECJ Case Law IBFD.
[31] Case 480/2007, *supra* n. 27, at para. 14.

cession (the transferring entity developed the transferred assets). The Commission also pointed out that "the fact that not every undertaking decides to self-develop a qualifying intangible asset and then receives remuneration for the transfer of the right to use or exploit such asset merely reflects an economic reality. More importantly, the measure does not strengthen the position of any particular class of undertakings in relation to others competing in intra-Community trade and applies without distinction to all economically active persons".[32]

Arguably, the general attitude towards research incentives in the first decade of the 2000s in Europe played a role in the outcome of the case. The European Commission Action Plan for investing in research dates back to 2003[33] In it, a paragraph was dedicated to fiscal measures for research. A few years later, the Commission published a Communication aiming at promoting a more effective use of tax incentives in favour of R&D.[34]

In any event, despite consolidating its reasoning into just 21 paragraphs, the Commission illustrated all of the features of the Spanish regime, from the absence of administrative discretion to the existence of anti-abuse conditions preventing tax-driven artificial settings. Yet, what was intended to be a placet to a specific measure was considered by stakeholders as a landmark statement,[35] and it has been interpreted since as the Commission position on whether the very concept of a tax incentive related to income from a patentable asset is selective in nature.

6.1.3. A new European spring for patent boxes

Soon after the Commission decision on the Spanish patent box, a new generation of patent-related tax incentives was adopted in Europe. Analysis of these regimes seems to suggest that the Commission decision was indeed received as a general clearance of patent boxes. In fact, the new IP-related incentives vary so greatly as to their form and scope that, had they been notified, it is debatable whether they would have all passed the Commission's scrutiny.

In the Netherlands, the 2007 *Octrooibox* was replaced in 2010 by an *Innovatiebox*.[36] The change in the name reflects the main amendment to the regime: while the 2007 relief applied only to revenues from patents, the 2010 regime was extended to also cover intangible assets that were the result of research projects, i.e. any projects for which an R&D statement had been granted by Agentschap NL, a governmental agency.[37] Conversely, when Malta introduced its tax exemption on royalties in January 2010,[38] it expressly limited the benefits to royalties derived from patents and copyrights, making the incentive available to persons (individuals and enterprises) that owned the rights to patented IP and received income in the form of royalties.[39] However, such a formal requirement was combined with a full exemption on the relevant income.

As of 1 January 2012, Cyprus amended article 9 of its Income Tax Law[40] to include a deduction of 80% of profits from the licensing and disposing of a qualifying intangible asset. Around the same time, Hungary

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[32] Id., at para. 15.

[33] Commission of the European Communities, Communication from the Commission: *Investing in research: an action plan for Europe*, COM(2003)226 final, 4 June 2003.

[34] Commission of the European Communities, Communication from the Commission to the Council, the European Parliament and the European Economic and Social Committee: *Towards A More Effective Use of Tax Incentives in Favour of R&D*, COM(2006)728 final, 22 Nov. 2006.

[35] This statement served as a precedent for the European Free Trade Association (EFTA) Surveillance Authority's assessment of the Lichtenstein intellectual property (IP) relief; *see infra* **(6.3.3)**.

[36] NL: Law amending certain tax laws and other laws of 23 Dec. 2009, Staatsblad 609/2009, amending art. 12b of the Corporate Tax Act.

[37] M. Schellekens, *The Netherlands as an Innovation Hub: An Appraisal of the Innovation Box Regime*, 53 Eur. Taxn. 10, p. 525 (2013), Journals IBFD.

[38] MT: Legal Notice No. 429 of 2010, B4947. **(EDITOR: is this sufficient? Could not find document in any searches. AUTHOR: It is the first result in my search engine if I type "Malta Legal Notice 429 2010")**

[39] MT: Malta Enterprise, *Incentive Guidelines: Tax Exemption on Royalty Income from Patents* (18 Jan. 2011), available at http://www.maltaenterprise.com/sites/default/files/Incentive%20Guidelines%20(Royalty%20Income%20from%20Patents).pdf (last accessed 18 Dec. 2016).

[40] CY: Law 102(I) of 2012, Official Gazette of 6 July 2012, art. 9(e) amending Income Tax Law no. 118(I) of 2002.

extended its preferential IP regime to capital gains from the sale of intangible assets.[41] Both countries broadly defined qualifying intangible assets to include trademarks.

In 2013, Spain amended its patent box.[42] The need for a reform stemmed from evidence that, in the period from 2010 to 2013, only a few companies actually benefitted from the deduction. Furthermore, its use proved to be particularly difficult for small and medium-sized undertakings.[43] To make the incentive more accessible, the benefit – a 60% reduction – was recognized not only for income from licences but also for income derived from transfers, and it was calculated on net income rather than gross income.

