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

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Abstract

As the global economy is increasingly driven by the commercialization of highly mobile assets, several European governments have sought to encourage investment in and retention of such assets within their domestic borders by offering heavily incentivized tax rates on profits derived from patents and other highly mobile assets. Notable among the European and Asian countries to enact such patent-income tax incentives—colloquially known as patent box tax regimes—are Belgium, Luxembourg, the Netherlands, and the United Kingdom. This paper addresses the primary distinguishing features of these four regimes, including their effective tax rates, their scope, and their general qualification requirements and further addresses the preliminary economic results of the enactment of these regimes. Finally, this paper considers the shortcomings in the four regimes and discusses how the United States can capitalize on such shortcomings to enact a more effective patent box tax regime.

I. Introduction

A. Preface

The ongoing competition between the governments of major economic powers to entice foreign nationals to invest within domestic borders has increasingly forced such governments to develop creative and innovative methods for reducing effective tax rates for potential foreign corporate investors, especially on more mobile and more highly sought after assets. One of the most recent and most rapidly growing corporate tax incentives enacted by several national governments in an attempt to lure foreign innovation-based

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investment is what has become colloquially known as the patent box tax regime.\(^1\) Stated simply, patent box taxation refers to the application of a "sharply reduce[d] . . . rate of corporate tax applied to income resulting from qualifying [intellectual property]."\(^2\) Since 2007, several European and Asian governments, including Belgium, China, France, Luxembourg, the Netherlands, and Spain, have added some form of patent box taxation to their corporate tax systems. Additionally, the United Kingdom is currently in the process of enacting their own patent box legislation, which is presently set to go into force in 2013. Commenters and tax professionals are increasingly calling for the United States to enact a patent box regime of its own if it is serious about remaining competitive in the global marketplace.\(^3\)

This paper will first compare and contrast several of the current patent box models employed by European countries. In addressing these regimes, consideration will be paid to the effective tax rate provided by each, which forms of intellectual property qualify for preferential tax treatment, whether acquired intellectual property falls in to the patent box, what intellectual property-derived types of income receive a reduced rate of taxation, and any additional requirements a company must meet before qualifying for preferential tax treatment under the respective regimes.\(^4\) Additionally it will discuss whether other developed nations, most notably, the United States, should consider enacting patent box regimes to remain competitive in the global market. This discussion will address the potential positive and negative effects of such regimes and will consider the roll the regimes play in the greater tax competition debate. Finally, the paper will offer suggestions, based on the available empirical evidence regarding the effects of patent box regimes, for how other nations may structure their own patent box tax legislation to remain competitive in the global race for innovation.

B. PATENT BOXES BACKGROUND

Patent box tax regimes (whose name is derived from the box corporations must check on their tax form to qualify for the preferential tax rate\(^5\)) are the product, in part at least, of countries' intense desires to encourage corporations to engage in innovative research and development and commercialization activities within their domestic borders. Modern economies are based more on innovation and intellectual property than ever before, and countries seeking to obtain or retain a competitive economic advantage in today's global economy must find ways to encourage corporations in high-wage, innovation-based industries to remain in, and continue to obtain patents within, their borders.\(^6\) Patents are

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3. Id. at 4, 7-8.
5. Atkinson & Andes, supra note 1, at 1.
6. Id.
considered by many to be the “lifeblood of society” and the “wealth of nations” and are highly sought after by developed nations. Unfortunately for national governments, patents are also highly mobile assets, and once a new innovation has been patented, the company holding it may be able move it offshore to a jurisdiction where the income from its commercialization will be taxed at a lower rate. In an effort to reduce the rate at which patents are moved offshore—or worse, the rate at which companies elect to incorporate in foreign locations—several countries have enacted patent box tax regimes that provide highly competitive tax rates for income derived from the commercialization of patents held within the country. Patent boxes may be seen as the logical follow-up to the research and development tax credits currently offered by many countries: while the research and development 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. For instance, if a given startup company intends to expend significant capital developing a new mobile communications technology, the cost of developing that technology will generally provide the developing corporation with some kind of tax benefit, typically in the form of a tax deduction or a tax credit. In a country that has enacted a patent box tax regime, some or all of the income subsequently derived from the commercialization of that technology, such as licensing and royalty fees or the production of goods utilizing the patent, will be taxed at a rate considerably lower than the ordinary corporate income tax rate for that country. Such countries appear to have a considerable advantage in recruiting new innovative businesses and retaining current domestic corporations that regularly participate in such innovative activities.

Although the Netherlands and Belgium first enacted their patent box regimes in 2007 and are frequently cited as the birthplaces of patent box taxation, the Republic of Ireland first offered a form of patent box taxation in 1973. Section 34 of Ireland’s Finance Act 1973 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.” Generally, the provision exempted all royalty and licensing income arising from patented goods from the Irish taxpayer’s income tax. Ireland retained some form of its patent box regime until 2011, when it abolished the corporate tax incentive as a part of its National Recovery Plan 2011-2014, a plan designed to alleviate growing economic concerns and reduce increasing budget deficits. Today, eight countries utilize patent box tax regimes,

8. Shanahan, supra note 2, at 3.
9. Id.
10. Id.
12. See Shanahan, supra note 2, at 3.
15. Id.
16. Id.
including Belgium, China, France, Hungary, Luxembourg, the Netherlands, Spain, and Switzerland. Additionally, the United Kingdom is actively in the process of enacting its own patent box legislation, which is currently set to go into effect in 2013.\textsuperscript{18} This paper will compare and contrast the structures of the patent box regimes enacted by Belgium, Luxembourg, the Netherlands, and the proposed United Kingdom plan and will address the immediate and potential effects of those regimes.

II. Four Patent Box Regimes

A. Belgium

The Belgian Patent Box, also known as the “deduction for patent income,” was established by the Belgian government in 2007 and codified in Articles 205/1 through 205/4 of the Belgian Income Tax Code.\textsuperscript{19} The patent income deduction regime allows companies to deduct from their taxable income 80 percent of their gross qualifying patent income.\textsuperscript{20} Consequently, only 20 percent of the taxpayer’s gross patent income is taxed at the statutory corporate tax rate of 33.99 percent.\textsuperscript{21} This structure yields an effective income tax rate of 6.8 percent on profits arising from patents.\textsuperscript{22}

The Belgian preferential patent income tax regime is available not only to Belgian corporations, but also to any company that is subject to either Belgian corporate income tax or Belgian non-resident corporate income tax (i.e., a Belgian permanent establishment of a foreign company).\textsuperscript{23} The deduction applies to gross income from patents or supplementary protection certificates owned by the Belgian company or Belgian permanent establishment because of its own development activities at a qualifying research and development center located either in Belgium or abroad.\textsuperscript{24} The Belgian patent box regime requires the research and development centers at which the patents are developed to

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\textsuperscript{18} Shanahan, supra note 2, at 4.

