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TO OPEN THE BOX OR TO CLOSE THE BOX? “PATENT BOX” REGIMES IN THE EU BETWEEN R&D INCENTIVES AND HARMFUL TAX PRACTICES

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ABSTRACT

During the last few years, several EU Countries have enacted preferential tax regimes for the taxation of corporate income deriving from the exploitation of IP-rights, known as “Patent Box”. The declared aim of these regulations is to foster domestic R&D. However, these new regimes may also constitute harmful tax practices, so far as multinational enterprises can exploit them for international tax planning purposes. To tackle this issue the OECD, with Action 5 of its Action Plan on Base Erosion and Profit Shifting, has suggested its Member States to modify their Patent Boxes in accordance with the so-called Nexus Approach, in order to align the fiscal advantages with a substantial R&D activity. This paper aims at assessing the foreseeable effects of the Patent Boxes and of the implementation of the Nexus Approach, as well as the compatibility of the latter with the principles of EU law.

Keywords: Patent box regimes; IP-related income; EU law; competition law; MNEs; research and development activity; Nexus Approach

I. Introduction

In the current climate of global tax competition¹, national legislators and tax authorities are increasingly struggling to tax corporate income deriving from the economic exploitation of Intellectual Property (IP) rights² in a manner that prevents it from being shifted to lower-tax jurisdictions³. Moreover, ‘policy makers are concerned that research and development as well as

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¹ K. A. Konrad & G. Schjelderup, ‘Fortress Building in Global Tax Competition’, in *Journal of Urban Economics*, 1999-46, pp. 156 ff.; J. Roin, ‘Competition and Evasion: Another Perspective on International Tax Competition’, in *Georgetown Law Journal*, 2000-89, pp. 543 ff.; C. Edwards & D. J. Mitchell, *Global Tax Revolution: the Rise of Tax Competition and the Battle to Defend It*, Washington D.C: Cato Institute, 2008; M. Keen & K. A. Konrad, *International Tax Competition and Coordination*, Max Planck Institute for Tax Law and Public Finance Working Paper 2012-6; T. Baskaran & M. Lopes de Fonseca, ‘The Economics and Empirics of Tax Competition: A Survey and Lessons for the EU’, in *Erasmus Law Review*, 2014-7, pp. 3 ff.

² This Article employs a broad definition of IP rights, such as the one adopted by the OCED, according to which ‘intellectual property rights refers to the general term for the assignment of property rights through patents, copyrights and trademarks. These property rights allow the holder to exercise a monopoly on the use of the item for a specified period.’ (see <https://stats.oecd.org/glossary/detail.asp?ID=3236>).

³ Cf., *inter alios*, R. Griffith, H. Miller & M. O’Connell, ‘Ownership of Intellectual Property and Corporate Taxation’, in *Journal of Public Economics*, 2014-112, pp. 12 ff.

innovative activities, which are associated with positive spillovers, are relocated to other countries for tax reasons⁴. Therefore, countries all over the world are engaging in attempts to offer an attractive fiscal environment to retain and attract both IP-related income and research activities on their territory. In particular, in the last decade, special tax regimes known as “Patent Box”, which grant lower tax rates to the income deriving from the exploitation of particular intangible assets, have started proliferating in Europe.⁵ The first aim of this paper is to analyse these regimes. It is not my intention to provide here an overview of similarities and differences amongst the several national regimes; I intend, instead, to present a brief analysis of the extent to which Patent Boxes increase the attractiveness of a jurisdiction as a location for research and development (R&D) activities⁶ and/or for IP rights, on one side, and of the possibilities these regimes provide for international tax planning and tax avoidance, on the other. As I will show, the fact that at the beginning most of these national regimes did not require a concrete geographical link between a substantial R&D activity and the granting of the preferential tax rate on the income generated by the resulting intangible assets, in fact, was likely to open for Multinational Enterprises (MNEs) a way towards new possibilities for shifting their IP-related profits to countries providing comparatively more attractive fiscal legislation. In this framework, the Organisation for Economic Co-operation and Development (OECD), together with the G-20, published the report on Action 5 of the Action Plan on Base Erosion and Profit Shifting (BEPS)⁷ which directly relates to the problems that emerged from Patent Box regimes⁸, and which requires OECD Member States to modify their Patent Boxes in accordance with the so-called “Nexus Approach”. The second aim of this work is hence to determine whether the “Nexus Approach” proposed by the OECD is really effective in aligning Patent Box regimes with the objective of fostering domestic R&D activities, on one side, and restricting the opportunities for tax erosion and profit shifting, on the other. Finally, this study will also try to assess whether the “Modified Nexus Approach”, which several OECD and EU Member States have agreed on implementing, is consistent with some fundamental principles of EU law, and namely with the freedom of establishment and the State-aid rules.

II. The Correlation between IP-generated Income and Profit Shifting

In the modern economy, IP rights account for a growing share of firms’ assets.⁹ One of the main

⁴ L. K. Evers, *Intellectual Property (IP) Box Regimes (Tax Planning, Effective Tax Burdens and Tax Policy Options)*, PhD Thesis, Mannheim University, 2015, p. 2.

⁵ Cf., *inter alios*, J. M. Brown, ‘Patent Box Taxation: A Comparison of Four Recent European Patent Box Tax Regimes and an Analytical Consideration of If and How the United States Should Implement Its Own Patent Box’, in *The International Lawyer*, 2012-46, pp. 913 ff.

⁶ According to the Cambridge English Dictionary, Research and Development is «the part of a business that tries to find ways to improve existing products, and to develop new ones».

⁷ Base erosion and profit shifting (BEPS) refers ‘to tax avoidance strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations’. To counter such practices, the OECD has proposed to its Member States an Action Plan consisting of 15 actions to ‘equip governments with domestic and international instruments to address tax avoidance, ensuring that profits are taxed where economic activities generating the profits are performed and where value is created’, at: <http://www.oecd.org/ctp/beps-actions.htm>.

⁸ OECD (2015), *Countering Harmful Tax Practices More Effectively, Taking into Account Transparency and Substance*, Action 5 – 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris.

⁹ Cf., *inter alios*, B. H. Hall, *Innovation and Market Value*, in R. Barrell, G. Mason & M. O’Mahoney, *Productivity, Innovation and Economic Performance*, Cambridge: Cambridge University Press, 2000, pp. 188 ff.; B. H. Hall, A. B. Jaffe & M. Trajtenberg, ‘Market Value and Patent Citations’, in *The Rand Journal of Economics*, 2005-27, pp. 16 ff.; A. McGahan & B. Silverman, ‘Profiting from Technological Innovation

features of these assets is that they are more mobile than other traditional forms of capital and, therefore, ‘multinational companies strategically locate ownership of their intellectual property at tax-havens, with the intention of minimising their corporate tax burden’¹⁰, usually by exploiting the transfer pricing technique¹¹.

According to Harry Grubert, ‘industrial intangibles linked to R&D account for a major component of income shifted from high to low tax countries’¹², and, as stated by Michelle

by Others: The Effect of Competitor Patenting on Firm Value’, in *Research Policy*, 2006-33, pp. 1222 ff.

¹⁰ T. Karkinsky & N. Riedel, ‘Corporate Taxation and the Choice of Patent Location within Multinational Firms’, in *Journal of International Economics*, 2012-88, p. 178. On this topic see also P. D. Quick & T. L. Day, ‘Management of IP: Intercompany transfers, offshore planning and recent developments regarding cost-sharing’, in *The Licensing Journal*, 2006-1, pp. 14 ff.

¹¹ Transfer pricing is ‘the pricing of intercompany transactions that take place between affiliated businesses’ (R. Feinschreiber, *Practical Aspects of Transfer Pricing*, in R. Feinschreiber, *Transfer Pricing Handbook*, 3rd ed., Hoboken: John Wiley and Sons Inc., 2001, p.2) or, in other words, ‘the amount charged by one segment of an organization for a product or service that it supplies to another segment of the same organization’ (C. T. Horngren, W. O. Stratton & G. L. Sundem, *Introduction to Management Accounting*, 9th ed., Upper Saddle River: Prentice Hall International Inc., 1996, p. 336). For an overview of this controversial practice, cf. H. Grubert & J. Mutti, ‘Taxes, Tariffs and Transfer Pricing in Multinational Corporate Decision Making’, in *Review of Economics and Statistics*, 1991-80, pp. 265 ff.; J. Collins, D. Kemsley & M. Lang, ‘Cross-Jurisdictional Income Shifting and Earnings Valuation’, in *Journal of Accounting Research*, 1998-36, pp. 209 ff.; A. Haufler & G. Schjelderup, *Corporate Tax Systems and Cross Country Profit Shifting*, Oxford Economic Papers, 2000-52, pp. 306 ff.; K. A. Clausing, *The Impact of Transfer-Pricing on Intrafirm Trade*, in J. R. Hines Jr., *International Taxation and Multinational Activity*, Chicago: Chicago University Press, 2001, pp. 173 ff.; Id., ‘Tax Motivated Transfer Pricing and US Intrafirm Trade Prices’, in *Journal of Public Economics*, 2003-87, pp. 2207 ff.; Id., ‘Multinational Firm Tax Avoidance and Tax Policy’, in *National Tax Journal*, 2009-62, pp. 703 ff.; E. J. Bartelsman & R. M. Beetsma, ‘Why Pay More? Corporate Tax Avoidance through Transfer Pricing in OECD Countries’, in *Journal of Public Economics*, 2003-117, pp. 121 ff.; H. Huizinga & L. Laeven, ‘International Profit Shifting Within European Multinationals’, in *Journal of Public Economics*, 2008-92, pp. 1164 ff.; A. J. Weichenrieder, ‘Profit Shifting in the EU: Evidence from Germany’, in *International Tax and Public Finance*, 2009-16, pp. 281 ff.; K. J. Klassen & S. K. Laplante, ‘Are U.S. Multinational Corporations Becoming More Aggressive Income Shifters?’, in *Journal of Accounting Research*, 2012-50, pp. 1245 ff.; D. Dharmapala & N. Riedel, ‘Earning Shocks and Tax-Motivated Income Shifting: Evidence from European Multinationals’, in *Journal of Public Economics*, 2013-97, pp. 95 ff.; C. Fuest, C. Spengel, K. Finke, J. Heckemeyer & H. Nusser, *Profit Shifting and “Aggressive” Tax Planning by Multinational Firms: Issues and Options for Reform*, ZEW Discussion Paper No. 13-044, 2013; D. Dharmapala, *Base Erosion and Profit Shifting: A Simple Conceptual Framework*, University of Chicago Coase-Sandor Institute for Law & Economics Research Paper No. 703, 2014; J. R. Hines Jr., ‘Policy Forum: How Serious is the Problem of Base Erosion and Profit Shifting?’, in *Canadian Tax Journal*, 2014-62, pp. 443 ff.; K. S. Markle, ‘A Comparison of the Tax-Motivated Income Shifting of Multinationals in Territorial and Worldwide Countries’, in *Contemporary Accounting Research*, 2016-33, pp. 7 ff..

¹² H. Grubert, *Intangible Income, Intercompany Transactions, Income Shifting and the Choice of Location*, in *National Tax Journal*, 2003-56, p. 239. Grubert underlines, in fact, that profit shifting activities are larger within those multinational corporations with high intellectual property holdings and high activities of R&D. As an empirical analysis by Bohm, Karkinsky, Knoll and Riedel has shown, ‘a high tax rate on patent income increases the probability that the patent applicant is located in a country other than the inventor country. This effect turns out to be larger the higher the value an earnings potential of the patent. From the perspective of the potential host locations, [...] low patent income tax rates are instrumental in attracting foreign patent holdings. [...] This indicates that multinationals distort their patent holdings such that patents with a high expected value and earnings potential tend to be owned in countries with favourable tax legislation’ (T. Bohm, T. Karkinsky, B. Knoll & N. Riedel, *The Impact of Corporate Taxes on R&D and Patent Holdings*, Working Paper, 2015, p. 2, at:

Markham, ‘international transactions involving intangibles can certainly be described as one of the significant and critical issues, or even perhaps “the” most significant and critical issue in transfer pricing today, and in the foreseeable future’¹³.

This is mainly because IP rights do not have a specific geographical location, but only a ‘nominal location determined by the parent company’s tax or legal system’¹⁴, since it is the country of the IP right owner that determines the applicable tax treatment¹⁵. This is true especially according to the rules set forth in the OECD Model Tax Convention¹⁶ which, at article 12, reads that ‘Royalties arising in a Contracting State and beneficially owned by a resident of the other Contracting State shall be taxable only in that other State’.

From the above, it derives that a country’s corporate income tax regime is very influential in determining where MNEs choose to locate their intangible assets.¹⁷ This has led to a competition between legal systems to attract companies on their territory by implementing a more favourable tax regime¹⁸, and, in the last few years, to attract especially the corporate income related to the

https://www.sbs.ox.ac.uk/sites/default/files/Business_Taxation/Events/conferences/2012/tapes/bohm-karkinsky-riedel.pdf

¹³ M. Markham, *The Transfer Pricing of Intangibles*, The Hague: Kluwer Law International, 2003, p. 3. This is due to the fact that ‘arm’s length prices for intrafirm royalties charged for the use of firm-specific intangible assets are hardly observable to tax authorities’ (Karkinsky & Riedel 2012, *supra* note 10, p. 177), since ‘the range of uncertainty is necessarily very wide in the case of “unique” high-tech intangibles for which valid arm’s length comparable transactions are unlikely to be available’ and ‘multinationals can thus easily distort the associated transfer prices and shift profits to low-tax countries’ (Grubert 2003, *supra* note 12, p. 226).

¹⁴ R. Lipsey, ‘Measuring the location of production in a world of intangible productive assets, FDI and intrafirm trade’, in *Review of Income and Wealth*, 2010-56, pp. 99-100.

¹⁵ S. Bradley, E. Dauchy & L. Robinson, *Cross-Country Evidence on the Preliminary Effects of Patent Box Regimes on Patent Activity and Ownership*, Tuck School of Business Working Paper No. 2681433, 2015, p. 6.

¹⁶ On Model Tax Conventions see, generally, D. Narotzki, ‘Tax Treaty Models - Past, Present and a Suggested Future’, in *Akron Law Review*, 2017-50, pp. 384 ff.