In the same year, the United Kingdom followed suit and joined the club of jurisdictions providing for a patent box.[44] The UK regime provided for a reduced tax rate of 10% on income from the exploitation of qualifying IP rights, whether paid as royalties or embedded in the sales price of the product containing the qualifying IP. Qualifying IP rights were mainly limited to patents,[45] therefore excluding other IP items such as trademarks, copyrights, design rights and know-how. The taxpayer was required to create or significantly contribute to the development of the patented invention, or at least to perform a significant amount of activity to develop it.[46] Nevertheless, the scope was broad enough that much of the development could be done offshore.[47]

Portugal introduced its tax regime for IP-related income in 2014.[48] The regime echoed the original Spanish patent box provision in many ways, as scrutinized by the Commission, in the fact that it (i) was limited to income from the transfer of the right to use or exploit patents, designs or models; (ii) intended self-development as investing in research, directly or through contracts; (iii) required the licensee to make effective use of the rights assigned; and (iv) provided for anti-abuse rules for situations in which the licensee was a related company. It corresponded to an effective tax rate of 11.5%.

In short, during this period, comforted by the decision of the Commission in the Spanish patent box case and by the withdrawal of the Dutch IP regime notification,[49] Member States engaged in a creative exercise of designing business-attractive patent box regimes.

6.2. 2014-2015, a year of changes: OECD BEPS Action 5 and the modified nexus approach

6.2.1. The Code of Conduct dilemma and the OECD BEPS Action 5 discussions

The absence of any geographical or sector discrimination did not rule out the possible harmful character of these regimes. In 2013, the EU Code of Conduct Group (the Group) reviewed three patent box regimes under the criteria set out in the Code of Conduct.[50] These regimes were those of Belgium, Cyprus and the United Kingdom. From the beginning, the difficulty appeared to be the interpretation and application of the third criterion of the Code of Conduct in light of EU law. According to the third criterion, a tax regime may be harmful if preferential treatment is granted to a taxpayer not having real economic activity or substantial economic presence in the Member State offering the advantage.[51] In applying this criterion to the assessment of patent boxes, the Group was confronted with the difficulty of matching the need for substance with the view formally taken by the European Union on the need not to discriminate and not to hamper the free movement of

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[41] HU: Tax Package Law for 2013, published in Official Gazette of 29 Nov. 2012.
[42] ES: *Ley de apoyo a los emprendedores y su internacionalización* no. 14/2013 of 27 Sept. 2013, published on 28 Sept. 2013, BOE-A-2013-10074, art. 26.
[43] M.T. Soler Roch and E. Gil García, *Encouraging Research and Development (and Innovation) in the Spanish Tax System*, 70 Bull. Intl. Taxn. 8 (2016), Journals IBFD.
[44] UK: Finance Act 2012 (ch. 14) of 17 July 2012, sec. 19, sch. 2.
[45] Patents, regulatory data protection ("data exclusivity"), plant variety rights and supplementary protection certificates.
[46] B.R. Obuoforibo, *The Technical Aspects of the UK Patent Box Rules*, 53 Eur. Taxn. 10 (2013), Journals IBFD.
[47] K. Rabindran and E. Walsh, *United Kingdom*, in *Tax incentives on Research and Development (R&D)*, IFA Cahiers vol. 100A (2015).
[48] PT: Corporate Income Tax Code, art. 50-A, as added by Law 2/2014 of 16 Jan. 2014, DR no. 11/2014, Série I of 16 Jan. 2014.
[49] A. Beek-Van Doremaele and N. Smetsers, *Netherlands*, in *Tax incentives on Research and Development (R&D)*, IFA Cahiers vol. 100A, pp. 482-483 (2015).
[50] Code of Conduct Group, Report to the Council of 29 Nov. 2013, no. 16656/13.
[51] Council of the European Union, Conclusions of 1 Dec. 1997, OJ C2/98.

services and the freedom of establishment when granting tax relief connected to research activities (and the related outcomes).[52]

For this reason, the Group asked for political guidance from the Economic and Fiscal Affairs Council (ECOFIN) and envisioned to review all patent boxes in the European Union, including those already assessed in the past, to ensure consistent interpretation and uniform application of the third criterion. Hence, in December 2013, ECOFIN invited the Group to analyse the third criterion of the Code of Conduct by the end of June 2014 and to review all patent boxes in the European Union, taking into account recent international developments as well.[53]

Indeed, in the same period, the OECD, supported by the G20,[54] had already initiated the process known as the Base Erosion and Profit Shifting (BEPS) Project. In February 2013, the OECD issued its Report Addressing Base Erosion and Profit Shifting,[55] in which the organization's previous work on harmful tax practices was recalled. In July 2013, this report was supplemented by an Action Plan, detailing the 15 most important actions to be undertaken, among which Action 5 was devoted to "Countering Harmful Tax Practices More Effectively, Taking into Account Transparency and Substance".[56] Hence, the OECD also conducted an in-depth reflection on the substance requirement in preferential tax regimes, in accordance with the second pillar of the OECD BEPS Project, aimed at re-establishing a link between substance and taxation.[57]

The OECD had already developed a substance test in its 1998 report on harmful preferential regimes.[58] In this report, a regime was considered harmful if, inter alia, it "encourage[d] operations or arrangements that [we]re purely tax driven and involve[d] no substantial activities".[59] The report also emphasized the relevance of substance in the analysis of the economic effects of a regime by, for example, calling for an assessment of whether the presence and level of activities in the taxing jurisdiction were commensurate with the amount of investment or income. In its BEPS work, the OECD further stressed the importance of the substance requirement in the assessment of the harmful character of a tax regime.