\textsuperscript{19} Code des Impôts sur les Revenus [C.I.R.] art. 205/1-4 (Belg.). Official versions of Belgian legislation are available only in French and Dutch. This paper will rely in part on English translations and interpretations of the Belgian statute provided by accounting, legal, and financial services companies. To the extent possible, multiple sources will be given to corroborate translations and interpretations.


\textsuperscript{21} Patent Income Deduction, supra note 20, at 1; Maxwell & Benesch, supra note 4.

\textsuperscript{22} Patent Income Deduction, supra note 20, at 1; Maxwell & Benesch, supra note 4. This effective rate is calculated by multiplying the amount of income available for taxation at the ordinary statutory rate by said rate (i.e., 20 percent multiplied by 33.99 percent). This rate, as well as those to be discussed under other regimes in this paper, represents the maximum effective tax rate for patent income provided by the Belgian Patent Income Deduction Regime, as other innovation-related tax credits, such as research and development credits, may further lower the rate. Patent Income Deduction, supra note 20, at 1. Such credits are beyond the scope of this comment.

\textsuperscript{23} Patent Income Deduction, supra note 20, at 1; Shanahan, supra note 2, at 5; Maxwell & Benesch, supra note 4.

qualify as a “branch of activity” of the business for the patent and its subsequent income to be eligible for the deduction. Generally, a branch of activity is “an entity or a division of an entity that is capable of operating autonomously;” note, however, that there is no requirement that such research and development centers be located in Belgium.

The deduction is not limited to self-developed patents; it applies to income derived from patents acquired by the Belgian company or permanent establishment “in full ownership, joint ownership, usufruct, or via license agreement,” provided the company has further developed the patented product or process at a research and development center that, as above, qualifies as a branch of activity. The research and development centers employed for such development activities need not be owned by the company owning, and subsequently exploiting, the patent; rather, the company is permitted to use contract research and development centers to further develop its acquired patents and to remain potentially eligible for the patent income deduction, provided that it retains the substance to perform and supervise such development activities at the center. On the other hand, a Belgian company acting solely as such a contract research and development center for third-party companies that own and commercialize the related patents may not claim a deduction under the patent income deduction regime.

Patents and supplemental protection certificates are the only forms of intellectual property that qualify for the income deduction; know-how, trademarks, designs, models, secret formulas, and copyrights do not qualify for the deduction. Additionally, a qualifying patent need not be granted by the Belgian government or the European Union; patents granted in other jurisdictions qualify as well.

The Belgian patent income deduction is applicable to income derived from both “(1) patents that are licensed [to a third party] by a Belgian company or a Belgian permanent establishment and (2) patents that are used in the manufacturing process of patented products [that] is done by the company or in its name,” the latter of which is frequently referred to as “embedded patent income.” For the former, the amount of income eligible for the deduction is based simply on the amount of royalties received. The amount of the royalty income is limited, however, to the amount that is part of the company’s taxable income in Belgium and may not exceed the royalty that would have been agreed to between unrelated parties (i.e., the arm’s length price). Therefore, a Belgian corporation may not license patented technology to a subsidiary or other related corporation at an unreasonable or overly inflated rate to claim a larger tax deduction.

The calculation of patent income when the company uses the patent to produce and sell patented goods is based on the hypothetical fee the company would have received had it

25. Stappen et al., supra note 24, at 291; Shanahan, supra note 2, at 5.
27. Shanahan, supra note 2, at 5.
28. Stappen et al., supra note 24, at 292-93; Shanahan, supra note 2, at 5.
29. Stappen et al., supra note 24, at 292-93; Shanahan, supra note 2, at 5.
30. Shanahan, supra note 2, at 5; Patent Income Deduction, supra note 20, at 2.
32. Stappen et al., supra note 24, at 293; see also Maxwell & Benesch, supra, note 4.
33. Patent Income Deduction, supra note 20, at 2; Shanahan, supra note 2, at 5.
34. Patent Income Deduction, supra note 20, at 2; Shanahan, supra note 2, at 5; Stappen et al., supra note 24, at 293. This arm’s length transaction fee is calculated based on a transfer pricing analysis under Belgian law. Patent Income Deduction, supra note 20, at 2.
licensed the patent to an independent third-party company to manufacture the product itself. While the Belgian Tax Code does not explicitly address the methods a company may use in calculating this portion of the product’s income,35 “[i]n a recent decision, the Belgian Ruling Commission accepted the use of three different transfer pricing techniques to compute this portion: the costs, income and market approaches.”36 To be safe, the company may obtain a preliminary ruling from the Belgian Rulings Commission on a proposed pricing method prior to using that method to calculate its tax deduction under the patent box regime; doing so will allow the company to claim income as patent income without fear of the Belgian tax authorities later questioning the validity of the claim.37 Of note, however, is that capital gains realized on the disposal of an otherwise eligible patent are not covered by the Belgium patent income deduction regime.38

In sum, the Belgium patent income reduction regime provides Belgian companies or Belgian permanent establishments of foreign companies a 6.8 percent effective tax rate on income derived by the company or permanent establishment from the commercialization of its patents and supplemental protection certificates. The regime applies not only to ordinary patent income (that is, licenses and royalties), but also to patent income embedded in the sales price of patented products. Moreover, it applies to both self-developed patents as well as acquired patents, provided the latter have been further developed at a qualifying research and development center.

B. LUXEMBOURG

The Luxembourg patent box (also known as the IP box) was enacted by the Luxembourg government in December 2007 and codified in Article 50bis of the Luxembourg Income Tax Act.39 On March 5, 2009, Luxembourg tax authorities issued an administrative circular regarding Article 50bis of the Income Tax Act that was intended to clarify the rules regarding the IP box regime.40

The Luxembourg regime provides for an 80 percent exemption for net income derived from qualifying intellectual property.41 Consequently, only 20 percent of such income is taxable at the statutory corporate tax rate of 28.8 percent, yielding an effective tax rate of

35. Steppen et al., supra note 24, at 293.
38. Id. at 2; Eynatten & Brauns, supra note 36, at 43.
An important note is that the exemption applies to net IP income as opposed to gross IP-derived income. That is to say, the Luxembourg IP box generally applies, regardless of the type of commercialization, only to the difference between the gross revenue derived from the intellectual property and all expenses incurred in direct economic connection with such revenue, including, for the first year in which the exemption is claimed, the activated (i.e., capitalized) expenses incurred in past years (e.g., the present year's amortization expenses, etc.).