¹⁷ According to Karkinsky & Riedel 2012, *supra* note 10, p. 176, ‘both the corporate tax rate and the tax rate differential to other group affiliates, exert a negative impact on the firm’s number of patent applications whereas the effects are robust against the inclusion of time-varying country characteristics and affiliate size control. Quantitatively, the coefficient estimates are sizable, implying semi-elasticities of around - 3.5. Thus, the regression indeed suggests that MNEs distort the location of patents in favor of affiliates with relatively low corporate tax rates’. Other researchers have provided similar evidence, e.g. J. Södersten, ‘Taxes and Investment Decisions’, in *Swedish Journal of Economics*, 1969-71, pp. 329 ff.; M. P. Devereux, *The Impact of Taxation on the Location of Capital, Firms and Profit: a Survey of Empirical Evidence*, CBT Working Paper 07/02, 2007; Huizinga & Laeven 2008, *supra* note 11, pp. 1164 ff. The literature on this topic has developed significantly in the last years and is now rather widespread, cf., *inter alios*, M. P. Devereux & R. Griffith, ‘Evaluating Tax Policy for Location Decisions’, in *International Taxation and Public Finance*, 2003-10, pp. 107 ff.; Grubert 2003, *supra* note 12, pp. 221 ff.; C. Ernst & C. Spengel, *Taxation, R&D tax incentives and Patent Application in Europe*, ZEW Discussion Paper No.11-2004; L. Abramovsky, R. Griffith, G. Macartney & H. Miller, *The Location of Innovative Activity in Europe*, The Institute of Fiscal Study Working Paper 08/10; H. Grubert & J. Mutti, *The Effect of Taxes on Royalties and the Migration of Intangible Assets Abroad*, in M. Reinsdorf & M. Slaughter, *International Trade in Services and Intangibles in the Era of Globalization*, Chicago: Chicago University Press, 2009; M. Dischinger & N. Riedel, *Corporate Taxes and the Location of Intangible Assets within Multinational Firms*, in *Journal of Public Economy*, 2011-95, pp. 691 ff.; Bohm, Karkinsky, Knoll & Riedel 2015, *supra* note 12; I. Guceri & L. Liu, *Effectiveness of Fiscal Incentives for R&D: a Quasi-Experiment*, Oxford University Center for Business Taxation, Technical Report 15/12.

¹⁸ R. Elitzur & J. Mintz, *Transfer Pricing Rules and Corporate Tax Competition*, in *Journal of Public*

exploitation of IP rights¹⁹. In fact, researches have demonstrated that fiscal reforms providing for a preferential tax treatment to the income arising from patents (and other IP rights, such as trademarks) can have significant effects on the location of new intellectual property²⁰ and, as an indirect consequence, could lead to substantial reductions in tax revenues in high-tax countries²¹. Within this framework, governments and national tax authorities have raised concerns on the tax planning activity of MNEs and are increasingly trying to find a solution to the tax avoidance problem, namely in relation to intangible assets. It is precisely to attract high-tech companies and R&D activities within their jurisdictions, and to prevent them from transferring their intangible assets abroad, that several countries in the last decade have enacted the abovementioned “Patent Box” regimes.²²

Economics, 1996-60, pp. 401 ff.; R. Altshuler & T. Goodspeed, *Follow the Leader? Evidence on European and U.S. Tax Competition*, Rutgers University Economics Department Working Paper 200226, 2002; M. P. Devereaux, R. Griffith & A. Klemm, *Corporate Income Tax Reforms and International Tax Competition*, in *Economic Policy*, 2002-17, pp. 449 ff.; M. P. Devereux, B. Lockwood & M. Redoano, *Do Countries Compete Over Corporate Tax Rates?* In *Journal of Public Economics*, 2008-92, pp. 1210 ff.; C. Fuest, B. Huber & J. Mintz, *Capital Mobility and Tax Competition: A Survey*, CESifo Working Paper 956, 2003; J. R. Hines Jr., *Corporate Taxation and International Competition*, in A. J. Auerbach, J. R. Hines Jr. & J. Slemrod, *Taxing Corporate Income in the 21st Century*, Cambridge: Cambridge University Press, 2007, pp. 268 ff.; U. Akcigit, S. Baslandze & S. Stantcheva, *Taxation and the International Mobility of Inventors*, American National Bureau of Economic Research, Working Paper No. W21024.

¹⁹ The *Wall Street Journal* has reported, for example, that Microsoft, which earns the 75% of its total revenue from licensing IP rights, is ‘increasingly setting up units in Ireland that route intellectual property and its financial fruits to the low-tax haven’ (*Wall Street Journal*, *Irish Subsidiaries Lets Microsoft Slash Taxes in U.S. and Europe*, 5 November 2005). As Bohm, Karkinsky, Knoll & Riedel 2015, *supra* note 12, p. 2, have shown, the importance of the tax regime on intangible assets ‘may have important consequences for international corporate tax competition’. This is due to two main reasons. Firstly, ‘the relocation of intangible assets to tax havens facilitates income shifting and enlarges the streams of multinational profit transferred to countries with a low to rate. This increases the governmental incentive to lower its corporate tax rate and aggravates the race-to-the-bottom in corporate taxes’. Secondly, ‘countries which attract intangible investment by lowering their corporate tax rate do not only gain higher pre-tax profits but may also win additional jobs and knowledge capital that may spill over and raise the productivity of local firms. This additionally increases the gains from corporate tax rate reductions and may enforce competition behavior’.

²⁰ As it has resulted from the analysis of Bohm, Karkinsky, Knoll & Riedel 2015, *supra* note 12, p. 2, ‘a large fraction of patents held in low-tax economies was invented in a foreign country. In small tax havens, this ratio is often well above 80%, but even in large and economically important low-tax countries like Ireland and Switzerland foreign-invented patents account for around 35% and 45% of all patent holdings. Most other European high-technology countries, in contrast, observe much smaller foreign invented patent holdings, commonly well below 10%’. See also A. Klemm, *Causes, Benefits and Risks of Business Tax Incentives*, in *International Taxation and Public Finance*, 2010-17, pp. 315 ff.; A. Haufler & F. Stahler, *Tax Competition in a Simple Model with Heterogeneous Firms: How Larger Markets Reduce Profit Taxes*, in *International Economic Review*, 2013-54, pp. 665 ff.

²¹ M. J. Slaughter, *Why Tax Reform Should Support Intangible Property in the U.S. Economy*, Tax Innovation Equality Coalition research report, Washington, D.C., January 2015.

²² Cf. Bohm, Karkinsky, Knoll & Riedel 2015, *supra* note 12, p. 1: ‘governments and tax authorities have raised increasing concerns about these schemes and the associated revenue losses. Recently, several countries even responded by lowering their tax rates on income from patents and licenses, presumably to stop IP relocations and attract patent income from abroad’. See also P. Valente, *Patent Box e gestione dei beni immateriali*, Milano, Wolters Kluwer, 2017.

III. The Rise of “IP Box” Tax Regimes

Normally, the corporate income generated by the exploitation of IP rights, which can derive either from the internal use of the intangible asset or from licensing it to other parties by charging the “royalties”, constitutes a fraction of a corporation’s income tax base and is thus subject to the ordinary corporate income tax rate.²³ In this sense, Patent Boxes are special tax regimes that deviate from the general rules. Simply stated, a Patent Box provides a lower tax rate on the corporate income derived from the exploitation of IP rights.²⁴ Therefore, in a country that has enacted a Patent Box regime, the profits generated by the commercialisation of IP rights will be separated from a company’s overall income, and taxed at a rate which is considerably lower than the ordinary corporate income tax rate for that country.²⁵

Similar provisions emerged in the 2000s, when tax policy makers started to realise the importance of promoting innovation in the new world economy, which are currently applied in thirteen European countries and in China, while on the other side of the Atlantic Ocean there is an intense ongoing debate as to whether the US should introduce a similar regime as well.²⁶

In fact, Patent Boxes are not the first instrument to have been adopted with the intention of promoting innovative activities. Starting with Canada in 1962²⁷, and with several OECD Member States following in the 1990s, different tax measures, such as R&D tax credits and other fiscal incentives for innovation, have been enacted by governments throughout the world to stimulate innovation by corporations established on their territory.²⁸ However, similar measures focused exclusively on subsidising expenditures on research²⁹, generally through special tax credits³⁰ or

²³ Cf., *inter alios*, J. J. Cross III, *Taxation of Intellectual Property in International Transactions*, in *Virginia Tax Review*, 1989-8, pp. 553 ff.

²⁴ B. Carr, J. Murillo, C. O’Neill & M. J. Berger, *To Think Outside the Box, Think Innovation Box*, in *Taxes-The Tax Magazine*, 2011-89, pp. 47 ff.; W. W. Hill, *The Patent Box as the New Innovation Incentive for the Several States: Lessons from Intellectual Property-Tax Competition*, in *AIPLA Quarterly Journal*, 2014-42, p. 13; Evers 2015, *supra* note 4, p. 2; L. K. Evers, H. Miller & C. Spengel, *Intellectual Property Box Regimes: Effective Tax Rates and Tax Policy Considerations*, in *International Taxation and Public Finance*, 2015-22, pp. 502 ff..

²⁵ Brown 2012, *supra* note 5, p. 915.

²⁶ Cf. P. R. Merrill & J. R. Shanahan Jr., *Is It Time for the United States to Consider Patent Box?* In *Tax Notes*, March 26, 2012, pp. 1665 ff.; B. Knight & G. Maragani, *It is Time for the United States to Implement a Patent Box Regime to Encourage Domestic Manufacturing*, in *Stanford Law Journal*, 2013-19, pp. 39 ff..

²⁷ Cf. D. G. Mcfetridge & J. P. Warda, *Canadian R&D Incentives: Their Adequacy and Impact*, Canadian Tax Foundation, 1983.

²⁸ Cf. K. J. Klassen, B. Bozeman & A. N. Link, *Tax Incentives for R&D: A Critical Evaluation*, in *Research Policy*, 1984-13, pp. 21 ff.; J. J. Cordes, *Tax Incentives and R&D Spending: A Review of the Evidence*, in *Research Policy*, 1989-18, pp. 119 ff.; R. Griffith, D. Sandler & J. Van Reenen, *Tax Incentives for R&D*, in *Fiscal Studies*, 1995-16, pp. 21 ff.; J. R. Hines Jr., *International Taxation and Corporate R&D: Evidence and Implications*, in J. M. Poterba, *Borderline Case: International Tax Policy, Corporate Research and Development, and Investment*, National Research Council, Washington DC, 1997, pp. 39 et ss; Ernst & Spengel 2004, *supra* note 17; A. J. A. Pittman, M. P. Reed & S. Fortin, *A Cross-National Comparison of R&D Expenditure Decisions: Tax Incentives and Financial Constraints*, in *Contemporary Accounting Research*, 2004-21, pp. 639 ff.; Shah, *Fiscal Incentives for Investment and Innovation*, World Bank, 2006.

²⁹ Bradley, Dauchy & Robinson 2015, *supra* note 15, p. 1.

³⁰ An R&D tax credit typically allows companies to reduce their due corporate income tax by a percentage of the expenditures they have incurred for activities of research and development. This means that, after having calculated its due tax liability, the corporation can reduce this amount by applying the R&D tax credit. If, for instance, the eligible expenditures the company has made for research activities amount to 10.000 euros, and the tax regime provides for a 10% R&D tax credit, the company will be allowed to subtract 1.000 euros from its final due tax. The tax credit rate varies widely between different states. For

super deductions³¹ for R&D³².

Studies on the effects of these latter measures have demonstrated that such incentives can indeed positively affect the location of R&D activities on the territory of a country.³³ Despite the introduction of such measures, however, it was noticed that the number of patents legally owned in tax havens far exceeded the number of patents that were reattributed in non-tax havens that had implemented R&D incentives.³⁴ This means that although the incentives based on subsidising expenditures on R&D may have a positive effect on encouraging domestic innovative activities, they are not effective in preventing the reallocation of the resulting patents abroad and the subsequent tax base erosion.³⁵

This is the reason why, according to some authors, 'intellectual property Box regimes constitute the most significant tax policy innovation in the field of IP taxation in recent years'³⁶. The most important difference between Patent Boxes on one side, and R&D tax credits and super deductions on the other³⁷, is that while the latter ones target the cost-side of the investments for R&D activities, the former ones target the income-side of R&D. This means that while the incentives provided by tax credits and super deductions depend on the amount of expenditures and investments the corporation has made for creating and developing innovative products³⁸, the incentives granted by Patent Boxes are related to the profits the company gains by exploiting the

example, Portugal and France have the most generous R&D tax credit (32,5% and 30% respectively), while Belgium provides the lowest credit (4.59%). Other countries in which similar tax credits are provided are Luxembourg (7%), Spain (25%) and the United Kingdom (10%). For an overview of R&D tax credits in Europe see OECD, *Measuring Tax Support for R&D and Innovation*, at: <http://www.oecd.org/sti/rd-tax-stats.htm>.

³¹ A super deduction, like a normal deduction, reduces the taxable base prior the application of the tax rate. A super deduction is applied on top of the regular deductions for R&D expenses and, therefore, it exceeds the amount of expenses that have been incurred. Between the countries providing for super deductions for R&D expenditures, there are Hungary (100% super deduction), Malta (50%), and the Netherlands (60%). For an overview of super deductions and other R&D-related tax incentives, see the *Worldwide R&D Incentives Reference Guide* by Ernst & Young, at: [https://www.ey.com/Publication/vwLUAssets/EY-worldwide-rannd-incentives-reference-guide-2017/\\$FILE/EY-worldwide-rannd-incentives-reference-guide.pdf](https://www.ey.com/Publication/vwLUAssets/EY-worldwide-rannd-incentives-reference-guide-2017/$FILE/EY-worldwide-rannd-incentives-reference-guide.pdf)

³² Cf. M. J. Graetz & R. Doud, *Technological Innovation, International Competition, and the Challenge of International Income Taxation*, in *Columbia Law Review* 2013-113, pp. 347 ff.

³³ Cf., *inter alios*, E. Mansfield, *The R&D Tax Credit and Other Technology Policy Issues*, in *The American Economic Review*, 1986-76, pp. 190 ff.; C. W. Svenson, *Some Tests of the Incentive Effects of the Research and Experimentation Tax Credit*, in *Journal of Public Economics*, 1992-49, pp. 203 ff.; B. H. Hall, *R&D Tax Policy During the 1980s: Success or Failure?* In *Tax Policy and the Economics*, 1993-7, pp. 1 ff.; N. Bloom, R. Griffith & J. Van Reenen, *Do R&D Tax Credits Work? Evidence from a Panel of Countries*, in *Journal of Public Economics*, 2002-85, pp. 1 et ss; B. Russo, *A Cost-Benefit Analysis of R&D Tax Incentives*, in *The Canadian Journal of Economics*, 2004-37, pp. 313 ff.; A. Cappelari & A. Raknerud, *The Effects of R&D Tax Credits on Patenting and Innovations*, in *Research Policy*, 2012-41, pp. 334 ff. For a more critical analysis of the R&D tax credits and other tax incentives, see S. E. Shay, *R&D Tax Incentives: Growth Panacea or Budget Trojan Horse?*, in *Tax Law Review*, 2016-69, pp. 419 ff.

³⁴ Cf. Hines Jr 1997, *supra* note 28; Id., *Treasure Islands*, in *Journal of Economic Perspectives*, 2010-24, pp. 103 ff.

³⁵ Bradley, Dauchy & Robinson 2015, *supra* note 15, p. 1.

³⁶ Evers 2015, *supra* note 4, p. 49. Cf. also Evers, Miller & Spengel 2015, *supra* note 24.

³⁷ Tax credits are still in force in 10 of the 13 European countries that have adopted an IP Box. Only Cyprus, Liechtenstein and the Swiss Canton of Nidwalden do not provide for any R&D tax credit.

³⁸ Cordes 1989, *supra* note 28.

resulting inventions. As noticed by J. M. Brown, in fact,

‘patent boxes may be seen as the logical follow-up to the research and development tax credits currently offered in many countries: while the R&D credits serve to incentivize activities that are likely to result in innovation, patent box regimes serve to entice innovative corporations to exploit such innovations within the country’³⁹.