The work of the Group and the OECD on patent boxes progressed in parallel. Both were faced, at some point, with a choice among three main ways to identify substance: (i) the value creation approach; (ii) the transfer pricing approach; and (iii) the modified nexus approach. The value creation approach requires taxpayers to undertake a set number of significant development activities to fulfil the substance requirement. The transfer pricing approach is based on general transfer pricing indicators of substance, namely the location of important functions in the jurisdiction granting the regime, the legal ownership of the assets giving rise to the tax benefit and the allocation of risk on the assets giving rise to the tax benefit. Finally, the nexus approach focuses on the relationships between the relevant assets and the research activities undertaken, establishing a necessary link between the income receiving the tax benefit and the expenditures contributing to that income; as a result, it is the proportion of expenditures over income that grounds substance.

In sifting through these three options, both the Group and the OECD arrived at similar conclusions: little or no support was given to the value creation approach, while only a few arguments were put forward in favour of the transfer pricing approach. As a consequence, a consensus arose around the nexus approach, although some members flagged possible difficulties in reconciling such an approach with the EU freedoms.[60]

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52 *See* sec. 6.1.2.
53 Council of the European Union, note of 29 Nov. 2013, 16680/13. **(EDITOR: Is this sufficient? Could not find document in any searches. AUTHOR: the document is accessible via the Consilium database by typing the registry number (16680/13) in the dedicated search engine. If you think it should be specified better we can include the direct link to the document)**
54 G20 Leaders Declaration of 19 June 2012, Los Cabos, Mexico.
55 OECD, *Addressing Base Erosion and Profit Shifting* (OECD 2013), International Organizations' Documentation IBFD.
56 OECD, *Action Plan on Base Erosion and Profit Shifting*, p. 18 (OECD 2013), International Organizations' Documentation IBFD.
57 OECD, *Countering Harmful Tax Practices More Effectively, Taking into Account Transparency and Substance*, p. 27 (OECD 2014), International Organizations' Documentation IBFD.
58 OECD, *Harmful Tax Competition: An Emerging Global Issue* (OECD 1998), International Organizations' Documentation IBFD.
59 OECD (2014), *supra* n. 57, at 23.
60 Code of Conduct Group (Business Taxation), Report to the Council of 6 June 2014, no. 10608/14.

6.2.2. The nexus approach and the Germany-UK agreement

In September 2014, the OECD issued its Progress Report on Action 5 of the BEPS Project. In this report, the nexus approach was presented as an extension of the application of the ratio used for "front-end" tax reliefs to "back-end" tax regimes.[61] In other words, by observing that R&D credits and other similar research-related tax reliefs applied to expenditures incurred in the creation of IP, the report established a link between expenditure and IP income, so that the IP income-related relief was also proportionate to the expenditures undertaken (or, to be more precise, the proportion of expenditures undertaken over the total amount of expenditures needed to develop the asset). In practice, if a company had entirely developed only one IP asset, the nexus approach would allow for full eligibility of the IP income for the relief. Otherwise, the portion of the IP income eligible would be the result of the income arising from the IP multiplied by the following formula:

$$\frac{own\ research\ expenditures + outsourcing\ to\ 3rd\ parties}{own\ research\ expenditures + outsourcing\ to\ 3rd\ parties + acquisition\ costs + outsourcing\ to\ related\ parties}$$

With a nexus so defined, the patent box designed by the United Kingdom would likely have been declared harmful, given its openness to offshore development and IP acquisition.[62] Therefore, the United Kingdom was at the head of a small group of countries (along with Luxembourg, the Netherlands and Spain)[63] that tried to oppose such a definition of substance. On the other side, 40 countries[64] were convinced of the necessity of a stronger territorial connection between the research carried out by the taxpayer (likely in its tax jurisdiction) and the related income eligible for the relief. Although such a stringent requirement was prima facie not good news from an EU law point of view, it was somehow related to the need for substance in order to prevent harmful tax competition.

Germany, a country without a patent box regime and among those convinced of the need for a nexus requirement, worked bilaterally with the United Kingdom on a compromise solution, which was made public in a joint statement issued on 11 November 2014.[65] The compromise addressed three main concerns surrounding the nexus approach, namely: (i) how to calculate qualifying R&D expenditures so as to limit international tax planning without imposing excessive territorial restrictions; (ii) how to set transitional arrangements between regimes, including grandfathering provisions; and (iii) how to define a tracking and tracing methodology. The first point in the proposal was an uplift of the qualifying expenditures (to 30%), as defined by the nexus approach, to partially take into account outsourcing to related companies and acquisition costs. On the second point, a possible timeline for phasing out the old regimes was set: all existing regimes were to be closed to new entrants by June 2016 and abolished by June 2021, so that the current beneficiaries would be able to profit from the existing regimes until 2021. On the third point, the need for a mechanism to track and trace IP expenditure was stressed, and the joint statement urged the Forum on Harmful Tax Practices to work on reaching an agreement by June 2015 on a practical and proportionate tracking and tracing approach that could be implemented by companies and tax authorities.