The IP box regime applies to all Luxembourg taxable companies, including permanent establishments of foreign companies. A company need only economic ownership of the qualifying intellectual property to exempt net income from the commercialization of such intellectual property, and, in the event legal and economic ownership of the intellectual property are split, the company with economic ownership rights is the company that will benefit from such ownership.

The IP box regime's exemption applies not only to self-developed intellectual property but also to acquired intellectual property rights, with no requirement for additional development. Intellectual property rights acquired from an "associated company," however, do not qualify for the regime's exemption. For the purposes of the IP box regime, an associated company is a "company in which the company benefiting from the [intellectual property rights] income has at least a 10 [percent] direct participation or is its direct shareholder of at least 10 [percent]. Or where both companies have a common direct shareholder of at least 10 [percent]." Outside of the associated company limitation, however, the Luxembourg IP tax regime is not concerned with the source of the patent or other qualifying intellectual property right; it looks only to see who currently has economic ownership of the patent being exploited, not to who or where the intellectually property was developed.

The Luxembourg IP box applies to a wide range of intellectual property. The statute includes patents (including supplementary protection certificates), trademarks or brands, designs, domain names, models, and software copyrights. The subsequent Administrative circular expounds upon the list in the statute, providing that sports celebrities, for example, who commercialize products under their name or image may qualify for the regime as well.

The scope of income to which the IP box applies is similarly broad, applying to ordinary IP income (e.g., royalty and licensing fees from third parties); to embedded income

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42. Shanahan, supra note 2, at 7; Maxwell & Benesch, supra note 4.
43. Luxembourg Intellectual Property Tax Regime, supra note 41, at 3; Maxwell & Benesch, supra note 4.
44. Luxembourg Intellectual Property Tax Regime, supra note 41, at 3; Maxwell & Benesch, supra note 4.
46. Eynatten & Braun, supra note 36, at 44; Maxwell & Benesch, supra note 4.
47. Luxembourg Intellectual Property Tax Regime, supra note 41, at 2; Luxembourg: Clarification on IP Regime, supra note 40, at 2.
48. Shanahan, supra note 2, at 7; Maxwell & Benesch, supra note 4.
49. Eynatten & Braun, supra note 36, at 44.
50. Id.; Shanahan, supra note 2, at 7.
(i.e., the value of the IP determined to be included in the sale price of a patented good); and even to capital gains income from any subsequent sales of the intellectual property rights.\textsuperscript{52} For the first category of IP income, the company is entitled to an 80 percent exemption of all net royalty income.\textsuperscript{53} As mentioned above, for these purposes the net income is calculated as the actual gross revenue from the commercialization of the patent or IP right—the actual royalties received, in this case—deducted by “all expenses incurred in direct economic connection with such revenue, including interest expenses from the financing of IP rights, amortization[,] and potential impairments recorded on each particular IP right.”\textsuperscript{54} The 2009 Administrative circular clarified the meaning of the word royalty, stating that the only royalties to which the box shall apply are those that meet the definition of royalty provided by the Organisation for Economic Co-operation and Development’s (OECD) Model Convention with Respect to Taxes on Income and on Capital.\textsuperscript{55} Article 12 of the OECD Model Convention defines royalties as “payments of any kind received as a consideration for the use of, or the right to use, any copyright of literary, artistic or scientific work including cinematograph films, any patent, trade mark, design or model, plan, secret formula or process, or for information concerning industrial, commercial[,] or scientific experience.”\textsuperscript{56} Therefore, a company seeking to apply the IP box’s 80 percent exclusion must ensure that its royalty income aligns itself with this provision.

In the event a company uses an intellectual property right for its own activities, such as the manufacture of a patented product, the Luxembourg IP box regime allows for a notional deduction of 80 percent of the income the company would have hypothetically received in the event it licensed the intellectual property right to a third party at an arm’s length basis.\textsuperscript{57} Finally, the IP box also allows for an 80 percent exemption for any net gains realized upon the sale or transfer of an eligible intellectual property right.\textsuperscript{58} Any expenses directly incurred in connection with the intellectual property right that have reduced its basis in the year of sale or any previous year will be recaptured upon alienation of the right and decrease the amount of the exemption up to an amount equal to 80 percent of the gain.\textsuperscript{59}

The 2009 Administrative circular provided clarification on the valuation of intellectual property rights when calculating capital gains or determining the value of a hypothetical arm’s length royalty transaction.\textsuperscript{60} It provided that in these situations, the taxpayer is permitted to use any generally accepted or commonly used international valuation method.\textsuperscript{61}

\textsuperscript{52} Luxembourg Intellectual Property Tax Regime, supra note 41, at 3.
\textsuperscript{53} Id.; Luxembourg IP-Derived Income Tax Regime, supra note 45, at 2.
\textsuperscript{54} Luxembourg Intellectual Property Tax Regime, supra note 41, at 3; Luxembourg IP-Derived Income Tax Regime, supra note 45, at 2; Eynatten & Brauns, supra note 36, at 44-45; Shanahan, supra note 2, at 7.
\textsuperscript{55} Luxembourg: Clarification on IP Regime, supra note 40, at 1.
\textsuperscript{56} Organisation for Economic Co-operation and Development [OECD], Model Convention with Respect to Taxes on Income and on Capital, art. 12, para. 2 (July 22, 2010), available at http://www.oecd.org/tax/taxtreaties/1914467.pdf.
\textsuperscript{57} Eynatten & Brauns, supra note 36, at 44-45; Shanahan, supra note 2, at 7.
\textsuperscript{58} Eynatten & Brauns, supra note 36, at 44-45; Shanahan, supra note 2, at 7.
\textsuperscript{59} Luxembourg IP-Derived Income Tax Regime, supra note 45, at 2.
\textsuperscript{60} Luxembourg Intellectual Property Tax Regime, supra note 41, at 4; Luxembourg: Clarification on IP Regime, supra note 40, at 3.
\textsuperscript{61} Luxembourg Intellectual Property Tax Regime, supra note 41, at 4; Luxembourg: Clarification on IP Regime, supra note 40, at 3.
In sum, the Luxembourg IP box allows any Luxembourg taxpaying entity to exclude from its taxes 80 percent of all net income derived from the commercialization, including alienation, of a wide range of intellectual property rights, presently yielding a relatively low 5.76 percent effective tax rate for such income. The IP box applies to both self-developed and acquired intellectual property and requires only that the intellectual property not be acquired from an associated company and that all expenses directly related to the intellectual property be properly capitalized in the first year the benefit of the IP box regime is claimed by the taxpayer.