The first country to introduce a Patent Box was Ireland in 1973⁴⁰, but the concept was slow to catch on in other countries⁴¹. It was only in 2007, when the Netherlands adopted a similar regime⁴², that Patent Boxes began to attract widespread attention throughout Europe and the rest of the world⁴³. This is because, as it has been observed, ‘competition enhances the free movement of best practices, not only for tax planning but also for tax legislation. Once a legislative measure turns out to be successful in attracting investment, other countries use that legislative measure’⁴⁴. At present, in Europe Patent Box regimes are in force in France (2000)⁴⁵, Hungary (2003)⁴⁶, The

³⁹ Cf. Brown 2012, *supra* note 5, p. 914.

⁴⁰ §34 Finance Act 1973, which provided that ‘[a] resident of the State [...] shall be entitled to have any income from a qualifying patent [...] disregarded for all the purposes of the Income Tax Acts’.

⁴¹ The first to follow Ireland’s example, in fact, has been France in 2000, followed by Hungary three years later, in 2003.

⁴² Article 12b of the Dutch *wet op de vennootschapsbelasting* (Corporate Income Tax Act).

⁴³ As argued by W. Kessler & R. Eicke, *The Emergence of R&D Tax Regimes in Europe*, in *Tax Notes International*, 2008-50, p. 845, the Netherlands, in fact, has been for decades on the cutting edge of tax legislation, ‘because it introduced a comprehensive participation exemption regime to attract holding companies. Many nations have since copied this regime, thus depriving the Netherlands of a unique selling point. Yet, the Netherlands has continued to produce innovative tax legislation, the latest of which is the patent box regime, in which patent income is taxed at a lower rate than other sources of income’. See also E. Sporken & E. Gommers, *Transfer Pricing Implications of the Proposed Patent Box*, in *International Transfer Pricing Journal*, 2006-13, pp. 198 ff.; W. Eynatten & P. Brauns, *Benelux Tax Competition to Attract IP Income Is On Again*, in *International Tax Review*, 2010-24, pp. 11 ff.; M. Schellekens, *The Netherlands as an Innovation Hub: An Appraisal of the Innovation Box Regime*, in *European Taxation*, 2013-53, pp. 525 ff.;

⁴⁴ Kessler & Eicke 2008, *supra* note 43, p. 845. See also L. V. Faulhaber, *The Luxembourg Effect: Patent Boxes and the Limits of International Cooperation*, in *Minnesota Law Review*, 2017-101, pp. 1641 ss.

⁴⁵ Art. 39-terdecies of the *Code Général des impôts*. Cf. P. Bayle, *Tax Treatment of Net Royalty Income on Industrial Patents*, in *International Business Lawyer*, 2000-28; Gelin & F. Bonnet, *Host Country France*, in *Tax Management International Forum*, Bloomberg International Tax Centre, September 2009.

⁴⁶ G. Koka, *Changes to Intellectual Property Box Regime Take Effect*, in *Tax Notes International* 2012-65, pp. 345 ff.

Netherlands (2007)⁴⁷, Belgium (2007)⁴⁸, Luxembourg (2008)⁴⁹, Spain (2008)⁵⁰, Malta (2010)⁵¹, Liechtenstein (2011)⁵², the Swiss Canton of Nidwalden (2011)⁵³, Cyprus (2012)⁵⁴, the United Kingdom (2013)⁵⁵, Portugal (2014)⁵⁶, Italy (2015)⁵⁷ and Ireland (2016)⁵⁸.

⁴⁷ Art. 12b of the *Wet op de vennootschapsbelasting 1969*. Cf. M Nijhof & M. Kloes, *An Improved Tax Regime for Intangibles in the Netherlands*, in *Tax Notes International* 2010-58, pp. 69 ff.

⁴⁸ Articles 205/1 to 205/4 *Code des Impôts sur les revenus 1992*. Cf. J.-P. Van Den Bergh & P. L. Kelley, 'New Patent Deduction in Belgium: A Powerful Incentive', in *Bulletin for International Taxation*, 2008-3, pp. 374 ff.; Eynatten, & Brauns 2010, *supra* note 39, pp. 11 ff.; E. Warson & M. Foriers, 'The Belgian Patent Income Deduction', in *European Taxation*, 2008-48, pp. 70 ff.; E. Warson & R. Claes, 'The Belgian Patent Income Deduction', in *European Taxation*, 2010-50, pp. 319 ff.; R. Willems, *Guide to Tax Ruling in Belgium*, IBFD, 2012.

⁴⁹ Luxembourg enacted its first Patent Box in 2008, at article 55-bis *Loi d'Impôt sur le revenu des collectivités*. Cf. Eynatten & Brauns 2010, *supra* note 43; F. Van Kuijk, *The Luxembourg IP Tax Regime*, in *Intertax*, 2011-39, pp. 140 ff.; Id., 'An Overview of Luxembourg's Intellectual Property Regime', in *Tax Notes International*, 2013-69, pp. 291 ff.; F. Muntendam & J. Chiarella, 'New Luxembourg Tax Regime for Intellectual Property Income', in *European Taxation*, 2008-48, pp. 223 ff. The Luxembourg Patent Box was abolished in 2016, but a new version has now been reintroduced, which entered into force on 1 January 2018.

⁵⁰ Art. 23 *Ley del Impuesto sobre Sociedades*, as amended by Law 2/2014 of 28 September 2013. Cf. J. L. Gonzalo & I. A. Salcedo, *Choosing an Optimal R&D Location: Spain*, in *International Tax Forum*, Bloomberg BNA, 2009.

⁵¹ Art. 12(1)(v) Maltese Income Tax. Cf. C. Cassar Torregiani & A. Vroom, 'Malta - Government Expands Royalty, Participation Exemption', in *Tax Notes International* 2013-70, p. 860.

⁵² Art. 55 *Gesetz vom 23. September 2010 über die Landes- und Gemeindesteuern* (Tax Law on the Federal and Municipal Taxes). Cf. M. Felder, *IP Box Regimes from an European, Liechtenstein and Swiss Perspective*, Zurich, Schulthess Verlag, 2013.

⁵³ Art. 85 (3) *Gesetz über die Steuern des Kantons und der Gemeinden* (Cantonal and Municipal Tax Law). Cf. R. Eicke, 'Switzerland's Cantonal "License Box" Regime', in *Tax Notes International* 2014-74, pp. 641 ff.; M. Felder 2013, *supra* note 52. On 28 September 2018, both Houses of the Swiss Federal Parliament adopted a proposal (Tax Proposal 17) that introduces a Patent Box at the federal level.

⁵⁴ Art. 9 Income Tax Law of Cyprus. P. Aristotelous, E. Neocleous, 'Cyprus Adopts Intellectual Property Rights "Box"', in *Tax Planning International Review* 2012-39, pp. 23 ff.; KPMG, 'The Cyprus new IP regime', in *KPMG Tax Alert Cyprus*, 11 July 2012.

⁵⁵ Part 8a Corporate Income Tax Act 2010 as amended by Finance Act 2012. Cf. C. Aquerreta, G. Dalziel, S. Lord & R. Stahel, 'Patent Box Regime Designed to Protect R&D Tax Credits', in *Tax Notes International*, 2013-70, pp. 967 ff.; A. Gregory, A. Casley & K. Naish, 'United Kingdom: The Patent Box Regime', in *International Transfer Pricing Journal* 2013-20, pp. 111 ff.; B. R. Obuoforibo, 'The Technical Aspects of the UK Patent Box Rules', in *European Taxation* 2013-53, pp. 482 ff.; T. Scott & J. Ross, 'The New Patent Box Regime and Corporate Tax Reform in the UK', in *International Tax Journal* 2012-38, pp. 51 ff.

⁵⁶ Art. 50A *Imposto sobre o Rendimento das Pessoas Colectivas* as amended by Law 2/2014 of 16 January 2014. Cf. T. C. Neves, 'Opening Pandora's Box: 10 International Effects of Portugal's Corporate Tax Reform', in *Tax Notes International* 2013-71, pp. 1223 ff.

⁵⁷ Art. 1 (37-45) *Legge No. 190 ('Legge di Stabilità')* of 23 December 2014. Cf. W. Hoke, *Italy Expands Scope of New Patent Box Law*, in *Tax Notes International* 2015-77, p. 384; KPMG (Ed.), *Italian Government Introduces new R&D and Patent Box Facilities*, in *Tax Alert*, 2 December 2014; S. Zucchetti & A. Pallotta, 'Italian Patent Box Regime: Thinking Outside the Box or Just More Harmful Tax Competition' in *International Transfer Pricing* 2016-22, p. 68 ff.

⁵⁸ As seen above, Ireland was the first Country to introduce a Patent Box regime in 1973. Following the global economic crisis, however, in accordance with the National Recovery Plan 2011-2015 the Irish Government withdrew the 1973 Patent Box. A similar regime, known as "Knowledge Development Box", was then reintroduced with the Finance Act 2015, which amended Chapter 5 of Part 29 of the Irish Taxes Consolidation Act 1997. The Irish 'Knowledge Development Box' came into operation on 19 May 2017 with the Knowledge Development Box (Certification of Inventions) Act 2017 (No. 6 of 2017).

Therefore, regarding the taxation of the income deriving from intangible assets, European countries can be divided into two groups, *i.e.* those which apply to patents or other specific IP rights a taxation *de droit commune* (mainly Germany, Austria, the Scandinavian Countries and most of the Eastern European Countries), and those which have enacted a Patent Box regime.

IV. Assessing the Effects of Patent Box Regimes

All national Patent Box tax regulations allow for a preferential tax rate on the corporate income deriving from the exploitation of certain IP rights. Within this general structure, however, the regimes are heterogeneous in their formulation, design and application. The differences between the national treatments have important repercussions on how advantageous a regime is perceived to be by MNEs. Indeed, the lower the effective tax rate on IP-derived income is, the more attractive a specific regime is perceived to be for locating a company's intangible assets. Moreover, as a research conducted by the European Commission has shown, 'patents are [...] found to be more sensitive to the tax advantages offered by patent boxes when those have a large scope in terms of IP covered⁵⁹, and when they grant their benefit to pre-existing patents, acquired patents, and/or embedded royalties'⁶⁰. As I mentioned above, however, it is not within the scope of this paper to provide an overview of similarities and differences between the different national regimes.⁶¹ I will instead provide a more general analysis of the extent to which Patent Boxes can increase the attractiveness of a jurisdiction, as to the location for R&D activities and/or as to the location of IP rights ownership.

There is to date little data in relation to the concrete effects of these new tax measures.⁶² As to the aim of fostering national R&D, there is no empirical evidence on how Patent Box regimes affect the amount of R&D investment, although some studies address this question.⁶³ While several analyses have shown that R&D tax credits are certainly an effective instrument in attracting innovative activity in a given jurisdiction⁶⁴, a causal link between the introduction of a Patent Box regime and an increase in the domestic innovative activity has not been established yet.

There is instead, as already underlined, some evidence that the allocation of IP rights is negatively affected by higher tax rates⁶⁵, and that, conversely, Patent Box regimes are an effective instrument

⁵⁹ For example, while the majority of Patent Boxes apply only to patent-related income, the old Luxembourg and Hungarian Patent Boxes extended their application also to trademarks and marketing-related IP rights. See for example B. Kolosz & A. Koszegi, 'International Fiscal Association Branch Report: Hungary', in *Cahiers de Droit Fiscal. Studies on International Fiscal Law*, 2015-45, p. 375.

⁶⁰ Bradley, Dauchy & Robinson 2015, *supra* note 15, p. 6.

⁶¹ For this analysis, see the recent paper from J. Lester & J. Warda, *An International Comparison of Tax Assistance for R&D: 2017 Update and Extension to Patent Boxes*, SPP Research Paper Vol. 11:13, University of Calgary, April 2018.

⁶² Cf. Dischinger & Riedel 2011, *supra* note 17; Ernst & Spengel 2004, *supra* note 17; Böhm, Karkinsky & Riedel 2012, *supra* note 12; European Commission, *A Study on R&D Tax Incentives, Final Report*, Taxation Papers N. 52-2014

⁶³ Evers 2015, *supra* note 4, p. 154.

⁶⁴ Bloom, Griffith & Van Reenen 2002, *supra* note 33; B. Hall, J. Van Reenen, *How effective Are Fiscal Incentives for R&D? A Review of the Evidence*, in *Research Policy* 2000-29, pp. 449 ff.

⁶⁵ As Dischinger & Riedel 2011, *supra* note 17, has demonstrated, MNEs certainly try to allocate their intangible assets to their subsidiary that is faced with the lower taxation. Similarly, Böhm, Karkinsky, Knoll and Riedel 2015, *supra* note 17, have shown that jurisdictions providing a low tax rate for IP revenues attract foreign-developed patents, while countries with a higher tax rate for IP income are faced with the cross-border reallocation of domestic developed patents. From these and other researches, therefore, one could certainly argue that IP Box regimes (and some more than others) are an effective instruments to attract and retain IP related income.

to attract and retain IP-related income. At a deeper analysis, however, a recent research seems to show that

‘the implementation of a patent box regime increases the responsiveness of patent activity to tax rates on patent income, though this effect appears to be confined to patents for which the inventors and patent owners are located in the same host country. Thus, the propensity to apply for a patent among co-located owners and inventors is increasing in the generosity of the preferential tax rate in patent box regimes’⁶⁶.

On the contrary,

‘the prevalence of new patent applications featuring a cross-border reattribution, meanwhile, appears largely insensitive to patent box incentives, such that it does not appear that patent box regimes have dramatically altered the broader set of tax motives for allocating patent income to low-tax countries’⁶⁷.

In fact, even if Patent Boxes may positively affect the allocation of patent activity within the national borders, these provisions may also have, on the other hand, negative consequences on the cross-border reattribution of the ownership of intangible assets and may be smartly exploited for tax planning purposes. This is because ‘such tax incentives may reward the separation of the location of IP rights [...] from the location of the innovative activity’⁶⁸. To mention an example, in 2015 the pharmaceutical company GlaxoSmithKline centralised most of its patents to its subsidiary in Belgium, while its real R&D activity continued to take place in the UK.⁶⁹ This seems to suggest that ‘the decisions on patent registration by firms may have little to do with developing research and innovation but a lot to do with tax planning’⁷⁰.

I believe this is mainly due to three factors, *i.e.*: i) Patent Boxes are often available even to undertakings that are not directly engaged in any innovative activity themselves, as long as specific requirements are met; ii) the preferential tax regime is often applicable also to IP rights developed by contractually outsourcing the R&D activity to other companies; and iii) one of the most important characteristics of the Patent Boxes, at least until last year, is that ‘given the lack of a nexus requirement among EU regimes, these incentives are not unique to inventors located in the country of the patent box since the tax benefits depend on the location of the patent owner exclusively’⁷¹.

As tax experts know, in effect, any tax planning evaluation involving IP rights and other intangible assets should take into consideration both the implications for the creation of intangible assets (“research phase”) and the subsequent exploitation of intangibles (“exploitation phase”).⁷² This is

⁶⁶ Bradley, Dauchy & Robinson 2015, *supra* note 15, p. 4.

⁶⁷ *Ibid.*

⁶⁸ *Idem*, p. 2

⁶⁹ *Financial Times*, 12 March 2014; *GSK renforce le role de la Belgique comme QG Mondiale*, L’echo, 7 April 2015; *GSK renforce sa filiale belge specialises dans les vaccins*, RTBF, 19 March 2015.