In November 2014, in the framework of the Brisbane G20 Summit, Germany and the United Kingdom presented their compromise to the Forum on Harmful Tax Practices and, eventually, international consensus was reached on what was then called a revised nexus approach.[66]

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[61] OECD (2014), *supra* n. 57, at 29.
[62] Rabindran and Walsh, *supra* n. 47, at 809.
[63] P.T.F. Schrievers and M. Emonts, *Amendments and Developments Involving Netherlands Tax Incentives Promoting R&D Activities*, 56 Eur. Taxn. 8 (2016), Journals IBFD.
[64] OECD (2014), *supra* n. 57. *See also* the press conference speech by Pascal Saint-Amans, Director of the Center for Tax Policy and Administration at the OECD, at the Brisbane G20 meeting of 14 Nov. 2014, transcript available at http://www.g20australia.org/news/transcripts/oecd_press_conference_g20_international_media_centre_brisbane.html (last accessed 20 Dec. 2016).
[65] The joint statement is available at http://www.bundesfinanzministerium.de/Content/EN/Standardartikel/Topics/Taxation/Articles/2014-11-11-rules-on-preferential-ip-regimes-joint-statement.html (last accessed 11 Dec. 2016).
[66] *See* press conference speech by Pascal Saint-Amans, *supra* n. 64.

6.2.3. October 2015: Final Report

On 5 October 2015, the OECD Final Report on Action 5 was released. In the section related to patent boxes, it included the three recommendations made by Germany and the United Kingdom regarding the 30% uplift of qualifying expenditures, the grandfathering provision and the tracking and tracing details. This regime is known as the modified nexus approach (MNA).

In its illustration of the substantial activity requirement, the report makes clear that the intention of the Forum on Harmful Tax Practices is by no means to recommend any particular IP regime but simply to describe the limits within which an IP regime can be designed without having harmful effects on other countries. It follows that applying the recommendations of the OECD in a narrow fashion (by limiting eligible income, IP assets, expenditures or taxpayers) will also be consistent with the OECD approach.[67] Qualifying taxpayers for a non-harmful IP regime are resident companies, domestic permanent establishments of foreign companies and foreign permanent establishments of resident companies subject to tax in the jurisdiction providing the benefit. Such regimes should apply to IP assets "that are functionally equivalent to patents".[68] This includes patents (broadly defined), copyrighted software and IP assets that share some features of patents, although not being formally protected IP. These assets must be non-obvious, useful and novel, and they must have been certified as such by a government agency. By including this last category, the relief can potentially be extended to companies that, for business or budget reasons, do not patent their inventions, as long as they comply with the turnover requirements set in the report. Given the specificity of this third category of IP assets and of the procedure for recognizing their similarity to patents, one may wonder why the Forum on Harmful Tax Practices felt the need to further limit the possibility of considering them within the scope of an IP regime only to small and medium-sized enterprises (i.e. applying turnover thresholds).

Qualifying expenditures are those incurred by the qualifying taxpayer and directly connected to the IP asset. To better define them without providing a full list, the OECD restated the parallelism with the R&D tax credits (*see* above) arguing that, if expenditure qualifies for the R&D tax credit, it can also qualify for the application of the MNA. Interest payments, building costs and acquisition costs are expressly excluded. As a consequence, in the absence of outsourcing to related parties and acquisition costs, the taxpayer could maximize its benefit, as 100% of the overall income from the IP asset could be eligible for the relief.

In line with the agreement on the MNA, qualifying expenditures can be increased by 30% if acquisition costs or costs for research outsourced to related parties are incurred, insofar as the qualifying expenditures plus the uplift are not higher than the overall expenditures. Overall expenditures represent the total expenditures in relation to the IP asset, namely: (i) expenditures by the taxpayer itself; (ii) outsourcing to unrelated parties; (iii) outsourcing to related parties; and (iv) acquisition costs. Capping the uplift therefore aims to ensure that taxpayers outsourcing to related parties or acquiring IP are not granted an advantage over taxpayers genuinely carrying out all of the expenditures related to an IP asset by themselves.

Furthermore, to avoid distortion based on the time at which an expenditure is carried out or an acquisition is finalized, the MNA is defined as an "additive approach", so that the function is periodically updated over the life of the IP asset.