C. THE NETHERLANDS

The Dutch Patent Box Tax Regime was originally enacted in 2007, but in the Netherlands' Tax Plan 2010, Dutch authorities significantly modified and expanded its patent box tax regime to remain competitive in the competition for foreign innovative businesses; the resulting tax regime became known as the Dutch Innovation Box. The relevant provisions of the Dutch Innovation Box are presently codified in Article 12b of the Corporation Tax Act 1969.

The Dutch Innovation Box provides Dutch taxpayers with a flat 5 percent effective tax rate on all net income derived from qualifying intellectual property. This effective tax rate represents a 50 percent decrease from the rate offered by the preceding patent box statute, which offered a flat 10 percent effective tax rate and approximately an 80 percent reduction of the statutory Dutch corporate income tax rate of 25.5 percent. As the phrase net income suggests, however, this favorable rate only applies to qualifying IP-derived income once such revenue exceeds the development costs associated with the innovation. Such losses related to qualifying intellectual property (e.g., accumulated development costs) are currently deductible at the statutory tax rate of 25.5 percent.

The Dutch Innovation Box includes a broad range of intellectual property. The regime applies to income derived from not only patents—which need not be granted by Dutch patent authorities but may instead be granted by any patent granting body—but also...
also from all innovations and activities to which a so-called R&D declaration (alternatively, an R&D certificate) is issued. R&D declarations, which are granted by an agency of the Dutch Ministry of Economic Affairs known as Agentschap NL, are generally issued to all technological innovations that are deemed by Agentschap NL to be sufficiently innovative, but cannot be patented, or for which the developing company deems a patent to be undesirable. This includes, but is not limited to, such activities as “software development, the development of more efficient corporate processes (such as production processes), and the development of all types of sustainable (resource) technology,” as well as trade secrets. The box does not apply, on the other hand, to such things as trade names, brands, or logos. As will be discussed later, the distinction between patented innovations and innovations for which R&D certificates are granted becomes important when considering the location of the related research and development activities and the related income to which the Innovation Box applies.

The Dutch regime generally applies only to self-developed intellectual property but may also be applied to acquired intellectual property components that the company further develops. Note, however, that the subsequent intellectual property, of which the acquired intellectual property was a part, shall include (for the purposes of determining the development costs threshold) the cost of the acquired intellectual property. Practically speaking, this means that the IP-derived income must exceed the cost of the acquired intellectual property plus additional research and development costs before the favorable Innovation Box tax rate may apply.

Additionally, the regime permits the Dutch company to outsource some of its research and development activities to contract research and development facilities and companies located in other jurisdictions, but the extent to which a company may do this and still qualify for the Innovation Box tax rate depends on whether the company holds a patent or an R&D certificate. For patented innovations, the Dutch statute merely requires that the research and development activities “take place for the risk and account of the Dutch taxpayer.” For innovations and intellectual property for which an R&D declaration is obtained, however, the taxpayer must meet one of two requirements with regard to development: the Dutch company commercializing the intellectual property right must have either (1) actually coordinated, supervised, and managed the outsourced research and development activities; or (2) performed at least 50 percent of the research and development itself in the Netherlands. The 50 percent threshold was intended by the Dutch government to be a safe harbor for companies wishing to be certain that their in-house and outsourced research and development activities would result in commercialization to

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69. Maxwell & Benesh, supra note 4; Shanahan, supra note 2, at 6.
70. Maxwell & Benesh, supra note 4; Munting & van der Wal, supra note 66, at 2.
71. Munting & van der Wal, supra note 66, at 3; Shanahan, supra note 2, at 6.
72. The New Dutch Innovation Box, supra note 64, at 1; Munting & van der Wal, supra note 66, at 3.
73. Maxwell & Benesch, supra note 4; Munting & van der Wal, supra note 66, at 3.
74. Munting & van der Wal, supra note 66, at 3.
75. Id.; Nijhof & Kloes, supra note 65, at 70; Shanahan, supra note 2, at 6.
76. Nijhof & Kloes, supra note 65, at 70; Shanahan, supra note 2, at 6.
77. Nijhof & Kloes, supra note 65, at 70; Shanahan, supra note 2, at 6.
78. Munting & van der Wal, supra note 66, at 3; Nijhof & Kloes, supra note 65, at 70; Shanahan, supra note 2, at 6.

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which a favorable tax rate may apply.\(^7\) The determination of how much of the research was conducted by a given firm and in a given jurisdiction is generally made using arm’s length transfer pricing principles.\(^8\)

The Innovation Box applies broadly, and perhaps somewhat vaguely, to all income and economic benefits derived from the innovative asset.\(^8\) This includes “licensing the patents, using the intangible assets in one’s regular business operations, and selling the intangible assets” (e.g., capital gains on the alienation of an intellectual property right).\(^9\) One notable requirement regarding the income to which the regime may apply is that for patented intellectual property, “more than 30 percent of the derived income should be attributable to the patent right.”\(^10\) Regardless of the type of income, determinations regarding the portion of income attributable to the qualifying intellectual property are made using standard arm’s length transfer pricing principles.\(^11\) The Dutch government strongly recommends—but does not require—that companies meet individually with Dutch tax authorities to arrive at advance agreements regarding such issues as whether a given intellectual property asset falls within the scope of the Innovation Box, what portion of income should be allocated to the qualifying assets, and whether transfer pricing principles have been satisfactorily applied.\(^12\) In an effort to facilitate such preliminary negotiations and agreements, the Dutch authorities have established a dedicated team to deal with Innovation Box rulings.\(^13\)

In sum, the Netherlands’ modified Innovation Box tax regime provides Dutch taxpayers with a comparatively low effective tax rate of 5 percent on income beyond a certain threshold (i.e., the cost of developing the intangible) that is derived from a wide range of intellectual property rights. The regime permits the taxable Dutch entity to conduct at least some of its research and development activities in foreign jurisdictions or through the employment of third-party contract research and development companies, and, to facilitate the process of qualifying for the regime, Dutch tax authorities have set up a dedicated team to issue advance rulings.