⁷⁰ Annette Alstadsæter, S. Barrios, G. Nicodeme, A. M. Skonieczna & A. Vezzani, *Patent Boxes Design, Patents Location and Local R&D*, Taxation Papers Working paper 57-2015.

⁷¹ Bradley, Dauchy & Robinson 2015, *supra* note 15, p. 8.

⁷² Evers 2015, *supra* note 4, p. 38. Cf. also I. Verlinden & A. Smits, *Mastering the Intellectual Property Life Cycle. A Global Perspective on the Tax-efficient Management of IP Rights*, 2nd ed., Sint-Stevens-

mainly because companies may find it very convenient to locate their concrete R&D activity in a country which has more favourable rules for tax deductions on costs or more attractive input-based R&D tax credits, while locating the ownership of the resulting IP rights in a different jurisdiction with a more convenient output-sided tax incentive.⁷³ In truth, the fact that the country where the activity of R&D has been carried out and the country where the intangible asset is located differ, is usually an important indicator of a tax-motivated and often abusive patent reallocation.

To provide a clear example of this, France offers a very beneficial R&D tax credit⁷⁴, that could be considered as one of the most favourable R&D tax incentives in Europe⁷⁵; by contrast, the French Patent Box appears less interesting, since more beneficial regimes have now been introduced in other European Countries⁷⁶. Conversely, the Netherlands does not offer any R&D tax credit nor super-deduction for innovative activities.⁷⁷ However, the Dutch Innovation Box is one of the most advantageous regimes currently available in Europe, with its 7% effective tax rate⁷⁸ being the third lowest European preferential tax rate for IP-deriving income⁷⁹.

Thus, a country might have attractive input-based tax credits, which are effective in encouraging domestic R&D activity but do not prevent a subsequent reallocation of the resulting IP right; or, on the contrary, it might have a competitive output-based Patent box, which is effective in mitigating the stripping of the domestic tax base, but poorly targeted at fostering domestic innovation.⁸⁰ In such a scenario, Patent Box regimes, rather than having the expected incentivising

Woluwe, PWC, 2009.

⁷³ According to Evers 2015, *supra* note 4, pp. 38-39, «in the research phase, the focus should be on the tax deductions granted for R&D expenditures. The value of tax deductions increases with the corporate income tax rate. This points to deducting R&D expenditures in high-tax countries. R&D tax incentives such as R&D tax credits and super deductions may further increase the value of tax deductions granted for R&D expenditures. As R&D investments are generally characterized by large amounts of expenses over a long period of time, the availability of an unlimited carry-forward is of great importance. Otherwise, tax deductions may be lost. In the exploitation phase, the tax rate applicable to income from the exploitation of intangible assets is decisive. Hence, it is tax-efficient to exploit intangible assets in low-tax countries and to make use of beneficial tax regimes for income from intangible assets such as IP box regimes»

⁷⁴ Article 244 quarter B of the French Tax Code provides companies with a credit amounting up to 30% of the qualified expenses incurred for activities of R&D. Cf., *inter alios*, E. Asmussen & C. Berriot, *Le Crédit d'Impôt Recherche, cout et effect incitatif*, Paris, Ministère de l'Economie et des Finances, 1993; J. Seyvet, *Le Crédit d'Impôt Recherche (CIR) en France*, Paris, Ministère de l'Enseignement Supérieur et de la Recherche. Presentation to the OECD Working Group on Fiscal Measures to Promote R&D, 19 January. 1995; J. Lesourne & D. Randet, *La Recherche et l'Innovation en France: FutuRIS 2011*, Paris, Odile Jacob, 2011.

⁷⁵ W. Eynatten, *European R&D and IP Tax Regimes: A Comparative Study*, in *Intertax* 2008-36, p. 502.

⁷⁶ *Ibid.* The French Patent Box offers a 15% tax rate on IP activity (compared to the 33% normal corporate tax rate). By contrast, to give a few examples, Cyprus offers 2.5% effective tax rate, Ireland 6.25 and the Netherlands 7%.

⁷⁷ *Idem* p. 515.

⁷⁸ Until 31 December 2017 the Dutch Patent Box tax rate was 5%

⁷⁹ Only Cyprus and Lichtenstein with 2.5% and Malta with 0% have a lower preferential tax rate than the Netherlands.

⁸⁰ A landmark example of how an attractive IP box can be completely inappropriate in fostering domestic innovation, is provided by the fact that the Irish government, in November 2010, has withdrawn its IP box regime, that was in force since 1973. The Irish Patent Box was indeed one of the most attractive, providing for a full exemption on the income from qualifying patents. Nevertheless, according to the explanation given by the Irish Minister for Finance Michael Noonan, «the relief has not had the desired impact on

and anti-tax-avoidance function, turn out to serve exactly the opposite purpose, *i.e.* incentivising companies to set their main seat in a country with favourable taxation as to the input-based R&D activity, and to reallocate the resulting IP rights in a different jurisdiction with a more favourable output-based Patent Box regulation.⁸¹ Consequently, it might be more realistic to argue that ‘the actual motive for the introduction of Patent Boxes is tax competition’⁸², and that these measures contribute to a “race to the bottom” that is ongoing throughout Europe in the last two decades⁸³. However, this is not always the scenario. Alternatively, in fact, Patent Box regimes may also reward the co-location of innovative activity and ownership of resulting intangible assets.⁸⁴ This is the case where such preferential regimes prescribe a “development condition” and require a company to carry out a domestic R&D activity in order to benefit from the reduced tax rate. The problem hence turns to whether the Patent Boxes currently in force prescribe such a requirement. In fact, the lack of such a requirement in most of the national Patent Boxes has given rise to many concerns throughout Europe, and critics have been moved especially by the OECD.

The next section will thus provide an overview of the existing arguments against the design of some Patent Box regimes and the possible solutions that have been proposed. The focus is mainly on the OECD Base Erosion and Profit Shifting (BEPS) Project, namely on Action 5 of the BEPS Action Plan, and on the work of the European Code of Conduct for Business Taxation.

V. BEPS Action 5: Patent Boxes as ‘Harmful Preferential Tax Regimes’

As stated above, a Patent Box regime shall be deemed effective in supporting innovation and economic growth in a country when it attracts a real and concrete R&D activity on that State’s territory. Where this is not the case, it encourages MNEs to shift their profits by reallocating IP rights from the country in which they were developed to a jurisdiction where the income generated by the intangible asset is taxed at a lower rate. On 9 July 2013, the German Finance Minister, Wolfgang Schäuble, during the European Union finance ministers’ meeting in Brussels, called for a ban on Patent Box regimes enacted by the UK, the Netherlands and some other countries⁸⁵, because, to its view, they resulted in ‘unfair tax competition’ and were at odds

innovation and R&D activity and [...] it was not a particularly well-targeted measure providing good value for money» (Financial Statement of the Minister for Finance Mr. Michael Noonan of 14 October 2014).

⁸¹ For example, the British company GlaxoSmithKline has recently reallocated all its intangible assets related to vaccines from the UK to Belgium, in order to benefit from the more beneficial Belgian IP Box, while continuing to carry out its R&D activity in the UK.

⁸² R. Sanz-Gomez, *The OECD’s Nexus Approach to IP Boxes: A European Union Law Perspective*, WU International Taxation Research Paper No. 2015-12, p. 3. See also N. Noked, *Integrated Tax Policy Approach to Designing Research and Development Tax Benefit*, Harvard John M. Olin Center for Law, Economics and Business, Fellows’ Discussion Paper Series, Discussion Paper No. 57, p. 45, according to which ‘Patent Boxes [...] serve as vehicles to promote tax competition through income shifting without actually stimulating more domestic R&D’.

⁸³ G. R. Zodrow & P. Mieszkowski, ‘Pigou, Tiebout, Property Taxation and the Underprovision of Local Public Goods’, in *Journal of Urban Economics*, 1986-19, pp. 356 ff.; J. D. Wilson, ‘A Theory of Interregional Tax Competition’, in *Journal of Urban Economics*, 1986-19, pp. 296 ff.; M. J. Graetz & A. C. Warren Jr., ‘Income Tax Discrimination and the Political and Economic Integration of Europe’, in *Yale Law Journal*, 2006-115, p. 1186; A. Razin, E. Sadka, ‘Tax Competition and Migration: The Race-to-the-Bottom Hypothesis Revised’, in *CESifo Economic Studies*, 2012-58, pp. 164 ff.; Alstadsæter, Barrios, Nicodeme, Skniczna, & Vezzani 2015, *supra* note 70.

⁸⁴ Bradley, Dauchy & Robinson 2015, *supra* note 15, p. 2.

⁸⁵ <http://uk.reuters.com/article/uk-europe-taxes-idUKBRE9680KY20130709>

with the EU rules preventing discriminatory tax legislation⁸⁶.

A few days later, on the basis that ‘addressing base erosion and profit shifting is a key priority of governments around the globe’⁸⁷, the international debate on tax avoidance culminated with the OECD publishing the Action Plan on Base Erosion and Profit Shifting⁸⁸. This Document proposes fifteen different actions to ‘provide countries with domestic and international instruments that will better align rights to tax with economic activity’⁸⁹, and to ‘ensure that profits are taxed where economic activities generating the profits are performed and where value is created’⁹⁰.

Of particular importance for the topic at issue is the proposed Action 5, named ‘Counter harmful tax practices more effectively, taking into account transparency and substance’. Action 5 was developed ‘in response to a request by Ministers to develop measures to counter harmful tax practices with respect to geographically mobile activities, such as financial and other service activities, including the provision of intangibles’,⁹¹ and is aimed at ‘revamp[ing] the work on harmful tax practices with a priority on improving transparency, including compulsory spontaneous exchange on rulings related to preferential regimes, and on requiring substantial activity for any preferential regime’⁹².

As it is evident from these last words, the work in this area is not new. In 1998, in fact, the OECD had already tried to deal with harmful tax competition between countries by publishing a document entitled ‘Harmful Tax Competition: An Emerging Global Issue’⁹³. In this report, the

⁸⁶ As underlined by L. V. Faulhaber 2017, *supra* note 44, p. 1660, in fact, ‘one justification for front-end R&D incentives is that the revenue forgone in subsidizing R&D will be recaptured in the form of tax revenues if and when that R&D is successful and produces income. If, however, other jurisdictions have patent boxes that create incentives to shift that income away from the jurisdiction that funded the underlying R&D, then jurisdictions without patent boxes feared that they would just be funding R&D without ever being able to tax the income that arose out of it’. On this topic see H. Gribnau, *Legal Protection against Discriminatory Tax Legislation: The Struggle for Equality in European Tax Law*, Wolters Kluwer, 2003.

⁸⁷ OECD, *Guidance on Transfer Pricing Aspects of Intangibles*, OECD/G20 Base Erosion and Profit Shifting Project, Paris, OECD Publishing, 2014, p. 3.

⁸⁸ On the OECD BEPS Project, see, *inter alia* J. Ross & M. Herrington, ‘A Call to Rewrite the Fundamentals of International Taxation: the OECD BEPS Action Plan’, in *International Tax Journal*, 2013-39, pp. 15 ff.; H. J. Ault, W. Schoen & S. E. Shay, ‘Base Erosion and Profit Shifting: A Roadmap for Reform’, in *Bulletin for International Taxation*, 2014-68, pp. 275 ff.; Y. Brauner, ‘What the BEPS?’, in *Florida Tax Review*, 2014-16, pp. 55 ff.; J. M. C. Carrero & A. Q. Seara, ‘The Concept of ‘Aggressiva Tax Planning’ Launched by the OECD and the EU Commission in the BEPS Era: Redefining the Border between Legitimate and Illegitimate Tax Planning’, in *Inertax*, 2016-44, pp. 206 ff.; I. Grinberg, ‘The New International Tax Diplomacy’, in *Georgetown Law Journal*, 2016-104, pp. 1137 ff.

⁸⁹ OECD, *Action Plan on Base Erosion and Profit Shifting*, Paris, OECD Publishing, 2013, p. 11.

⁹⁰ OECD, *Countering Harmful Tax Practices More Effectively, Taking into Account Transparency and Substance*, Action 5 - 2014 Deliverable, OECD/G20 Base Erosion and Profit Shifting Project, Paris, OECD Publishing, 2014, p. 3.

⁹¹ *Idem*, p. 13.

⁹² OECD, *Countering Harmful Tax Practices More Effectively, Taking into Account Transparency and Substance*, Action 5, 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project, Paris, OECD Publishing, 2015, p. 9.

⁹³ OECD, *Harmful Tax Competition: An Emerging Global Issue*, Paris, OECD Publishing, 1998. See also J. M. Weiner & H. J. Ault, ‘The OECD’s Report on Harmful Tax Competition’, in *National Tax Journal*, 1998-51, pp. 601 ff.; C. Pinto, ‘EU and OECD to Fight Harmful Tax Competition: Has the Right Path Been Undertaken?’, in *Inertax*, 1998-26, pp. 386 ff.; R. S. Avi-Yonah, ‘The OECD Harmful Tax

OECD dealt with the global economic problems arising from international tax planning and from two harmful tax practices adopted by the countries to attract foreign investments, namely the low tax rates provided by the so-called ‘tax havens’⁹⁴ and some ‘harmful preferential regimes’ enacted by some jurisdictions. According to the OECD, both behaviours should receive particular attention at the multinational level since they give rise to a harmful competition between countries by creating ‘situations in which the tax levied in one country on income from geographically mobile activities, [...] is lower than the tax that would be levied on the same income in another country’⁹⁵.

In the 2014 interim report⁹⁶ on BEPS Action 5, the OECD stated that ‘more than 15 years have passed since the publication of the OECD’s 1998 Report Harmful Tax Competition: An Emerging Global Issue, and the underlying policy concerns expressed then are as relevant today as they were then’⁹⁷. In particular, the OECD highlighted how ‘in certain areas, current concerns may be less about traditional ring-fencing but instead relate to across the board corporate tax rate reductions on particular types of income’⁹⁸. According to the OECD, in fact, ‘current concerns are primarily about preferential regimes that risk being used for artificial profit shifting’, and that for this reason are called ‘harmful preferential tax regime’⁹⁹. The stated goal in this area is ‘to secure the integrity of tax systems by addressing the issues raised by regimes that apply to mobile activities and that unfairly erode the tax base of other countries, potentially distorting the location of capital and services’¹⁰⁰. Specifically, under Action 5, the Forum on Harmful Tax Practices (FHTP)¹⁰¹ delivered three outputs, and namely: i) to finalise the review of member countries preferential regimes; ii) to expand participation to non-OECD member countries and finally; iii) to consider revisions and additions to the existing framework.

The main focus of the FHTP has been on agreeing and applying a methodology to define the substantial activity requirement for the harmful preferential tax regimes, looking first and foremost at the IP-related ones. In the context of the review of the existing preferential tax regimes, ‘the emphasis has been put on (i) elaborating a methodology to define a substantial activity requirement in the context of intangible regimes and (ii) improving transparency through

Competition Report: A Retrospective after a Decade’, in *Brooklyn Journal of International Law*, 2009-34, pp. 783 ff. For a critic of the report, see G. M. Melo, ‘Taxation in the Global Arena: Preventing the Erosion of National Tax Bases or Impinging on Territorial Sovereignty? (A Critique of the OECD’s Report: “Harmful Tax Competition: An Emerging Global Issue)”’, in *Pace International Law Review*, 2000-12, pp. 183 ff.; A. P. Morriss & L. Moberg, ‘Cartelizing Taxes: Understanding the OECD’s Campaign Against “Harmful Tax Competition”’, in *Columbia Journal of Tax Law*, 2012-4, pp. 1 ff.