The ratio so defined should apply to the overall income from the IP asset in order to determine the amount of income to which the preferential regime may be applied. Although leaving room for jurisdictions to define overall income according to their domestic laws, the OECD recommends applying the MNA to net income and only to the income derived from the IP asset, likely in the form of royalties, capital gains, income from the sale of IP and income embedded in the sale of a product or in the use of a process. The embedded feature of an item

[67] OECD, *Countering Harmful Tax Practices More Effectively, Taking into Account Transparency and Substance, Action 5 – 2015 Final Report*, p. 4, para. 26 (OECD 2015), International Organizations' Documentation IBFD.
[68] Id., at p. 26, para. 34.

of income is not straightforward and requires a clear separation of income not directly related to the eligible IP (e.g. marketing) from the income genuinely accruing from the IP asset. The OECD suggests sorting out the issue by means of the transfer pricing principles.

From an administrative perspective, the link established between expenditures and income requires a detailed tracking of the expenditures, assets and income in order to make sure that a clear relation exists among them. In principle, the best way to deal with such a requirement would be to trace the IP asset as such, but since this may turn out to be difficult in practice, a tracking based on the products arising from the IP asset is also possible. In practical terms, the shift to a product-based analysis should cover all of the items of the MNA function, so that all qualifying expenditures incurred to develop all IP assets that contributed to a product would be at the nominator of the function and, similarly, all of the expenditures linked to the development of all IP assets that contributed to the product would be considered overall expenditures. The ratio so defined would then apply to the income from the product linked to the underlying IP assets. In this respect, the definition of a product, or product families, becomes crucial.

Lastly, jurisdictions can provide for an alternative method in cases in which a taxpayer can demonstrate that its own engagement in the development of the IP asset is greater than what comes out of the application of the MNA function. These cases can be resolved through individual rulings.

With the Final Reports, endorsed by the G20 Ministers of Finance in Lima on 8 October 2015 and by the G20 leaders in Antalya in November 2015, the OECD concluded its two-year intensive work on the BEPS Project and put the ball in the court of member jurisdictions, who were required to close their regimes to new entrants by 30 June 2016 and to completely phase out the old regimes by 30 June 2021.

6.3. Patent boxes after BEPS

6.3.1. The work of the Code of Conduct Group on the MNA

At the European level, the post-BEPS phase mainly entailed intensive work on the part of the Group in assisting and guiding Member States in the transition from a diversified array of patent boxes to a set of new, more standardized, MNA-compliant regimes.

The Group discussed the MNA well before its formal inclusion in the 2015 Final Report. As early as November 2014, the Group agreed – in coordination with developments by the OECD – that the MNA was the appropriate method for ensuring sufficient substance, and the Council Conclusions of 11 December 2014 emphasized the need for Member States to get started on the legislative processes necessary to change their regimes accordingly as early as 2015, asking the Group to monitor this process.[69]

Therefore, the adoption of the MNA was conducted in the framework of the usual means and procedures of the Code of Conduct, i.e. rollback implementation and standstill monitoring. The Group agreed that those Member States having a patent box should submit a report on this issue with their annual notifications of rollback at the Group's first meeting in 2016. Furthermore, Member States were asked to notify the Group under the existing standstill procedure of any new regime to ensure that such regime complies with the nexus approach.

With particular reference to the work on standstill, the Group was asked by some Member States to clarify how the MNA should apply in light of the Code of Conduct criteria. Member States asked for the Group's guidance on the relationship between the nexus approach and criteria 3 and 4 of the Code of Conduct[70] in respect of (i) the

[69] Code of Conduct Group, Report to the Council of 23 Nov. 2015, no. 14302/15.
[70] Criteria 3 and 4 are identified as potentially harmful tax advantages, particularly those (i) that are granted even without any real economic activity and substantial economic presence within the Member State offering the advantage; or (ii) whose rules for profit determination in respect of activities within a multinational group of companies depart from internationally accepted principles, notably those agreed within the OECD.

treatment of losses arising from IP; (ii) the identification of embedded royalties; and (iii) the transparency requirements.[71]

The implementation of rollback was supposed to be concluded by 30 June 2016, along with the closing of all existing IP regimes to new entrants. The process was – almost – successfully completed.

6.3.2. The implementation of the modified nexus approach by EU Member States

During the spring of 2016, all Member States having a patent box regime in place (except for France) notified the Group of the steps taken to comply with the June 2016 deadline. In the meeting of 2 June 2016, France declared that no rollback would be necessary for its regime, since it considered it not to be harmful. As a consequence, the Group asked France to demonstrate the compatibility of its patent box regime with the MNA,[72] with a particular focus on the preferential tax rate for IP-related income, which was 15% – less than half of the corporate rate of 33.3% normally applied in France.