D. THE U.K.’S PROPOSED PATENT BOX

Expressing its commitment to “creating the most competitive tax system in the G20,” and stressing its belief that patents have a “particularly strong link to high-tech Research and Development . . . and manufacturing activity,” the Government of the United Kingdom in November 2010 announced pending reforms to its taxation of innovation and intellectual property, including the forthcoming addition of a patent box tax regime.\(^14\) In

\(^{79.}\) Nijhof & Kloes, supra note 65, at 70.
\(^{80.}\) Id.
\(^{82.}\) Id.
\(^{83.}\) Shanahan, supra note 2, at 6. This limitation only applies to patented innovations and not to those innovations that have been granted an R&D declaration. See id.
\(^{84.}\) Munting & van der Wal, supra note 66, at 4; Maxwell & Benesch, supra note 4.
\(^{85.}\) Shanahan, supra note 4.
\(^{86.}\) Shanahan, supra note 2, at 6.
June 2011, Her Majesty's Treasury released its consultation on the proposed patent box tax regime, a detailed report explaining the purpose, goals, structure, and mechanics of the proposed plan, which, in the following months, was subject to criticism and comments from the international business community. Subsequently, in December 2011, Her Majesty's Treasury released its response to the consultation in which it addressed such criticisms and set forth any changes it would make to the regime as a result of the responses it received to the consultation. The Treasury closed the comment period on February 10, 2012 and plans to include a final version of its patent box regime in the Finance Bill 2012, which will ultimately take effect in April 2013.

The United Kingdom's proposed patent box plan is based on four so-called design principles: (1) a broad scope, (2) a formulaic approach, (3) an application to profits and not receipts, and (4) benefits for active ownership and innovation rather than acquisition and mere passive holding. The patent box proposal allows companies to apply a flat 10 percent effective tax rate to all qualifying net profits attributable to patents. This rate represents a 60 percent decrease from the United Kingdom's 2012 Main Rate of Corporate Tax of 25 percent. The regime will potentially be applicable to all businesses "within the scope of [United Kingdom] corporate taxation" that will have the opportunity to elect to receive the reduced rate of taxation as allowed under the regime. The 10 percent rate of taxation will not apply to losses, which will remain fully deductible at their ordinary rate of taxation; but, in an effort to maintain symmetry in the tax system, the patent box tax rate will only be applied to qualifying income to the extent that it is greater than any patent box losses or expenses (i.e., net IP-derived income). Additionally, any expenditure surpluses will be deducted from the patent box revenues of other group companies in the same period and any remaining losses will be carried forward and offset against future qualifying profits.

The proposed U.K. patent box includes not only patents, but also applies to supplementary protection certificates, which extend the protection provided by a patent for innovations in the pharmaceutical and agrochemical industries, as well as certain other non-patentable intellectual property rights, such as regulatory data protection and plant variety

90. Id. at 13. Although Her Majesty's Treasury is currently accepting proposed amendments to the patent box legislation, it elected to disregard a majority of those proposals and comments it received to the original consultation and is currently only accepting comments and proposals on those aspects of the proposed legislation that it modified in the response to consultation document. Therefore, it seems highly likely that those aspects of the regime that remained unchanged in the response document will be included in their current form in the final legislation. See id.
91. Patent Box Consultation, supra note 87, at 6.
92. Id. at 5.
93. Corporation Tax Rates, HM Revenue & Customs, http://www.hmrc.gov.uk/rates/corp.htm (last visited Oct. 1, 2012). The 2013 Main Rate of Corporate Taxation is currently planned to fall to 24 percent; thus, the extent to which the patent box regime reduces a corporation's tax liability will be marginal. See id.
95. Response to Consultation, supra note 89, at 11-12.
96. Id.
The patent box will not, however, apply to other forms of intellectual property, such as trademarks or copyrights, because the U.K. Government does not feel that such forms of intellectual property have a strong enough link to the high-tech activities to which the regime is intended to appeal. In its original consultation, the Treasury stated its intention that the patent box regime apply only to patents and supplemental protection certificates granted by the U.K.'s Intellectual Property Office or the E.U. Patent Office, as it feared other patent granting authorities may be willing to grant patent rights to innovations to which the Intellectual Property Office or European Patent Office would not generally grant a patent. But, in light of the response it received to this measure, the Government is currently compiling "a list of other [E.U.] Member States that have patent regimes with comparable patentability criteria and search and examination practices to the [United Kingdom], with the intention of extending the Patent Box to include [patents granted under] those regimes."

The proposed U.K. patent box regime applies to companies that hold legal ownership of a qualifying intellectual property right, hold an exclusive license to a qualifying intellectual property right, or, in the event the right is held centrally in a group, where there is a group agreement which confers to one of the companies therein the rights to use sell or license the right. Additionally, the U.K. regime applies to both self-developed and acquired qualifying intellectual property rights, but the latter is subject to a development test. The development test, as amended in the response to consultation, requires that acquired intellectual property rights be further developed by the acquiring group or company. In an effort to simplify regime qualification while still keeping passive intellectual property holding companies beyond the scope of the patent box regime, the Treasury provided in its consultation response that a company will qualify for the U.K. patent box "if for substantially all of its IP rights it has either developed the IP itself, or it performs a significant amount of the management activities," which for these purposes "will mean formulating plans and making decisions in relation to the development or exploitation of the IP rights." These rules provide, then, that a company or group may subcontract its intellectual property research and development activities, provided it meets the management activities test set forth above.