⁹⁴ See M. Orlov, ‘The Concept of “Tax Haven”: A Legal Analysis’, in *Intertax*, 2004-32, pp. 95 ff.;

⁹⁵ This happens when ‘the first country is a tax haven and, as such, generally imposes no or only nominal tax on that income’, or when ‘the first country collects significant revenues from tax imposed on income at the individual or corporate level but its tax system has preferential features that allow the relevant income to be subject to low or no taxation’. (*Idem*, p. 19).

⁹⁶ The interim report on Action 5, officially known as 2014 deliverable, has been the first proposed text for Action 5 of the BEPS. The final report, published in 2015, is based on the 2014 deliverable, and incorporates some modifications suggested by some OECD Member States, and more specifically by Germany and the United Kingdom.

⁹⁷ BEPS Action 5, 2014 Deliverable, p. 9

⁹⁸ *Ibid.*

⁹⁹ *Ibid.* See also A. Haupt, W. Peters, ‘Restricting Preferential Tax Regimes to Avoid Harmful Tax Competition’, in *Regional Science and Urban Economics*, 2005-35, pp. 497 ff.

¹⁰⁰ *Ibid.*

¹⁰¹ The Forum on Harmful Tax Practices is the body established by the OECD to review the compliance of tax jurisdictions with its guidelines on transparency and other aspects of tax structuring.

compulsory spontaneous exchange of rulings related to preferential regimes¹⁰². The OECD has explained, in particular, that ‘existing domestic and international tax rules should be modified in order to more closely align the allocation of income with the economic activity that generates that income’¹⁰³.

The first step in this direction is therefore to assess what can be defined as a “harmful preferential tax regime”. In order to determine whether a special tax regime is “harmful”, according to the 1998 Report three steps are involved:

- a) Consideration of whether a regime is within the scope of work of the FHTP and whether it is preferential;
- b) Consideration of the four key factors and eight other factors set out in the 1998 Report to determine whether a preferential regime is ‘potentially’ harmful;
- c) Consideration of the economic effects of a regime to determine whether a potentially harmful regime is ‘actually’ harmful¹⁰⁴.

As to the first step, to fall within the scope of the 1998 Report the regime must apply to ‘income from geographically mobile activities’¹⁰⁵ and must ‘relate to the taxation of the relevant income from geographically mobile activities’¹⁰⁶. As stated above, IP related activities are indeed geographically mobile, since their taxation entirely depends on the location of the relevant intangible asset, which can easily be reallocated across different jurisdiction, for example by means of subsidiaries. Moreover, for a regime to be qualified as “preferential”, it must offer a more favorable treatment to the taxpayer in comparison with the general rules of taxation in force in the same country. Within this meaning, there is no doubt that Patent Boxes are preferential regimes, since their purpose is precisely to grant a lower tax rate for a specific type of income. Once ascertained that a regime is a preferential one, it is necessary to analyse whether it is potentially harmful. In the 1998 Report, the OECD discussed ‘certain features of tax regimes which suggest that they have the potential to constitute harmful tax competition’¹⁰⁷. These four key factors are the following: i) no or low effective tax rate; ii) the regime is “Ring-Fenced” from the domestic economy¹⁰⁸; iii) lack of transparency; and iv) lack of effective exchange of information. Furthermore, the Report also indicates ‘factors, other than the key factors, that can assist in identifying harmful preferential tax regimes’¹⁰⁹. Amongst these, a preferential regime shall be considered potentially harmful when it is ‘designed in a way that allows taxpayers to derive benefits from the regime while engaging in operations that are purely tax-driven and involve no substantial

¹⁰² BEPS Action 5, 2014 Deliverable, p. 9

¹⁰³ *Ibid.*

¹⁰⁴ BEPS Action 5, 2015 final report, p. 19.

¹⁰⁵ *Ibid.*

¹⁰⁶ *Ibid.*

¹⁰⁷ *Idem*, p. 26

¹⁰⁸ As stated by the OECD, ‘some preferential tax regimes are partly or fully insulated from the domestic economy of the jurisdiction providing the regime. The fact that a jurisdiction has designed the regime in a way that protects its own economy from the regime by ring-fencing provides a strong indication that a regime has the potential to create harmful spill-over effects. Ring-fencing focuses on the legal and administrative barriers to participation in the domestic economy, rather than the case where only a small number of domestic taxpayers take advantage of the regime’ (OECD, *Harmful Tax Practices - 2018 Progress Report on Preferential Regimes: Inclusive Framework on BEPS: Action 5*, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris, 2019).

¹⁰⁹ OECD 1998, *supra* note 89, pp. 30-31.

activities'¹¹⁰.

According to the interim report on Action 5, the first key factor acts as a gateway for all the others. Hence,

where a regime meets the no or low effective tax rate factor, an evaluation of whether that regime is potentially harmful should be based on an overall assessment of each of the other three “key factors” and, when relevant, the eight “other factors”. Where low or zero effective taxation and one or more of the remaining factors apply, a regime will be characterized as potentially harmful¹¹¹.

As a consequence, a preferential regime such as a Patent Box can indeed be considered as a “potentially harmful preferential regime” within the meaning of BEPS Action 5, as long as it does not prescribe a substantial activity of R&D as a condition for companies to benefit from the lower tax rate. In this latter case, in fact, the Patent Box could easily be exploited for “purely tax-driven operations”.

Once determined that Patent Box regimes are potentially harmful, it is necessary to assess whether they are also “actually” harmful. To do this, the 2014 Deliverable of Action 5 takes into account three elements, *i.e.*: i) whether the regime *de quo* ‘shift[s] activity from one country to the country providing the preferential tax regime, rather than generate new activity’¹¹²; ii), whether ‘the presence and level of activities in the host country commensurate with the amount of investment or income’¹¹³; and iii), whether the preferential regime is ‘the primary motivation for the location of an activity’¹¹⁴.

According to the OECD, ‘regimes that provide for a tax preference on income relating to IP raise the base-eroding concerns that are the focus of the FHTP’s work’¹¹⁵, and are therefore at the very centre of BEPS Action 5.

VI. BEPS Action 5 and the Proposed “Nexus Approach”.

Action 5 does not prohibit Patent Boxes *per se*, for the sole reason that they may constitute a harmful preferential tax regime. On the contrary, the OECD recognises that ‘IP-intensive industries are a key driver of growth and employment’¹¹⁶ and that ‘countries are free to provide tax incentives for R&D activities, provided that they are granted according to the principles agreed by the FHTP’¹¹⁷. Similarly, Action 5

‘is not intended to promote the harmonization of income taxes or tax structures generally within or outside the OECD, nor is it about dictating to any country what should be the appropriate level of taxes. Rather, the work is about reducing the distortionary influence of taxation on the location of mobile financial and service activities, thereby encouraging an environment in which

¹¹⁰ *Ibid.*

¹¹¹ BEPS Action 5, 2014 Deliverable, p. 23

¹¹² *Ibid.*

¹¹³ *Ibid.*

¹¹⁴ *Idem*, p. 24.

¹¹⁵ BEPS Action 5, 2015 final report, p. 24.

¹¹⁶ *Ibid.*

¹¹⁷ *Ibid.*

free and fair tax competition can take place¹¹⁸.

In other words, the purpose of the OECD's work in the field of harmful preferential tax regimes is to formulate a set of principles and common criteria to contrast the phenomenon of base erosion and profit shifting, and to promote a co-operative framework between Member States. The most important of these principles and criteria is to require an actual link between the preferential regime for IP-derived income and the substantial activity of R&D which led to the development of the related intangible assets.

Thus, the focus of FHTP's work during the last years has been to consider different possible approaches to require a substantial activity as a condition for the application of Patent Box regimes, and to reach an agreement between the OECD Member States on which approach to adopt. In this context, three different approaches were evaluated: the Value-Created Approach, the Transfer-Pricing Approach and the Nexus Approach. The first requires taxpayers to undertake a specific number of 'significant development activities', in order to be able to apply for the benefits of the Patent Box. This approach, however, did not receive any support from the Member States.¹¹⁹ The second approach allows a Patent Box regime to provide tax benefits for all income generated by intangible assets, as long as the taxpayer has located a specific number of important R&D functions in the jurisdiction providing the Patent Box, is the legal owner of the IP right, and bears the economic risk of the development of intangible assets. This approach encountered the favour of four members on forty-four, and namely Luxembourg, the Netherlands, Spain and the United Kingdom.¹²⁰

Forty of the forty-four Member States, however, voted for the adoption of the 'Nexus Approach'¹²¹, per which the benefits of a Patent Box regime should be directly linked to the amount of expenditures for R&D activities incurred by the taxpayer in developing the income-generating intangible assets. According to the OECD, this approach seeks to build on the basic principle underlying R&D credits and similar "front-end" tax regimes that target the expenditures incurred in the creation of intangible assets. Under these front-end regimes, the costs and the benefits are directly linked because the expenditures are used to calculate the tax benefit. The Nexus Approach extends this principle to "back-end" regimes that target the income earned by exploiting the IP rights.¹²²

The adoption of the aforesaid approach does not imply that countries are forced to limit the benefits deriving from preferential tax regimes exclusively to the R&D expenditures incurred to develop IP rights. Instead, they are allowed to enact income-sided preferential regimes for intangible assets, provided they require a concrete and substantial nexus between research investment and tax benefit. The rationale behind this principle is that 'the focus on expenditures

¹¹⁸ *Idem*, p. 14.

¹¹⁹ *Idem*, p. 28.

¹²⁰ *Ibid.*

¹²¹ The OECD has considered two other approaches, and namely i) The 'value-creation approach', which requires taxpayers to undertake a specific number of significant development activities, in order to benefit from the preferential tax regime on the related IP income; ii) the 'transfer pricing approach', which allows a preferential regime to provide benefits to all the income generated by intangible assets as long as the company had located a specific number of important functions in the jurisdiction providing the Patent box, the taxpayer is the legal owner of the IP right, and it bears the economic risk of the development of intangible assets. None these approached however received enough support by the Member States.

¹²² BEPS Action Plan 5, 2014 Deliverable, p. 29. See also C. H. Panayi, *Advanced Issues in International and European Tax Law*, Bloomsbury Publishing, London, 2015, p. 77.

aligns with the underlying purpose of IP regimes by ensuring that the regimes that are intended to encourage R&D activity only provide benefits to taxpayers that in fact engage in such activity¹²³. It is important to note that in the Nexus Approach it is the proportion between the “qualifying expenditures” and the related R&D activity that serves as a proxy for how much innovative activity the company has undertaken.¹²⁴ The concept of “qualifying expenditures” is therefore pivotal. Despite the importance of this concept, however, Action 5 only prescribes that ‘qualifying expenditures [...] must be directly connected to the IP asset’¹²⁵ and, rather surprisingly, leaves the countries free to ‘provide their own definitions of qualifying expenditures’¹²⁶ as long as that they ensure that these ‘only include expenditures that are necessary for actual R&D activities’¹²⁷. Some other provisions, however, considerably restrict the meaning of ‘qualifying expenditures’.

First, since the Nexus Approach focuses on establishing a direct link between R&D expenditures and IP-deriving income, only IP rights which entail such expenses for innovative activity can fall within the scope of the preferential regime. This means, first and foremost, that marketing-related IP assets such as trademarks cannot qualify for tax benefits under a Patent Box regime.¹²⁸ Second, the OECD explained that ‘the Nexus Approach is intended to ensure that, in order for a significant proportion of IP income to qualify for benefits, a significant proportion of the actual R&D activities must have been undertaken by the qualifying taxpayer itself’¹²⁹. This means that the possibility of outsourcing the R&D activity is significantly restricted. In particular, the Nexus Approach ‘would allow all qualifying expenditures for activities undertaken by unrelated parties, whether or not they were within the jurisdiction, to qualify, while all expenditures for activities undertaken by related parties [...] would not count as qualifying expenditures’¹³⁰.

Third, the possibility for acquired-IP rights to be eligible for the lower tax rate is also considerably limited. The OECD has in fact stated that when an intangible asset is not self-developed by the taxpayer itself, ‘only the expenditures incurred for improving the IP asset after it was acquired should be treated as qualifying expenditures’¹³¹. Hence, under the Nexus Approach, the acquisition costs will not be taken into account for calculating the expenditures, and the revenues from acquired intangible assets will normally not qualify for the preferential treatment. Finally, the Nexus Approach requires the Member States to establish a system for tracking the income and the expenditures of a company, in order to assess whether the revenues from an intangible asset are actually connected with the related qualifying expenditures.

¹²³ *Ibid.*

¹²⁴ The formula of the Modified Nexus Approach can be described by the following equation:

$$\frac{\textit{'Qualifying expenditures' incurred to develop the IP asset}}{\textit{Overall expenditures incurred to develop the IP asset}} \times \textit{income from the IP asset} = \textit{income eligible for the lower tax rate}$$

Differently, the input-based R&D tax credits take into account the total amount of expenditures *per se*, irrespectively of the results to which the activity led.

¹²⁵ BEPS Action Plan 5, 2014 Deliverable, p. 31.

¹²⁶ *Ibid.*

¹²⁷ *Ibid.*

¹²⁸ Hence, all those IP Boxes that grants the lower tax rate to income generated from the exploitation of trademarks do not comply with the Nexus Approach and with BEPS Action 5.

¹²⁹ BEPS Action Plan 5, 2014 Deliverable, p. 29

¹³⁰ *Ibid.*

¹³¹ *Ibid.*

Following the publication of the 2014 Deliverable of Action 5, a rather intense debate in regard to the interpretation and application of the Nexus Approach spread, and several countries expressed some concerns on some features of the proposed solution. In the meanwhile, the EU started as well to scrutinise and criticise the Patent Boxes that had been enacted in some of its Member States. In the next section, I will provide a short overview of the EU's view on this topic, since it was in this context that a final agreement on the application of a "Modified Nexus Approach" was achieved.

VII. EU's View and the "Agreement on the Modified Nexus Approach".

The view expressed by the OECD that Patent Box regimes constitute a harmful tax practice was corroborated by the EU institutions in October 2013, when the European Commission, primarily prompted by a complaint from Germany, published a report¹³² stating that the British Patent Box regime constituted 'harmful tax competition' and breached the EU Code of Conduct for Business taxation (CCBT)¹³³. The CCBT sets out criteria through which harmful tax practices must be tested. In particular, paragraph B of the Code states that 'tax measures which provide for a significantly lower effective level of taxation [...] than those levels which generally apply in the Member State in question are to be regarded as potentially harmful'¹³⁴. In particular, a measure should be deemed to be harmful when 'advantages are granted even without any real economic activity and substantial economic presence within the Member State offering such tax advantages'¹³⁵.