France maintained that a tax rate of 15% did not significantly affect the location of business activities, provided that – seen in the wider EU context – a 15% rate is not "significantly lower" (Code of Conduct, letter B) than the EU average. Indeed, it is to be noted that a 15% preferential rate stands as the highest rate among all of the patent box rates in Europe.[73] As a supporting argument, France claimed that only 136 taxpayers benefitted from the regime and that they were mainly French companies, hence proving the minimal attractiveness of the regime to foreign companies.[74]

The Italian situation also deserves to be mentioned. Italy's patent box was first introduced at the end of 2014,[75] in the middle of the discussion on the MNA. Italy's move was probably aimed at profiting from the grandfathering provision by introducing a regime that was advantageous and broad in scope (also covering trademarks), but access to which was likely only possible for a limited period of time. Therefore, on the one hand, the regime was already largely inspired by the then-ongoing work on an MNA with regard to the ratio between expenditures and eligible income.[76] On the other hand, however, by extensively interpreting the notion of qualifying IP assets, it clearly went beyond the OECD recommendations.[77] The question arose as to whether or not the regime was subject to rollback under the Code of Conduct rules. Eventually, the Group decided that the Italian patent box was to be treated the same as the pre-existing patent boxes[78] and was therefore subject to the rollback procedure.

All other Member States with a patent box regime in place quite diligently followed the Group's recommendations by phasing out their existing regimes and starting to design their new ones.

In Belgium, the old patent income deduction regime was abolished as of 1 July 2016 and replaced by an innovation income deduction[79] along the lines of the OECD MNA. The deduction rate was raised from 80% to 85% (but limited to the net income), and the scope of qualifying IP was slightly widened. Cyprus, on the other hand, has amended its past regime in line with the MNA, but it kept the deduction rate at 80%.

The Dutch tax plan for 2017 proposed a few changes to the Dutch Innovation Box. During the talks on shaping MNA, the Netherlands insisted on including a third category of IP assets alongside patents (broadly defined) and

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[71] Code of Conduct Group, Report to the Council of 13 June 2016, no. 9912/16.
[72] Code of Conduct Group, Report to ECOFIN of 3 Nov. 2016, no. 13924/16.
[73] L.K. Evers, *Intellectual Property Box Regimes: In-Depth Analysis for the TAXE Special Committee* (European Parliament 2015), available at http://www.europarl.europa.eu/studies (last accessed 19 Dec. 2016).
[74] J. Kirwin, *French Patent Box Rates Challenged in EU Conduct Group*, Bloomberg BNA News (3 Oct. 2016), available at https://www.bna.com/french-patent-box-n57982077841/ (last accessed 18 Dec. 2016).
[75] IT: Law 190 of 23 Dec. 2014 (*Legge di Stabilità* 2015), art. 1, paras. 37-40.
[76] *See* the explanatory note from the *Agenzia delle Entrate* of 7 Apr. 2016, No. 11/E. **(EDITOR: Does this need more information?)**
[77] OECD (2015), *supra* n. 67, at p. 27, para. 38.
[78] Code of Conduct Group, Report to the Council of 28 Nov. 2016, no. 14750/16.
[79] Press release of the Council of the Ministers of 2 Dec. 2016, available at http://www.presscenter.org/fr/pressrelease/20161202/conseil-des-ministres-du-2-decembre-2016 **(is it possible to provide a different link in English? Unfortunately not)** (last accessed 18 Dec. 2016).

copyright software. The category of "non-obvious, useful and novel IP assets" was introduced to facilitate access to patent box relief for small and medium-sized companies, for which undergoing a patenting process may not be sustainable. As one could expect, this third category is indeed included in the new Dutch Innovation Box, with a few adjustments.

The option for small and medium-sized enterprises is also included in the Irish Knowledge Box,[80] a new regime providing for a 50% deduction of qualifying income, introduced with the Budget Law 2016 and largely inspired by the OECD BEPS Final Report on Action 5. Spain, on the other hand, introduced the MNA ratio,[81] in effect as of 1 July 2016.Spain made the object of a closer scrutiny by the Group, under the standstill assessment, with reference to its national regime as well as the regimes of Navarra and Basque country[82].

Portugal amended its Corporate Income Tax Code[83] by introducing the MNA for the Portuguese patent box. The rate of deduction available under the Portuguese regime is 50%. Hungary adjusted its patent box to the new requirements on 7 June 2016. The new law not only introduced a 50% deduction in line with the MNA but also narrowed the definition of IP assets for the purpose of the application of the rule.

Changes to the UK patent box regime to render it compliant with the MNA were introduced with the Finance Bill 2016.[84] Further amendments have been planned to modify the definition of cost-sharing arrangements to account for the expenses and income under this type of agreement in light of the application of the MNA formula.[85]

Luxembourg, in line with the international roadmap, terminated its IP regime on 1 July 2016. Nevertheless, it passed a law providing a safeguard measure allowing for a longer transition period (until 31 December 2016) for IP acquired in 2016 from a related party and not eligible for an IP regime at the time of its acquisition.[86]

Also Malta undertook the rollback of its previous regime, but it is not yet clear whether it will pass a law to introduce new, MNA-compliant relief. What is predictable is that, should this be the case, it will not provide for the same tax rate of 0% as the old regime. Conversely, should the rate stay very low and should the Group accept the measure anyway, France might have something to say about it, since it might indicate that the Group is more concerned by the compliance with the MNA than by the fulfilment of other criteria of harmfulness set in the Code (among which significantly lower effective level of taxation stands as one of the crucial ones).