Keeping with the broad scope design principle, the U.K. patent box will apply to a wide range of income types. The proposed plan will apply to income from royalty and licensing fees, embedded income in the sale of patented goods, income from the alienation of a qualifying patent, and damages paid by a third party in a lawsuit for infringing a patent right. Additionally, in circumstances in which it is deemed that a hypothetical third party would have been willing to pay a fee to
use the patent or other intellectual property in the manner in which the company is using it), income from the sale of goods manufactured using patented processes and income from services will be included in the patent box calculation at an arm’s length basis.\textsuperscript{107}

Arguably, the most notable, and perhaps the most controversial, feature of the U.K. patent box is its use of a formulaic approach to calculating qualifying patent box profits. Rather than requiring companies to make a vaguely-guided arm’s length analysis of each patent transaction that yields income for the company, Her Majesty’s Treasury has instead attempted to simplify and clarify the process by delineating a three-stop formulaic model to determine the total qualifying innovation-based income.\textsuperscript{108}

The first step in the U.K. model is to calculate how much of the company’s total net profit for the period is attributable to patents and other qualifying intellectual property.\textsuperscript{109} To do this, the company’s expenses and taxable profit must be apportioned pro-rata into potentially qualifying patent-related income (i.e., income generally attributable to the revenue sources identified above) and non-patent income.\textsuperscript{110} Recognizing that making such a pro-rata split may be excessively difficult or unfeasible for some companies, the U.K. regime alternatively permits some companies to determine this amount by allocating income and expenses to various “divisions” of the company using a “just and reasonable basis.”\textsuperscript{111}

The second step in the model is to deduct from the net patent-related income an amount attributable to routine activities of the enterprise.\textsuperscript{112} This deduction is made by subtracting 10 percent of the company’s expenses from the net patent-related income calculated in the first step.\textsuperscript{113} The result of this calculation is the residual income, or the amount of the company’s total patent-related income that is attributable to the patented intellectual property of the company and no other non-IP-based value-adding activities embedded in all of the company’s products and services.\textsuperscript{114} The final step recognizes that other forms of intellectual property—namely, brand names—contribute considerably to a given company’s income and must be deducted from the residual income; therefore, this step requires that a company “with marketing intangibles that contribute 10 [percent] or more of their residual profit will be required to calculate an arm’s length royalty for the use of those intangibles in generating qualifying income.”\textsuperscript{115} This amount, the amount that represents the portion of residual income derived from brand name and other such intangibles, will be taxed at the ordinary corporate tax rate, and the remaining amount is the amount of income deemed to be attributable directly to patents and will be taxed at

\textsuperscript{107} Id. at 14.
\textsuperscript{108} See id. at 17.
\textsuperscript{109} Id.
\textsuperscript{110} See id.
\textsuperscript{111} Id.; Response to Consultation, supra note 89, at 11. The Government originally intended for companies using the “divisionalisation” alternative to step one to use transfer pricing methods to allocate its income and expenses to divisions of the business; however, responses to the consultation suggested that such an approach may be too complicated for many companies, so Treasury revised the approach in its response to allow for allocation on a “just and reasonable basis.” Response to Consultation, supra note 89, at 7, 11.
\textsuperscript{112} Patent Box Consultation, supra note 87, at 17.
\textsuperscript{113} Id.; Response to Consultation, supra note 89, at 11. The percentage markup was originally intended to be 15 percent, but the Treasury, recognizing that this rate may be excessive, reduced the rate to 10 percent in the consultation response. Response to Consultation, supra note 89, at 11.
\textsuperscript{114} Patent Box Consultation, supra note 87, at 17.
\textsuperscript{115} Response to Consultation, supra note 89, at 11.
the incentivized rate of 10 percent. Again, recognizing that this step may be too complicated for smaller companies, the regime includes a safe harbor for smaller companies whose profits fall below £1 million; for such companies, the government will assume that 25 percent of their residual income is derived from non-qualifying intangibles and the remaining 75 percent shall be taxed at a rate of 10 percent.

In summation, the U.K. patent box proposal provides all U.K. corporation-tax-paying businesses with a flat 10 percent tax rate on all net income derived from self-developed or acquired and subsequently developed patents and supplemental protection certificates, with the caveat that the patents or certificates must be granted by the United Kingdom or other qualifying European Union patent-granting offices. Though the regime requires development of the patent, its standards are relatively loose and permit a company to outsource its research and development, provided it maintains a minimum level of managerial control over the activities. The regime applies broadly to a wide range of patent-related income, and, finally, provides taxpayers with a formulaic three-step model for calculating what portion of their income qualifies as patent-derived.

E. A Comparison of the Patent Box Regimes in Light of the Goals of the Regimes

1. Effective Tax Rates

Of the four patent box regimes compared, the Dutch Innovation Box provides the lowest effective tax rate of 5 percent. This rate represents 50 percent of the proposed—but almost certain—U.K. patent box rate of 10 percent, 86.81 percent of the current Luxembourg rate of 5.76 percent, and 73.53 percent of the current Belgian rate of 6.8 percent. In fact, the Dutch Innovation Box rate is the lowest patent box tax rate in the world, with all other current patent box effective rates ranging from 5.76 percent to the 15 percent rate offered by the French and Spanish regimes. Additionally, of the regimes considered herein, only the Dutch and proposed U.K. patent regimes provide flat effective tax rates, while the regimes in Belgium and Luxembourg offer incentivized rates in the form of a deduction from the ordinary corporate income tax rate. This suggests that patent income rates in the latter two regimes are perhaps more susceptible to fluctuations, as their effective rates are directly tied to their ordinary corporate rates, whereas the former two regimes may continue to provide steady rates despite potential changes in their respective country’s ordinary corporate tax rates.

116. See id.
117. Id.
118. Shanahan, supra note 2, at 8.
119. Id.
120. Id.
121. Id.
123. Shanahan, supra note 2, at 8.
2. **Scope of Intellectual Property Covered**

Consideration of the scope of intellectual property that qualifies for the various regimes actually involves addressing two distinct aspects of the boxes: (1) which types of intellectual property qualify and (2) the extent to which acquired or third-party developed intellectual property qualify. In general, the Belgian patent income deduction regime and the proposed patent box regime in the United Kingdom cover considerably fewer types of intellectual property than the regimes in Luxembourg and the Netherlands. The former two regimes generally apply only to patents and supplemental patent certificates, while the Luxembourg regime extends its preferential rate to patents, supplemental patent protection certificates, trademarks, brands, designs, domain names, models, and software copyrights, and the Dutch Innovation Box extends broadly to all those innovations that the Dutch Ministry of Economic Affairs deems sufficiently innovative to the corporation itself. While at first glance it appears that the Belgian and U.K. regimes are simply not competitive when it comes to patent box scope, when considering the innovations covered by a regime, one must recall the general purpose of a patent box: to encourage innovative and high-tech companies to conduct substantial research and development activities in a given country and to subsequently commercialize the resulting patents through extensive manufacturing in said country. In light of this aim, one may argue that the inclusion in a patent box regime of such things as trademarks or new software does little to further the ultimate purpose of the regime, as such innovations are considerably less likely to lead to substantial technical research and subsequent manufacturing than patents and supplemental protection certificates.