The CCBT, which is intended to discourage EU Member States from engaging in harmful tax competition, is not a legally binding document; however, having been adopted with the consent of all the EU Member States, it carries considerable political force. In conformity with paragraph H of the Code itself, the issue of the British Patent Box was referred to the EU Code of Conduct Group (CCG)¹³⁶, in order to assess whether this measure complied with the 'real economic activity' and the 'substantial economic presence' requirements. The main issue at stake, however, soon became a more general one, *i.e.* the correct interpretation of these requirements, and in particular how to measure the presence of a substantial economic activity. The CCG decided, consequently, to refer the investigation to the European Economic and Financial Affairs Council (ECOFIN).

¹³² European Council, *Conclusions of the ECOFIN Council Meeting on December 1 1997 Concerning Tax Policy*, Annex I.

¹³³ The CCBT was adopted on 1 December 1997 by the EU Council and the representatives of the governments of the Member States, with the intention of curbing harmful tax competition. It represents a 'political commitment by Member States to re-examine, amend or abolish their existing tax measures that constitute harmful tax practices (rollback process); and refrain from introducing new ones in the future (standstill process)'. See, at: <https://www.consilium.europa.eu/en/council-eu/preparatory-bodies/code-conduct-group>. On the CCBT see C. M. Radaelli, 'Harmful Tax Competition in the EU: Policy Narratives and Advocacy Coalitions', in *Journal of Common Market Studies*, 1999-37, pp. 661 ff.; Id., 'The Code of Conduct against Harmful Tax Competition: Open Method of Coordination in Disguise?', in *Public Administration*, 2003-81, pp. 513 ff.; W. W. Bratton & J. A. McCahery, 'Tax Coordination and Tax Competition in the European Union: Evaluating the Code of Conduct on Business Taxation', in *Common Market Law Review*, 2001-38, pp. 677 ff.

¹³⁴ BEPS Action Plan 5, 2014 Deliverable, p. 29.

¹³⁵ *Ibid.*

¹³⁶ The Code of Conduct Group is a group of experts that was set up within the framework of the EU Council by the ECOFIN Council on 9 March 1998. Its aim is to assess tax measures that may fall within the scope of the Code of Conduct, in order to find out whether they can be deemed to be harmful.

The ECOFIN did not enter into the specific assessment of the conformity of the UK Patent Box with the CCBT, but instead mandated the CCG to review all Patent Box regimes in force in the EU in order to ensure consistency in relation to the substantial economic activity principle, taking into account specifically Action 5 of the BEPS Project. In its report of 9 December 2014, the CCG announced that it had reached an agreement as to the interpretation of the “substantial activity” requirement established in the Code, expressly endorsing the “Nexus Approach” proposed by the OECD.¹³⁷ Overall, it was found out that most of the Patent Box regimes in Europe were not compatible with this approach and therefore needed to be amended.¹³⁸

In March 2014, the European Commission had already issued a series of inquiries regarding the preferential tax regimes on IP-derived income to several EU Member States, but the investigations were not pursued any further, following an important agreement reached in November 2014 by the United Kingdom and Germany as to the future of the British Patent Box regime¹³⁹. With this agreement, the involved Governments wanted ‘to resolve the concerns countries have expressed about some feature of the [...] Nexus Approach, and identify what further work is required in order to enable agreement to be reached on this issue during 2015’¹⁴⁰. According to the British government, in fact, with regard to the implementation of the Nexus Approach, ‘concerns have been expressed about how to calculate qualifying R&D expenditure, transitional arrangements between regimes and time allowed for this through grandfathering provisions, and the tracking and tracing methodology for R&D expenditure that will determine whether it qualifies’¹⁴¹.

The United Kingdom agreed to modify its regime by limiting the scope of its application, and to close and abolish its old regime to new entrants from June 2016. According to this agreement, the British Patent Box was amended¹⁴² and is now applicable only when the intangible asset is actually linked to an innovative activity carried out by the taxpayer itself. The new British regime prescribes that a taxpayer must meet the ‘development condition’ in relation to a specific intangible asset in order to benefit from the lower tax rate. In particular, the development condition can be met only by ‘creating or significantly contributing to the creation of the patented invention’ or by ‘performing a significant amount of activity to either develop the patented invention or any item or process which incorporates the patented invention or to develop the way in which the patented invention may be used or applied’¹⁴³. On the contrary, the preferential regime is not applicable to IP rights acquired by third parties or developed by outsourcing the R&D activity to other group companies.

¹³⁷ *Outcome of the 3356th ECOFIN Meeting*, Brussels, 9 December 2014, Doc. 16603/14, at: <https://www.consilium.europa.eu/media/24527/146136.pdf>, p. 16. See now also Council of the European Union, Report of the Code of Conduct (Business Taxation) to the ECOFIN, Doc. 13924/16, of 3 November 2016, §2: ‘Regarding the interpretation of the third criterion regarding existing patent box regimes in the Member States, the Code of Conduct Group agreed in November 2014 that all existing patent box regimes should be assessed according to the modified nexus approach which ensures that they present sufficient economic substance with the Member State concerned’.

¹³⁸ *Ibid.* See also doc. 13294/16, § 3, *supra* note 137, and Council of the European Union, Report from the Code of Conduct Group (Business Taxation) to the Council, Document doc. 16553/1/14 REV 1, of 11 December 2014.

¹³⁹ A. Johnson, ‘The Beginning of the End for the UK Patent Box?’, in *Journal of Intellectual Property Law and Practice*, 2015-10, pp. 152 ff.

¹⁴⁰ OECD, *Action 5: Agreement on Modified Nexus Approach for IP Regimes*, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, 2015, p. 3

¹⁴¹ *Ibid.*

¹⁴² See the British 2016 Finance Act.

¹⁴³ British Corporate Tax Act 2010, Section 357BD, as amended by the 2016 Finance Act.

This agreement set out the grounds for reaching a general “consensus” on the application of the so-called “Modified Nexus Approach”. In November 2014, in fact, the United Kingdom and Germany submitted their joint proposal to the FHTP. At the end of 2015, the OECD and the G-20 countries reached a final consensus on the “Modified Nexus Approach” as proposed in the German-British Agreement, which has been embodied in a publication by the OECD in the context of its BEPS project.¹⁴⁴

According to the report entitled ‘*Action 5: Agreement on Modified Nexus Approach for IP Regimes*’, there has been a ‘general acceptance of the Modified Nexus Approach as presented in the OECD report on Action 5’¹⁴⁵, but some countries required ‘further modifications relating to the level of qualifying expenditures, grandfathering provisions and tracing of expenditures’¹⁴⁶.

As to the first point, the concerns related mainly to the fact that the modification of the existing Patent Box regimes ‘could impose restructuring costs on groups which have dedicated R&D subsidiaries in order for them to retain the relief in future’¹⁴⁷, since R&D activity outsourced to related party fell outside the definition of “qualifying expenditures”. This led to pressures to introduce a counterbalancing mechanism through a provision allowing for an up-lift of qualifying expenditures, so as to take into consideration also some of the costs incurred for outsourcing R&D activities or for acquiring IP rights. Following these pressures, an uplifting provision was eventually incorporated in the final version of the Modified Nexus Approach. According to this mechanism, where costs are incurred for outsourcing R&D activity or for acquiring IP rights from third parties, the taxpayer will be able to obtain a maximum of 30% uplift of its qualifying expenditures, including the overall expenditures for both outsourcing R&D and acquiring intangible assets. The up-lift ‘may only be granted to the extent that expenditures in the context of outsourcing and acquisition has actually taken place’¹⁴⁸, and must be in any case limited to the 30% of the qualifying expenses of the company.

Secondly, countries have agreed to close their old Patent Box regimes to new entrants from 2016, and to continue to grant the preferential treatment to the companies already benefitting from the current regime until and not further than 2021.

Finally, all governments are required to introduce specific provisions that oblige taxpayers to ‘track expenditures, IP assets and income to ensure that the income receiving the benefits did in fact arise from the expenditures that qualified for those benefits’¹⁴⁹. The Final Report gives further indications on how this tracking method should work, but a more in-depth analysis of this issue is outside of the scope of this paper.

Based on this agreement, on October 2015 the OECD released the Final Report on BEPS Action 5, definitively incorporating the proposed modifications. As a consequence, despite the fact that OECD’s BEPS outputs have a soft-law nature and are thus not-binding upon OECD Member States, the latter are nevertheless expected to amend their Patent Boxes in accordance with the Modified Nexus Approach. This means, first of all, that ‘the only IP asset that could qualify for tax benefits under an IP regime are patents and other IP assets that are functionally equivalent to patents if those IP assets are both legally protected and subject to similar approval and registration

¹⁴⁴ OECD 2015, *supra* note 140.

¹⁴⁵ *Idem*, p. 3.

¹⁴⁶ *Ibid.*

¹⁴⁷ *Ibid.*

¹⁴⁸ *Ibid.*

¹⁴⁹ BEPS Action 5, 2015 Final Report, p. 28

processes, where such processes are relevant¹⁵⁰. In the specific, according to the Final Report, Patent Box regimes may now be designed as to include only patents, utility models, IP assets that grant protection to plants and genetic material, orphan drug designations, extensions of patent protections such as supplementary protection certificates, copyrighted software, and some other IP assets that are similar to patents and are granted a special certification from the competent government.¹⁵¹

VIII. Modified Nexus Approach and EU Law: Conflict or Coexistence?

Before assessing whether the Modified Nexus Approach could solve the problems of tax competition and abusive tax practices in relation to Patent Box regimes, it is important to deal with the concerns that have been raised as to whether the OECD's proposal is in line with EU law.¹⁵² In fact, EU law had a paramount role in determining how the Nexus Approach was drafted in the Final Report on Action 5. This is because EU Member States must implement the Nexus Approach by taking into consideration the fundamental freedoms of establishment and of provision of services (Articles 49 and 56 of the TFEU), as well as the rules on State aid (Art. 107 TFEU). As I will show, in fact, these principles of EU law might have important repercussions on the concrete effectiveness of the Modified Nexus Approach.

VIII.1. Nexus Approach and EU Freedoms

First, as to the relation between Modified Nexus Approach and EU freedoms, it has been noticed that if the performance of a substantial R&D activity in the taxing jurisdiction is required for the taxpayer to be granted a lower tax rate, 'this can lead to a territorialisation of the tax benefit, which will infringe fundamental freedoms'¹⁵³. This concern is not new. In 2010 Ireland withdrew its Patent Box that had been in force since 1973. The Irish regime was originally designed so that royalties from patents were completely exempted from taxation, but only insofar as the research activity leading to the development of the concerned intangible asset had been carried out in Ireland. In 2007, the European Commission started an inquiry on this provision, and issued a report on March of the same year, stating that the Irish preferential tax regime was inconsistent with articles 43, 48 and 49 of the EC Treaty.¹⁵⁴

¹⁵⁰ *Ibid.*

¹⁵¹ It is interesting to notice that in 2014 some Patent Boxes were applicable also to the income generated by trademarks. This was the case, for example, of Cyprus, Hungary and Luxembourg. All these Patent Boxes have now been amended as to be applicable only to patents.

¹⁵² The issue has been discussed, *inter alia*, by A. C. dos Santos, 'What is Substantial Economic Activity for Tax Purposes in the Context of European Union and OECD Initiatives against Harmful Tax Competition?', in *EC Tax Review*, 2015-24, pp. 166 ff.; C. Brokelind, *Intellectual Property, Taxation and State Aid Law*, in I. Richelle, W. Schon, E. Traversa, *State Aid Law and Business Taxation*, Heidelberg, Springer, 2016, pp. 226 ff.; C. H. J. I. Panayi, *Advanced Issues in International and European Tax Law*, Portland: Hart Publishing, 2015, pp. 213 ff.; Sanz-Gomez, *supra* note 82; L. V. Faulhaber, *The Long Reach of European Union Law: Patent Boxes and the Limits of International Cooperation*, Manuscript, Georgetown University Law Center, 2015; Id. 2017, *supra* note 44; I. Zammit, 'Centralized Intellectual Property Business Model - Tax Implications of EU Patent Box Regimes', in *Bulletin for International Taxation*, September 2015, 540 ff.; J. M. Wittmann, 'Patent Boxes' and Their Compatibility with European Union State Aid Rules, in I. Kerschner, M. Somare, *Taxation in a Global Digital Economy*, Vienna, Linde, 2017, 423 ff.

¹⁵³ Sanz-Gomez 2015, *supra* note 82, pp. 3-4. See also E. Traversa, 'Tax Incentives and Territoriality within the European Union: Balancing the Internal Market with Tax Sovereignty of Member States', in *World Tax Journal*, 2014-6; P. Cussons, 'Patent/IP Boxes: Their Status under EU Law', in *Transfer Pricing International Journal*, 2014-3, pp. 10 ff.

¹⁵⁴ EU Commission, *Direct Taxation: Commission Requests Ireland to End Discriminatory Rules on Tax*

According to the reasoning of the Commission, in fact, this provision firstly ‘dissuades Irish companies and individuals from contracting out research to institutions established elsewhere in the EU or in the EEA, since the income from any resulting patents would not be exempt, contrary to the rules which apply to domestic patents’;¹⁵⁵ and secondly, it ‘also dissuades Irish undertakings and individuals from setting up their research centres in other Member States, thus infringing their freedom of establishment’¹⁵⁶.

Similarly, the European Court of Justice (ECJ) has already analysed several national measures granting a ‘fully territorialised tax benefit’ for R&D activities and has consistently ruled that such measures were in breach of EU law. For instance, in the *Baxter Case*¹⁵⁷ the Court ruled that a French R&D tax credit granting a deduction equal to costs for R&D expenditures incurred in France was inconsistent with the EU freedoms. And this because an undertaking having its main place of business in France was more likely to carry out that activity in France than a non-resident company, thus leading to a case of *de facto* discrimination based on residence.¹⁵⁸

In order to assess whether the Modified Nexus Approach as designed in Action 5 of the BEPS is consistent with EU law, one must assess whether its application leads to an indirect discrimination between national and foreign companies in “comparable situations”¹⁵⁹. As a first step, one must take into consideration that, according to the approach set forth in Action 5, ‘qualifying taxpayers would include resident companies, domestic permanent establishments (PE) of foreign companies, and foreign PEs of resident companies that are subject to tax in the jurisdiction providing benefits’¹⁶⁰. From the subjective point of view, therefore, the Nexus Approach does not entail any form of legal discrimination, since resident and non-resident companies are both entitled to the benefits of the Patent Box, as long as they fall within the definition of qualifying taxpayer.

Even more importantly, it is crucial to understand that the Modified Nexus Approach does not require the R&D activity to be carried out in the same jurisdiction where the taxpayer’s IP income is taxed, but rather it requires this activity to be undertaken by the taxpayer itself, independently from where it concretely takes place. This difference clearly emerges when one compares the

Treatment of Patent Royalties, European Commission Press Release Database, 23 March 2007.

¹⁵⁵ *Ibid.*

¹⁵⁶ *Ibid.*

¹⁵⁷ ECJ, Case C-254/97, *Baxter and others*, §13: ‘it should be observed that, although there certainly exist French undertakings which incur research expenditure outside France and foreign undertakings which incur such expenditure within that Member State, it remains the case that the tax allowance in question seems likely to work more particularly to the detriment of undertakings having their principal place of business in other Member States and operating in France through secondary places of business. It is, typically, those undertakings which, in most cases, have developed their research activity outside the territory of the Member State levying the tax’. See also M. Dahllberg, *Direct Taxation in Relation to the Freedom of Establishment and the Free Movement of Capital*, The Hague: Kluwer Law International, 2005, p. 175.