As a final remark, it is interesting to note that, within the European Union, the MNA criterion, in its attempt to establish a clear link between eligible income and R&D expenditures, seems to be affected and constrained by what has been called the "Luxembourg effect"[87] that is, the influence of the Court of Justice's refusal to accept territorial restrictions,[88] which pushes the design of more flexible substance requirements.

6.3.3. Third countries

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[80] IR: Finance Act no. 52 of 2015, sec. 32.
[81] ES: *Ley de Presupuestos Generales del Estado para el año 2016* no. 48/2015 of 29 Oct. 2015, published on 30 Oct. 2015, BOE-S-2015-260, art. 62.
[82] Code of Conduct Group, Report to ECOFIN of 6 July 2017, no. 3517/17.
[83] PT: Law-Decree no. 47/2016 of 9 Aug. 2016, DR no. 160/2016, Série I of 22 Aug. 2016. In explaining the rationale for the amendment, the Decree acknowledges that the economic activities of high technological intensity based on the exploitation of patents and other rights in the area of industrial property bring significant dynamism to the economic growth of the country and in the creation of jobs. Still, it clarifies that limits need to be imposed in order to avoid tax avoidance and harmful tax competition.
[84] UK: Finance Act 2016 ch. 24 of 15 Sept. 2016, sec. 64.
[85] UK: HMRC policy paper, *Corporation tax: patent box – cost sharing arrangements* of 5 Dec. 2016.
[86] LU: *Loi concernant le budget des recettes et des dépenses de l'État pour l'exercice 2016* of 18 Dec. 2016, Mémorial A no. 242 of 23 Dec. 2015, art. 5.
[87] L.V. Faulhaber, *The Luxembourg Effect: Patent Boxes and the Limits of International Cooperation* (29 June 2016), Minnesota Law Review (forthcoming), available at https://ssrn.com/abstract=2802281 (last accessed 16 Dec. 2016).
[88] On the reluctance of the Court of Justice to accept territorial restrictions, *see* E. Traversa, *Tax incentives and Territoriality within the European Union: Balancing the Internal Market with the Tax Sovereignty of Member States*, 6 World Tax J. 3, pp. 315-340 (2014).

Patent Boxes are especially – but not exclusively – a European phenomenon. Patent box-like reliefs also exist in non-EU European countries, e.g. Liechtenstein and Switzerland, as well as outside of Europe.

The Lichtenstein IP box was introduced in 2011[89] in the form of an 80% deduction of IP income derived from the use or commercialization of IP rights such as patents, trademarks and designs, software, and technical and scientific databases. Lichtenstein notified the measure to the European Free Trade Association (EFTA) Surveillance Authority, which rendered a decision[90] that, in many ways, echoed the Commission's decision on the Spanish IP box. The EFTA Surveillance Authority briefly considered the main features of the regime, namely its scope (extended to trademarks but limited to copyright), the time limit for the creation of the IP asset (not before January 2011) and the market price clause to avoid overestimation of the IP income, and it concluded – along the lines of the Spanish IP box decision – that the regime did not constitute State aid. In fact, the Lichtenstein regime was broad enough to give little room for selectivity but, conversely, was not circumscribed enough to survive BEPS Action 5.[91] The Liechtenstein government confirmed its intention to abolish the current IP box regime, with a grandfathering clause until 2020.[92]

In June 2016, the Swiss parliament approved a corporate tax reform that, inter alia, introduced a patent box shaped along the lines of the MNA.[93] Although the proposed reform was rejected by a referendum held on 13 February 2017, the Swiss government has not abandoned the idea to adopt a patent box scheme.

Patent boxes are observed outside of Europe as well. China has had a patent box since 2008, providing for a reduced tax rate of 15% on IP-related income.[95] The requirements to benefit from the regime recall the value creation approach that was considered and rejected by the OECD and by the Group. A company wishing to benefit from the regime needs to prove a certain amount of investment in research, both in terms of money and in terms of workforce allocated to research activities, and a high percentage of its revenue must come from IP. Basically, most of the research activity must be carried out in China.[96]

The strict territorial requirement is a common feature of non-EU patent box regimes. India decided to introduce a patent box with the Budget Law of 2016.[97] Clause 52 of the bill added a new section to the old Income Tax Act providing for a 10% reduced tax rate as of April 2017 for any qualifying royalties relating to patents developed and registered in India. Similarly, the Turkish patent box regime applies to IP revenues as long as the R&D costs underlying the asset were incurred in Turkey.[98] In fact, the Action 5 Final Report allows for non-EU countries to apply more explicit territorial conditions by including acquisition costs incurred in the jurisdiction and outsourcing to resident related parties in the qualifying expenditures.[99]

In Canada, the debate over whether to introduce an IP box is a recurrent one.[100] This type of regime is already in place at provincial level, with British Columbia providing a peculiar refund system (up to 75%) of the tax paid in proportion to the patent activity since 2006.[101] Most recently, Quebec introduced an effective rate of 4% for