None of the tax regimes considered herein completely bars income from acquired intellectual property from their patent box. That said, of the four, only the Luxembourg IP box allows for income derived from acquired intellectual property to be taxed at the preferential rate without the requirement for additional development. The other three regimes all have some requirement that the acquiring company further develop the patent or intellectual property before commercializing it and claiming subsequent income under the patent box. Of the three regimes requiring further development, only the Dutch regime requires that any of the subsequent development occur within domestic borders (and this requirement is not so much a requirement but a safe harbor provision). Both the United Kingdom and Belgium generally permit all further development to occur in foreign jurisdictions. The four regimes are essentially on a level playing field when it comes to their treatment of acquired intellectual property; while three of them require

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124. Shanahan, supra note 122, at 15.
125. Id.
126. Eymatten & Brauns, supra note 36, at 144.
127. See Maxwell & Benesch, supra note 4. Recall that this generally includes a wide range of innovations including corporate processes and software development but does not extend to brand names, trademarks, and logos. See Shanahan, supra note 122, at 15.
128. PATENT BOX CONSULTATION, supra note 87, at 3, 5.
129. See id. at 6.
130. Shanahan, supra note 122, at 16.
131. Id.
132. Id.
133. Nijhof & Kloes, supra note 65, at 70.
134. Shanahan, supra note 122, at 17.
some additional development acquired intellectual property, none has any strict requirement establishing the extent to which the patent must be further developed, and further, none requires such further development to lead to the granting of a new patent.\textsuperscript{135} Considering, again, the two goals of a patent box regime—domestic research investment and substantial subsequent commercialization (i.e., manufacturing)—allowing income derived from acquired patents to be taxed at a preferential rate, without the requirement for substantial additional domestic development, seems to fail to achieve the former goal of a patent box regime. This concession could permit a domestic company to simply purchase intellectual property from a third party, outsource the property for minimal additional development, then commercialize the property and take advantage of the patent box’s preferential tax treatment without any real research and development expenditures in the country granting the preferential treatment. In theory then, while each of the regimes included in this comparison and, in fact, nearly every other patent box regime in the world, is on, essentially, a level playing field with regard to its treatment of acquired and foreign-developed intellectual property,\textsuperscript{136} a model could theoretically be adopted that would better tie the patent box to domestic research and development activities.

3. Income Subject to Patent Box Rates

Similar to the scope of the intellectual property comparison above, a discussion of the extent of income covered by each regime includes a consideration of two separate aspects of the regimes: (1) the types of income to which the patent box applies (e.g., royalty income, embedded income, capital gains income) and (2) whether the box applies to gross or net income. The proposed U.K. patent box regime currently applies to the widest range of income.\textsuperscript{137} It broadly applies to royalty and licensing income, embedded income in the sale of patented goods (including, in some cases, the sale of goods created using a patented process), capital gains income, income resulting from a lawsuit for patent infringement, and income from patented services.\textsuperscript{138} While it is possible that applying the patent box tax rate to such a wide range of income could work to offset the relatively high effective tax rate afforded taxpayers by the proposed regime, this would only be the case for taxpaying companies with diversified patent-related income sources. A non-manufacturing company that solely develops and licenses new technology, for example, would not benefit from the wider range of income included in the proposed U.K. regime and would likely opt to develop and hold its intellectual property in a country with a lower patent box rate.

Both the Dutch Innovation Box and Luxembourg IP Box apply to royalty income from licensing qualifying intellectual property, intellectual property income embedded in the price of manufactured goods, and income from the sale of qualifying intellectual property.\textsuperscript{139} The Belgian patent income deduction regime, on the other hand, applies to the fewest types of income, applying only to royalty income and embedded patent income; the

\begin{footnotesize}
\begin{itemize}
  \item[135.] \textit{Id.} at 16.
  \item[136.] \textit{Id.} at 16-17.
  \item[137.] \textit{Id.} at 15-17.
  \item[138.] \textsc{Patent Box Consultation}, supra note 87, at 13-15.
  \item[139.] Shanahan, supra note 122, at 16-17.
\end{itemize}
\end{footnotesize}
regime is the only one considered in this paper to not include income from the sale of qualifying intellectual property.\textsuperscript{140}

Of the four tax regimes considered in this paper, the Belgian regime is the only one that applies to gross qualifying income.\textsuperscript{141} Each of the other regimes applies only to net qualifying income; thus, qualifying income is taxed preferentially only to the extent it exceeds the costs of developing the related patent.\textsuperscript{142} For companies whose research and development costs are substantial and the extent of future profits is questionable, the Belgian regime may be preferable as it allows those companies to receive a reduced tax rate even if the often substantial costs of developing the intellectual property have not yet been recouped.

4. Final Comparative Thoughts

Commenters have suggested that, in its current form, the proposed U.K. patent box regime is not competitive with those regimes presently enacted in Belgium, the Netherlands, and Luxembourg (commonly called the Benelux regimes).\textsuperscript{143} The proposed regime has been criticized for three distinct shortfalls: (1) an effective rate too high to draw in foreign investment, (2) application to a limited selection of intellectual property, and (3) a formulaic approach that will likely end up complicating the regime more than making it clear and easy to implement.\textsuperscript{144} The Benelux regimes, on the other hand, are much more competitive with one another, with each possessing its own relative strengths and weaknesses. The Belgian patent income deduction regime has a slightly higher effective tax rate than the other two Benelux regimes, but it is the only regime in the group to apply to gross patent-derived income.\textsuperscript{145} The Dutch regime's biggest strength is that the tax rate provided by the regime is lower than any other patent box tax rate in the world.\textsuperscript{146} The Luxembourg regime combines a very competitive sub-six percent tax rate with coverage of the widest range of intellectual property, including trademarks and brand names.\textsuperscript{147}