¹⁵⁸ See also ECJ, Case C-39/04, *Laboratoires Fournier*, §24-25. See M. Isenbaart, *EC Law and the Sovereignty of the Member States in Direct Taxation*, IBFD, 2010, p. 447.

¹⁵⁹ Although there are some deviations, the standard EU principle of non-discrimination between national of different Member States applies both in tax cases and in non-tax cases. Therefore, the basic principle according to which ‘comparable situations must not be treated differently, and different situations must not be treated in the same way unless such treatment is objectively justified’ (ECJ C-279/93, *Schumacker*, §30), must apply also where the concerned restrictive measure is a tax measure. Cf. also ECJ C-80/94, *Wielockx*, §17; ECJ C-107/94 *Asscher*, §40; ECJ C-311/97, *Royal Bank of Scotland*, §26.

¹⁶⁰ BEPS Action 5, 2015 final report, pp. 30-31.

“main version” of the Modified Nexus Approach, as incorporated in the text of the 2015 final report on Action 5, and the so-called “footnote version”¹⁶¹ of the approach, which instead “hidden” in the footnotes of the final report¹⁶². This dichotomy has emerged because the OECD comprises both EU Member States and non-EU Member States. Since many OECD Member States are also part of the EU, the main version of the Nexus Approach was developed taking into account EU law and has therefore been designed to be implemented without breaching the European fundamental freedoms. The footnote version, instead, is reserved for OECD countries outside the Union, and is not subject to the limits imposed by EU law.¹⁶³

The main difference between the two versions relates to the definition of “qualifying expenditures”. In the main version of the Nexus Approach, in fact, ‘qualifying and overall expenditures are defined by focusing on which entity undertook them’¹⁶⁴. Qualifying expenditures are therefore those incurred by the company exploiting the IP right and benefiting from the Patent Box, no matter where the research activity actually took place. On the other side, however, this implies that outsourcing R&D activities to related parties and acquiring IP rights from third parties makes these costs fall outside the definition of ‘qualifying expenditures’. The “footnote version” of the approach, instead, provides that ‘qualifying and overall expenditures are [...] defined by where the costs were incurred’¹⁶⁵. Hence, qualifying expenditures are all those that have incurred within the jurisdiction providing the Patent Box regime, and it is irrelevant whether the R&D activity has been undertaken by the taxpayer itself or has been outsourced to another entity that resides in the same country.

As already noticed, this difference is due to the fact that since EU Member States cannot discriminate between taxpayers on the basis of their nationality or of the place where they reside, the “footnote version” of the Modified Nexus Approach is inconsistent with EU law. However, despite the fact that the “main version” of the Modified Nexus Approach was drafted specifically to comply with EU law, some doubts concerning its actual compatibility with the freedom of establishment and with the freedom of provision of services still remain.

In fact, two rules incorporated in the Report on Action 5 may be deemed to be inconsistent with these freedoms. The first is the one prescribing that ‘all the expenditures for activities undertaken

¹⁶¹ See Faulhaber 2015, *supra* note 152; Id. 2016, *supra* note 150.

¹⁶² The “footnote version” is laid down in footnotes 16 and 19 of Chapter 4 of the 2015 Final Report of BEPS Action 5.

¹⁶³ Faulhaber 2017, *supra* note 44, pp. 1663-114, describes the “main version” and the “footnote version” respectively as the “entity version” and the “location version”. He underlines that ‘the 2015 Report presents the entity version as the only version, since it can be adopted by all jurisdictions, but several footnotes of the 2015 Report highlight that jurisdictions outside the EU can choose to design their patent boxes quite differently. In the entity version, qualifying and overall expenditures are defined by focusing on which entity undertook them. Qualifying expenditures are those incurred by the individual entity benefiting from the patent box and any expenses for outsourcing to unrelated parties, while overall expenditures include these expenditures plus all acquisition costs and any expenses for outsourcing to related parties. [...] In the location version, qualifying and overall expenditures are instead defined by where the expenditures were incurred. Qualifying expenditures are all R&D expenditures incurred in the jurisdiction providing benefits, while overall expenditures are all R&D expenditures incurred by the taxpayer, whether domestically or internationally. In the location version, qualifying and overall expenditures are instead defined by where the expenditures were incurred. Qualifying expenditures are all R&D expenditures incurred in the jurisdiction providing benefits, while overall expenditures are all R&D expenditures incurred by the taxpayer, whether domestically or internationally’.

¹⁶⁴ Faulhaber 2015, *supra* note 152, p. 20.

¹⁶⁵ *Ibid.*

by related parties [...] would not count as qualifying expenditures¹⁶⁶. This provision might conflict with the freedom of (secondary) establishment, since companies are *de facto* discouraged from setting up a subsidiary or a branch in another EU country to undertake a research activity.

In order to assess whether this actually rise a conflict with the freedom of establishment, a discrimination test must be applied so as to determine whether two entities in a comparable situation are treated differently because of the location of their activity. Indeed, ‘it is against EU law that outsourcing to resident companies is allowed (or taxed more favorably), while outsourcing to non-resident companies is forbidden (or subject to more burdensome taxation)’¹⁶⁷. However, it must be underlined that, under the “main version” of the Nexus Approach, the prohibition of outsourcing to related parties applies whether or not the related parties are within the same jurisdiction. Therefore, since in this case the discrimination test requires a comparison between a company which outsources an R&D activity to a subsidiary within the same jurisdiction, and one that outsources the R&D activity to a subsidiary in a different jurisdiction, it seems *prima facie* appropriate to argue that national and foreign companies are treated equally. Here, the discrimination is between related and unrelated parties, rather than between resident and non-resident companies; and related and unrelated companies cannot be considered to be in a comparable situation.

However, one could still argue that, despite the apparently equivalent treatment provided to resident and non-resident related parties, ‘restrictions on outsourcing options can influence the location of business activities within the EU’¹⁶⁸, and lead to a *de facto* restriction of the freedom of establishment. A company can in fact be discouraged from setting up an R&D branch in another jurisdiction, if this implies the loss of the tax benefit.

The second controversial rule is the one stating that ‘the Nexus Approach would exclude acquisition costs from the definition of qualifying expenditures [...] and only allow expenditures incurred after acquisition to be treated as qualifying expenditures’¹⁶⁹. Since this could discourage companies from acquiring IP rights from other companies, one could maintain that this provision infringes the rules on the free movement of services.¹⁷⁰

Again, it must be noticed that the “main version” of the Nexus Approach does not differentiate from whether the IP right is acquired from a company in the same jurisdiction or from a company established in another country. Therefore, even in this case, it seems *prima facie* reasonable to argue that no territorial discrimination can be found. Nevertheless, similar measures certainly make the cross-border provision of IP rights less attractive, and one could argue that they constitute a *de facto* restriction on the free movement of services, since companies are likely to find it more difficult to sell their IP rights to foreign enterprises, if these latter will not be able to benefit from the preferential tax regime.

So far, only the Code of Conduct Group has expressed its opinion on this issue, by stating that

‘although it could be said that the Modified Nexus Approach did not treat comparable situations in a discriminatory manner, this of course did not

¹⁶⁶ BEPS Action 5, final report, p. 33.

¹⁶⁷ Sanz-Gomez 2015, *supra* note 82, p. 21.

¹⁶⁸ *Idem*, pp. 3-4

¹⁶⁹ BEPS Action 5, final report, p. 33,

¹⁷⁰ It must be reminded that the ECJ has stated that the rules on free movement of goods relate to the exchange of tangible goods, while the exchange of intangible assets is covered by the provision on the free movement of services (cf. *inter alia* ECJ C-155/73, *Sacchi*, §26).

preclude the possibility of a particular national measure being found incompatible with the Treaty freedoms in the future because of a restriction to the right of companies to choose where to locate their R&D activities. This would depend on the legal and factual contexts of the case¹⁷¹.

Within such an uncertainty, the last word will be left to the ECJ. According to the case law of the ECJ, it is not unlikely that the Nexus Approach will be deemed to constitute a *de facto* restriction on the cross-border provision of services. Despite this, I believe that the “up-lifting” provision included in the recent agreement on the Modified Nexus Approach has brought a significant improvement as to the compatibility of the approach with EU law. In fact, the 2015 modified version ‘diminishes the importance of the main characteristic of the Nexus Approach because, when related-party outsourcing or acquisition costs are incurred, a maximum of 30% uplift of the qualifying expenditure can be applied’¹⁷².

This means, that part of the cost of research can be outsourced to a company in the same group, or purchased from another company, without losing the right to be eligible for the preferential tax regime.¹⁷³ This provision carries an important meaning since, should the ECJ actually find the Modified Nexus Approach to be incompatible with the EU freedoms, the proportionality of the restrictive measure is improved, and the Nexus Approach itself is more likely to pass the necessity and proportionality tests.

VIII.2. Modified Nexus Approach and EU State Aid Rules

The Nexus Approach has also been criticised for allegedly breaching EU State aid rules.¹⁷⁴ According to Article 107 TFEU, ‘any aid granted by a Member State or through state resources in any form whatsoever which distorts or threatens to distort competition by favoring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market’.

According to Article 107, four cumulative conditions need to be fulfilled in order for a prohibited state aid to exist.¹⁷⁵ First of all, a comparative advantage must be granted to a national company.¹⁷⁶ Indeed, the text of article 107 endorses a broad definition of “aid”, and thus this concept covers also advantages in form of a reduction on the taxes that would otherwise be due according to the general rules.¹⁷⁷ Secondly, the advantage must be granted ‘by the state or through state resources’¹⁷⁸. The Commission has considered that a loss of tax revenues is economically equivalent to a

¹⁷¹ Code of Conduct Group (Business Taxation), Report to the Council, 11 December 2014, para. 11.

¹⁷² Sanz-Gomez 2015, *supra* note 82, p. 24.

¹⁷³ *Ibid.*

¹⁷⁴ Cf. J. Luts, ‘Compatibility of IP Box Regimes with EU State Aid Rules and Code of Conduct’, in *EC Tax Review*, 2014-23, pp. 258 ff.; I. Zammit, *supra* note 152.

¹⁷⁵ See Cf. K. Bacon, *European Union Law of State Aid*, Oxford: Oxford University Press, 2013; J. J. Piernas Lopez, *The Concept of State Aid under EU Law. From Internal Market to Competition and Beyond*, Oxford: Oxford University Press, 2015.

¹⁷⁶ On the notion of advantage, see ECJ, Case C-30/59, *De Gazemenlijke Steenkolenmijnen*; Case C-234/84, *Meura*; Case C-39/94, *SFEI*; Case C-280/00, *Altmark*; Case C-124/10 P, *EDF*.

¹⁷⁷ See ECJ, C-387/92, *Banco Exterior de España*, §14; Joined Cases C-78/08 to C-80/08, *Paint Graphos and Others*, §46; Joined Cases C-106/09 P and C-107/09 P, *Commission and Spain v. Government of Gibraltar and United Kingdom*, §72-73; Case C-6/12, *P Oy*, §18; Case C-105/14, *Taricco and Others*, §61.

¹⁷⁸ On the concept of “aid granted by the State or through State resources”, see ECJ, Case C-78/76, *Steinike and Weinling*; Case C-82/77, *Van Tiggele*; Case C-379/98, *Preussen Elektra*; Joined Cases C-399/10 P and C-401/10 P, *France Télécom (Bouygues)*.

consumption of State resources, and that any preferential tax regimes is prima facie deemed to fulfill this criterion.¹⁷⁹ Third, state aid must ‘distort or threaten to distort competition’ and ‘affect the trade between member states’¹⁸⁰. In the case law of the ECJ and in Commission’s decisions, this element is almost always presumed once it is established that a preferential tax regime provides a selective advantage.¹⁸¹

Concerning Patent Box regimes, the most debatable criterion is therefore the fourth, the so-called “selectivity requirement”¹⁸², stating that state aid must ‘favor certain undertakings or certain productions’ over others. As noted by Joris Luts, ‘the selectivity requirement *grosso modo* implies that the disputed tax measure is not a general tax measure that is applicable to the entire economy, but rather accords – as a derogation from the general tax system – a tax advantage to certain beneficiaries’¹⁸³. In other words, a preferential tax regime is selective where some taxpayers are favoured *vis-à-vis* some others. One could hence argue that Patent Boxes may constitute prohibited state aid since they favour R&D-intensive companies over other undertakings. Indeed, both the European Commission and the ECJ have repeatedly stated that a measure which benefits all undertakings in the national territory, regardless of the nature of their activity, does not constitute state aid. In particular, in assessing whether a tax measure entails a selective advantage, the EU Commission has traditionally applied the so-called “derogation test”, which mainly looked ‘at whether a measure constitutes a derogation from the general tax regime (in favour of certain undertakings)’¹⁸⁴. According to this criterion, one must first identify a country’s general tax regime, and then assess whether a selective derogation to this regime has been put in place.

In 1998, the Commission has published a notice on the application of the State aid rules to measures relating to direct business taxation¹⁸⁵, which must be taken into account when determining the *de facto* selectivity of a tax measure¹⁸⁶. The Notice employs a strict interpretation of “selectivity”, and therefore grants Member States a broad margin of discretion. According to it, ‘the main criterion in applying Article [87](1) [EC] to a tax measure is [...] that the measure

¹⁷⁹ See Commission Notice 98/C 384/03 (Oct 12, 1998).

¹⁸⁰ See the Commission Notice on the Notion of State Aid: Part III – Trade Effect, Distortion of Competition and Infrastructure, § 187, according to which «a measure granted by the State is considered to distort or threaten to distort competition when it is liable to improve the competitive position of the recipient compared to other undertakings with which it competes». See also ECJ Case C-47/69, *France v. Commission*; Case C-730/79, *Philip Morris*; C-142/87, *Tubemeuse*; C-494/06, *WAM*.

¹⁸¹ See ECJ Joined Cases T-298/97 and T-312/97, *Alzetta*, §141-147; Case C-280/00, *Altmark Trans*.

¹⁸² See I. Zammit, *supra* note 152, according to which ‘it is easy to conclude that R&D tax incentives would clearly meet the first three criteria listed previously. However, there are various views as to whether or not certain incentives, in particular, patent box regimes would, in fact, meet the “selectivity” criteria, given that such regimes typically apply to all undertakings without discrimination’. See also H. Verhagen, ‘State Aid and Tax Rulings – An Assessment of the Selectivity Criterion of Article 107(1) of the TFEU in Relation to Recent Commission Transfer Pricing Decisions’, in *European Taxation*, July 2017, pp. 279 ff.; J. Kociubinski, ‘Selectivity Criterion in State Aid Control’, in *Wroclaw Review of Law, Administration and Economics*, 2012-2, pp. 1 ff.; C. Micheau, ‘Tax Selectivity in State Aid Review: A Debatable Case Practice’, in *EC Tax Review*, 2008-17, pp. 276 ss.

¹⁸³ Luts 2014, *supra* note 174, p. 261.

¹⁸⁴ *Idem*, p. 262.

¹⁸⁵ Commission notice on the application of the State aid rules to measures relating to direct business taxation, 98/C 384/03, para. 13.