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[89] LI: Act concerning national and municipal taxes of 23 Sept. 2010, LGBl. 2010, no. 340, art. 55.
[90] EFTA Surveillance Authority, State Aid Case no. 69131: *The Tax Deductions in Respect of Intellectual Property Rights in Liechtenstein* (EFTA 2011), OJ 2011/C 278/10. This decision stated that a measure does not involve State aid within the meaning of art. 61(1) of the European Economic Area (EEA) Agreement.
[91] Note that Lichtenstein is not a member country of the OECD, but it is committed to complying with OECD standards concerning corporate taxation and is a BEPS-associated country.
[92] *See* Government Press Release, available at http://www.regierung.li/news1.aspx?id=108551&nid=7209 **(link does not lead to press release; also if possible please provide link in English)** (last accessed 19 Dec. 2016).
[93] CH: *Dritte Reform der Unternehmensbesteuerung* (USR III) of 17 June 2016.
[95] S. (Shiqi) Ma, *China (People's Rep.) – Corporate Taxation* sec. 1.7, Country Surveys IBFD (accessed 19 Dec. 2016).
[96] A. Alstadsæter et al., *Patent Boxes Design, Patents Location and Local R&D*, European Commission Taxation Papers – Working Paper no. 57-2015 (June 2015).
[97] IN: Finance Bill 2016 (no. 18 of 2016), English version available at http://indiabudget.nic.in/ub2016-17/fb/bill.pdf (last accessed 19 Dec. 2016).
[98] TR: Law No. 6518/2014; *see* V. Bhagat, *Patent box regimes and innovation ecosystem*, TEPAV Notes 21 (June 2016).
[99] OECD (2015), *supra* n. 67, at p. 42, notes 16 and 19.
[100] D. Regan and P. Stepak, *Canada*, in *Tax incentives on Research and Development (R&D)*, IFA Cahiers vol. 100A (2015).
[101] CA (British Columbia): International Business Activity Act [SBC 2004], art. 17.1.

qualifying patent income as of January 2017,[102] which is the lowest tax rate in Canada for income derived from the marketing of research.[103] This regime entails a strict geographical requirement, as the IP must have been developed in Quebec.[104]

For a long time, this international turmoil did not seem to move the United States towards the adoption of its own patent box regime. Recently, though, the US, after years of resistance[105], seem to have embraced the idea of a preferential regime for certain IP income with the last tax reform[106].

6.4. Conclusions

Previous studies have shown that old-style patent boxes have had little effect on research and a significant impact on tax-driven patent location.[112] Despite these findings, there seems to be an international consensus (as acknowledged by the OECD)[113] to keep this type of incentive and only modify some elements of its design.

It is too early at this time to say whether the MNA will improve the amount and quality of research carried out in the countries providing IP income tax relief. Still, there seems to be an unresolved policy question beyond any tax-related consideration: should patented successful research (i.e. something already commercially profitable) be awarded tax relief? At best, this seems to incentivize patenting rather than researching. The question of whether a largely patent-protected economy is a desirable outcome[114] is a policy issue that should also be taken into account when discussing the opportunity to introduce or keep patent box schemes. In the coming years, a comparison between the effects on research of front-end tax incentives and the newly designed back-end tax incentives will tell us whether the MNA has been successfully designed, boosting research and innovation, or whether it will just lead to another race to the bottom.

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[102] CA (Quebec): Economic Plan 2016-2017, sec. B.78, para. 5.2.

[103] *See* the Minister of Finance's speech for the presentation of the Budget 2016, delivered before the National Assembly on 17 Mar. 2016, available at: http://www.budget.finances.gouv.qc.ca/budget/2016-2017/en/documents/Speech.pdf (last accessed 19 Dec. 2016). In Saskatchewan, where an IP favouable regime has been introduced in 2017, the effective rate for taxable income earned from the commercialization of qualifying IP stands at 6%.

[104] Economic Plan 2016-2017, *supra* n. 99.

[105] A paper from the congressional Joint Economic Committee tried to find an explanation for this resistance and investigated the possible reasons to adopt an Ip tax incentive. What emerges from this document is that, aside from any research policy consideration, the only factor that seems to push the United States to reflect upon the introduction of an IP box is the fact that many other jurisdictions have one. In other words, fear of not being tax-competitive, rather than the need to attract research or investment, seems to be the main driver of such reflection (US: Congressional Joint Economic Committee, *Patent Boxes: A Brief History, Recent Developments, and Necessary Considerations*, 10 Mar. 2016).

[106] US: law H.R. 1 (formerly the 'Tax Cuts and Jobs Act') of 22 December 2017.

[112] *See* the literature analysis in Alstadsæter et al., *supra* n. 93.

[113] Transcript of the Brisbane G20 meeting press conference of 14 Nov. 2014, available at http://www.g20australia.org/news/transcripts/oecd_press_conference_g20_international_media_centre_brisbane.html (last accessed 20 Dec. 2016).

[114] *See*, for example, D. Levine and M. Boldrin, *Against intellectual monopoly* (Cambridge U. Press 2008).