¹⁸⁶ According to para. 2 of the 1998 Commission Notice, the notice is intended to provide clarification on the question whether a tax measure can be qualified as aid under Article 87(1) EC, now Article 107(1) TFEU.

provides in favour of certain undertakings in the Member State an exception to the application of the tax system¹⁸⁷. Hence

‘tax measures which are open to all economic agents operating within a Member State are in principle general measures. They must be effectively open to all firms on an equal access basis, and they may not *de facto* be reduced in scope [...]. The fact that some firms or some sectors benefit more than others from some of these tax measures does not necessarily mean that they are caught by the competition rules governing state aid’¹⁸⁸.

In other words, as explained by Rafael Sanz-Gomez, ‘if a tax benefit is actually open to every undertaking that fulfills the established requisites, and these requisites included do not have the intention of excluding *de facto* several undertakings or business sector, that tax benefit is a general measure that does not constitute state aid’¹⁸⁹. In particular, the Commission has underlined that ‘measures pursuing general economic policy objectives through a reduction of the tax burden related to certain production costs (research and development, the environment, training, employment)’ constitute a ‘general tax incentive’, and thus are not derogatory in nature.¹⁹⁰

Based on these elements, some have argued that ‘Patent Box regimes designed in such a way so as to encompass, without limitation on size, location or type of business, all undertakings engaged in R&D are not selective and, therefore, not caught by the State aid rules’¹⁹¹.

By applying these guidelines, in fact, in 2007 the Commission has found that the Spanish Patent Box regime did not constitute irregular State aid. In particular, in its analysis of the Spanish regime¹⁹², the Commission’s decision first of all relied on the fact that the Patent Box was open to any company subject to the Spanish corporate taxation, independently from its location, its size and its business sector¹⁹³. According to the Commission, the fact that some companies develop more IP rights than others and therefore receive more benefits from the regime, is a matter of economic reality and cannot lead to consider the measure selective. Second, the Commission found that the category of qualifying IP rights falling into the Spanish Patent Box regime, was ‘so wide and horizontal in nature that it does not result in favouring undertakings which are in a legally or factually comparable position in the light of the general policy objective pursued by the measure in question (i.e. promoting R&D)’¹⁹⁴.

A very similar conclusion was reached by the EFTA Surveillance Authority in relation to

¹⁸⁷ 1998 Commission Notice, para. 16

¹⁸⁸ *Idem*, para. 13.

¹⁸⁹ Sanz-Gomez 2015, *supra* note 82, p. 14.

¹⁹⁰ 1998 Commission Notice, §13. See also L. Hancher, T. Ottervanger & P. J. Slot, *EU State Aid*, Sweet and Maxwell, 2012, p. 346.

¹⁹¹ I. Zammit, *supra* note 152, p. 546; A. Hansson, C. Brokelind, ‘Tax Incentives, Tax Expenditures Theories in R&D: The Case of Sweden’, in *World Tax Journal*, 2014-6, p. 4.

¹⁹² European Commission Investigation on State Aid N 480/2007 - Spain - The Reduction of Tax from Intangible Assets.

¹⁹³ According to the Commission, *idem*, para. 14, ‘the privileged treatment of income from intangible assets is a derogation from the ordinary corporate taxation rules. It is an advantage, since it mitigates the charges the companies would have to bear without the existence of the measure. However, the scheme is open to any undertaking subject to corporate taxation in Spain that develops intangible assets. Indeed, any corporate tax payer, independently from its size, legal structure and sector in which it operates can be the beneficiary’.

¹⁹⁴ *Idem*, para. 16. See also Luts 2014, *supra* note 174, p. 264.

Liechtenstein's Patent Box.¹⁹⁵ In this case, the EFTA Authority found that the preferential regime was not in contrast with Article 61(1) of the EEA Agreement on the prohibition of State aid, since it was not selective due to the fact that 'the tax deduction at issue is open to any undertaking subject to corporate tax in Liechtenstein, and applies without distinction to all economically active persons, irrespective of their size, legal structure or sector'¹⁹⁶. The ECJ, however, seems to have moved towards a different interpretation of the selectivity criteria, and started to apply a different test: the so-called "comparison test"¹⁹⁷. This approach 'does not focus on the derogating nature of a measure within the general tax system'¹⁹⁸, but rather analyses whether 'under a particular statutory scheme, a State measure is such as to favour certain undertakings or the production of certain goods [...] in comparison with other undertakings which are in a legal and factual situation that is comparable in the light of the objective pursued by the measure in question'¹⁹⁹. Generally, the "comparison test" includes a derogatory element, in the sense that if a derogation from the general system cannot be found, any selectivity shall be excluded.

This conclusion was reached *e.g.* in the *Gibraltar I* Case,²⁰⁰ in which the ECJ ruled that, even in the absence of any derogation from the general tax system, a tax regime can be qualified as a State aid where the conditions for the application of the general system itself imply that some undertakings are *de facto* granted a preferential tax treatment over others.²⁰¹ In 2016 the Commission issued new guidelines on the notion of State aid.²⁰² According to §130 of these new Guidelines, it seems that the Commission has aligned its view with the ECJ. Making explicit reference to the *Gibraltar I* Case, in fact, the 2016 Guidelines state that

'in certain exceptional cases it is not sufficient to examine whether a given measure derogates from the rules of the reference system as defined by the Member State concerned. It is also necessary to evaluate whether the boundaries of the system of reference have been designed in a consistent manner or, conversely, in a clearly arbitrary or biased way, so as to favour certain undertakings which are in a comparable situation with regard to the underlying logic of the system in question'.

¹⁹⁵EFTA Surveillance Authority, decision n° 177/11/COL, 1 Jun. 2011, Liechtenstein 'Tax deductions in respect of intellectual property rights', case n° 6913.

¹⁹⁶*Idem*, para. 1.4.

¹⁹⁷See Wittmann 2017, *supra* note 152, p. 434. On the differences between the two approaches, see in particular R. Ismer & S. Piotrowski, *The Selectivity of Tax Measures: A Tale of Two Consistencies*, in *Intertax* 2015-43, pp. 559 ff.

¹⁹⁸Luts 2014, *supra* note 174, p. 14.

¹⁹⁹ECJ, C-143/99, *Adria-Wien Pipeline*, §41.

²⁰⁰ECJ, joined cases C-106/09 P and C-107/09 P, *Gibraltar I*.

²⁰¹In *Gibraltar I* the issue at stake was a general tax regime which covered all the companies in its scope, but whose condition of application implied that some specific undertakings benefitted from a more favourable treatment. In this regard, the Court has stated that 'the fact that [certain] companies are not taxed is not a random consequence of the regime at issue, but the inevitable consequence of the fact that the bases of assessment are specifically designed so that [these] companies have no tax base under the bases of assessment [...]. Thus, the fact that [these] companies, which constitute a group of companies with regard to the bases of assessment [...] avoid taxation precisely on account of the specific features and characteristic of that group, gives reason to conclude that those companies enjoy selective advantage'.

²⁰²European Commission, *Commission Notice on the Notion of State aid as referred to in Article 107(1) of the Treaty on the Functioning of the European Union*, 2016/C 262/01. It is not clear to which extent these guidelines replace the 1998 Notice, given that the latter seems to have a more specific field of application while the new ones are applicable in general to any State aid.

According to this different interpretation, therefore, one could argue that a Patent Box is a selective measure, since it favours IP-intensive enterprises over other types of undertakings in comparable situations.²⁰³

Moreover, the implementation of the Modified Nexus Approach could have consequences on the Commission's future evaluation of Patent Box regimes. First of all, as some authors have noticed, based on EU Commission and EFTA Authority's decisions on Spain and Lichtenstein's Patent Boxes, 'it is reasonable to assume that the selection of the categories of qualifying IP is relevant to EU law. If the set of IP assets and kinds of income that are eligible for the IP Box were too narrow, the tax benefit would be at risk of qualifying as unlawful state aid'²⁰⁴.

In fact, a wide range of intangible assets were included as 'qualifying IP rights' under the Spanish and the Liechtenstein regimes, including 'secret formulas' for the Spanish one and trademarks for the Liechtenstein one. On the contrary, since the implementation of the Modified Nexus Approach implies that only patents and strictly related rights can qualify for the preferential tax rate, one could argue that the benefit is now directed exclusively (and hence, selectively) at patent-intensive and technological enterprises.

Secondly, the exclusion of the expenditures for outsourcing R&D activities to related parties and for acquiring IP rights from third parties, could entail that Patent Boxes are applicable only to few categories of companies, *i.e.* those who own enough capital to be invested in in-house R&D and can afford high-level human capital.²⁰⁵

As a consequence, one could argue that even if Patent Box regimes complying with the Modified Nexus Approach do not constitute *per se* State aid, they might however be *de facto* selective 'to the extent that they treat more favourably the most mobile activities or specific kinds of IP assets or income'²⁰⁶.

It is important to underline, however, that even if the new Patent Boxes should be deemed to constitute selective measures, they could still be considered justified and hence not in contrast with EU law. A selective measure consisting in a tax relief can in fact be justified, first of all, under the general provision of Article 107(3)(c) TFEU, according to which State aid can be compatible with the internal market when it facilitates 'the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common market'. This is especially true when one takes into consideration the Commission 2014 Guidelines for State aid for research and development and innovation.²⁰⁷ §40 of these Guidelines, in fact, states that 'State aid for R&D&I can be declared compatible with the internal market within the meaning of Article 107(3)(c) of the Treaty where [...] it leads to increased R&D&I activities without adversely affecting trading conditions in a manner contrary to the common interest».

As Sanz-Gomez has correctly underlined, these guidelines set out 'a type of proportionality test'²⁰⁸,

²⁰³ According to I. Zammit, *supra* note 152, p. 546, 'Following this reasoning, all patent box regimes would be considered to be selective', since IP-related business activities are favoured over other types of business activities.

²⁰⁴ Sanz-Gomez 2015, *supra* note 82, p. 14

²⁰⁵ For this thesis see Nodek 2014, *supra* note 82, p. 40.

²⁰⁶ *Idem*, p. 29.

²⁰⁷ Commission Communication 'Framework for State aid for research and development and innovation' (2014/C 198/01).

²⁰⁸ Sanz-Gomez 2015, *supra* note 82, p. 16.

according to which State aid for R&D shall be considered compatible with the internal market provided that it is necessary to foster innovation, appropriate, and proportionate compared to the negative effects on competition and trade in the internal market. As it has been noted above, there is to date no evidence that Patent Box regimes are effective in fostering national R&D. And this is even more so since the ‘main version’ of the Modified Nexus Approach allows a taxpayer to undertake the R&D activity in a different jurisdiction. Hence, in such a scenario, it seems rather difficult for a country to prove that a Patent Box is an appropriate measure to increase national R&D activities. Moreover, one could also argue that Patent Boxes are not a proportionate measure to foster domestic innovation, since there might be less selective incentives which could lead to the similar results (*e.g.* R&D tax credits).

Secondly, the selectivity of a fiscal advantage can also be justified ‘on the basis of the nature of the general scheme of the tax system’. This justification is not to be found in the EU treaties but was introduced by the ECJ in the landmark *Italian Textile* case²⁰⁹ as an *obiter dictum*²¹⁰. This notion was then revamped in the 1998 Commission Notice, in which the Commission specified that once ascertained that a measure constitutes a selective advantage, ‘it must then be examined whether the exception to the system or differentiations within that system are justified ‘by the nature or general scheme’ of the tax system, that is to say, whether they derive directly from the basic or guiding principles of the tax system in the Member State concerned. If this is not the case, then State aid is involved’²¹¹. However, a case-by-case economic analysis is required, and only future decisions by the EU Commission or by the ECJ could tell whether the Modified Nexus Approach is actually compatible with State aid law.

Conclusions

To date, Belgium, Hungary, Ireland, Italy, Luxembourg, The Netherlands, Portugal, Spain, the Swiss Canton of Nidwalden and the United Kingdom have amended their Patent Box regimes in accordance with the Modified Nexus Approach, while France has not yet done so.²¹² Empirical, concrete data as to the real effects of this approach is therefore mostly still unavailable. Indeed, this approach limits to some degree the possible harmful aspects of Patent Boxes by establishing a direct substantive link between the preferential tax regime for IP-derived income and the R&D activity carried out by the taxpayer.

However, as the limited research output currently available on this topic has revealed, this approach does not eliminate all opportunities for income shifting. The fact that the approach focuses on the entity which undertakes the R&D activity, rather than on the jurisdiction where the innovative activity is undertaken, implies that MNEs could still exploit Patent Boxes to shift at least part of their income in another jurisdiction. Moreover, the limitation on outsourcing R&D activities and on acquiring IP assets from other entities established in the same jurisdiction is likely to create unreasonable restrictions on companies’ business decisions, which are not related to the goal of fostering domestic R&D nor of restricting income shifting. In particular, the ‘main version’ of the Modified Nexus Approach creates unreasonable pressures in favour of restructuring a company’s business model to favour the centralisation of all the innovative activities. At the same time, it disincentivises outsourcing and acquisition, even when such business decisions do not

²⁰⁹ ECJ Case C-173/73, *Italy v. Commission*.

²¹⁰ *Idem*, §33. See C. Micheau, *State Aid and Taxation in EU Law*, in E. Szyszczak (Ed.), *Research Handbook on European State Aid Law*, Edward Elgar, 2011, p. 202.

²¹¹ 1998 Commission Notice, §16.

²¹² A proposal for amending the French Patent Box has been included in the draft of budget for the fiscal year 2019, on September 24, 2018.

create any income shifting opportunities.²¹³ Because of the restricted flexibility granted to innovative companies, I argue that the Modified Nexus Approach could even lead to a reduction of the overall R&D investment in certain countries.

The adoption of the so-called “footnote version” of the Modified Nexus Approach could have avoided similar imperfections. As already explained, this approach allows companies ‘to include all qualifying expenditures for [R&D] activities undertaken by both unrelated parties and resident related parties’²¹⁴, and permits them to include the costs of the acquisition of IP rights from a third party amongst the qualifying expenditures of the acquiring taxpayer²¹⁵. First, this version of the approach provides companies with fewer opportunities to receive a tax advantage when the R&D activity has been carried out abroad. Second, it gives undertakings more flexibility in their business decisions as to subcontracting R&D activities and in engaging in transactions on IP rights with third parties, as long as the latter are established in the same jurisdiction. Finally, the footnote version appears to be more in line both with the declared objectives of Patent Boxes to foster domestic R&D activity, and with those to reduce the possibilities for income shifting outlined in the BEPS Action Plan.

Despite this, however, the Modified Nexus Approach, as endorsed in the main text of the final report of Action 5, is probably the most suitable instrument available to EU Member States right now, given the conflict between the “footnote version” and EU treaty law. Even if some doubts remain as to the full compatibility of the main version of the Modified Nexus Approach with the European rules on freedom of establishment, free movement of services and state aid, this seems to be at the moment the only possible compromise between the aims pursued by Patent Boxes, the objectives of the BEPS project and the principles embraced by the EU Internal Market.

²¹³ Faulhaber 2015, *supra* note 152, p. 5.

²¹⁴ BEPS Action 5, 2015 final report, footnote 16, p. 42.

²¹⁵ *Idem*, footnote 19, p. 42.