Perhaps the most notable weakness of all four regimes is that each permits some, if not all, of the associated research and development to occur offshore. While each claims to increase research and development and commercialization activities in the taxing country, the fact that each allows for offshore development and preferential tax treatment of licensing income paints a different picture. Under all of the regimes considered in this paper, a company could theoretically purchase patents from a third party, contract with a research and development company in a foreign jurisdiction to have the patents marginally further developed, and then hold the patent in the patent box country and license it to other companies for subsequent manufacturing. In doing so, the hypothetical company would

\begin{itemize}
  \item \textsuperscript{140} Id. at 16.
  \item \textsuperscript{141} Id. at 15.
  \item \textsuperscript{142} Id.
  \item \textsuperscript{143} Maxwell & Benesch, supra note 4; see PwC Responds to HM Treasury's Patent Box Consultation Document, PriceWaterhouseCoopers (June 13, 2011, 5:47 PM), http://www.ukmediacentre.pwc.com/News-Releases/PwC-responds-to-HM-Treasury-s-Patent-Box-Consultation-Document-10a0.aspx.
  \item \textsuperscript{144} Maxwell & Benesch, supra note 4; Martin A. Sullivan, Economic Analysis: The U.K. Patent Box: Extraordinary Complexity, 133 Tax Notes 1307, 1307 (Dec. 12, 2011).
  \item \textsuperscript{145} Eynatten & Brauns, supra note 36, at 45.
  \item \textsuperscript{146} Shanahan, supra note 122, at 15.
  \item \textsuperscript{147} Id.
\end{itemize}
be able to take advantage of a patent box regime without conducting any research and development or participating in any manufacturing activities in its domestic country. As one analyst remarked of the U.K. patent box regime, "it is really only an incentive for holding patent rights. Job creation is optional." The reason for this seemingly obvious shortfall is simple: The European Union prohibits member nations from conditioning commercialization incentives on the performance of research and development within that nation. In fact, at one time, Ireland's now-extinct patent box required that the research and development giving rise to the patent be conducted in Ireland. In 2007, however, the European Union ruled that Ireland's patent box regime was "contrary to Articles 43, 48 and 49 of the [European Commission] Treaty" and formally requested that Ireland change its law. Therefore, as a result of these four nations' membership in the European Union, they have been limited in the extent to which they could enact optimal patent box legislation.

III. Considerations in Whether the United States Should Adopt a Patent Box Regime

A. Preface

Recently there have been calls from both international fiscal policy organizations and notable tax commenters for the United States to adopt a patent box tax regime if it is serious about remaining competitive in the global marketplace and reassuming its position as the dominant country in the high-tech innovations and manufacturing industries. Additionally, in a recent report before the House of Representatives Ways and Means Committee, the Joint Committee on Taxation expressed concern over the rate at which multinational companies that develop and receive patents in the United States are subsequently moving their patents to off-shore jurisdictions where the commercialization of such patents would not be nearly as expensive from a taxation standpoint. Research suggests that though the United States presently remains reasonably competitive in terms of levels of domestic high-tech innovation, it is quickly falling behind its competitors as evidenced by its relative rate of innovative progress over the last decade. That is to say, while the United States is currently competitive in the market for innovative businesses, its once dominant position is slowly eroding as the rest of the world takes steps to create a more enticing environments for innovative businesses.

148. Sullivan, supra note 144, at 1307.
150. Id.
152. E.g., Atkinson & Andes, supra note 1, at 17-19.
153. STAFF OF THE J. COMM. ON TAXATION, 111TH CONG., PRESENT LAW AND BACKGROUND RELATED TO POSSIBLE INCOME SHIFTING AND TRANSFER PRICING, at 13 (Comm. Print 2010).
Certainly the enactment of patent box legislation appears to be a possible solution to the U.S. innovation and manufacturing crisis, but several factors must first be considered before ultimately determining that a patent box tax regime is the proper answer to the problem. First, one must consider the overall international tax competition debate and determine whether participating therein is the proper solution to any fiscal concern. Next, attention must be given the actual effects of the currently available patent box tax regimes, as theoretical benefits do not necessarily yield real world advantages. Third, consideration must be paid any additional benefits beyond the scope of present patent box research the United States could realize from the enactment of a patent box regime. Finally, one must consider how a U.S. patent box could theoretically be structured to best address the concerns of tax commenters and the Joint Committee on Taxation.

B. INTERNATIONAL TAX COMPETITION TO WHAT END?

A discussion and analysis of the various patent box tax regimes and the possibility of enacting such a regime in the United States would be incomplete if not considered within the wider context of the current international tax competition debate. Generally speaking, international tax competition occurs when national governments attempt to entice multinational enterprises to invest within the borders of that country through the use of attractive effective corporate tax rates. In other words, a competing government attempts to lure additional outside investment "by reducing its tax claims on any income generated from such investments, thus raising the investors' post-tax returns." This phenomenon of governments attempting to lure away investment from other nations using lower tax rates arose in the mid-1980s when technological innovations began increasing the mobility of corporate capital such that relocating capital from one nation to another became a relatively simple and painless process. Some commenters have proposed that intergovernmental tax competition may lead to beneficial pressure on inefficient government spending, or, similarly, that such competition may actually drive rates down to their actual optimal level that would otherwise not be reached because self-serving governments would maintain higher than necessary rates, which could ultimately limit economic growth and output. Many other commenters, however, have argued that this phenomenon, wherein countries will repeatedly attempt to "one up" one another with increasingly shrinking effective tax rates, will ultimately result in a "race to the bottom," which, in turn, will result in severe "downward pressure on corporate income taxes [that] will lead to a loss of revenue, and thus provide a constraint on government activity." To this end, commenters have suggested that patent boxes may simply be another tool of tax competition that could result in reduced tax revenues across the board and that tax cooperation

156. Id.
158. Roin, supra note 155, at 546.
160. Devereux et al., supra note 157, at 452.
may ultimately yield a more beneficial result for governments. A detailed discussion of the merits of the respective arguments of the tax competition debate is beyond the scope of this paper, as, for the time being, the reality of the situation is clear: despite calls for tax harmonization, intergovernmental tax competition is alive and well. And short of a select few European Union and Organisation for Economic Co-operation and Development rules designed to prevent what is deemed "unfair tax competition—such as the European Commission's ruling on the Irish patent box discussed above, governments are reasonably free to adjust their tax rates as they see fit and are, in fact, expected by businesses to lower rates to remain competitive with other competitor nations in the global economy. For this reason, it makes sense that the United States must at least consider enacting patent box tax legislation if it wishes to remain competitive with the United Kingdom, the Benelux nations, and all other nations currently offering high tech innovative businesses a patent box regime as an incentive to hold and commercialize patents domestically.

C. THEORETICAL AND REAL WORLD EFFECTS OF CURRENT PATENT BOX REGIMES

Given the novelty of patent box tax regimes, there is currently little in the way of empirical evidence as to the effects of those regimes on the tax revenues of enacting governments. The Institute of Fiscal Studies, however, recently published a briefing note in which the authors simulate the effects of the Benelux regimes and the proposed United Kingdom regime on the location of patents in various European nations and the estimated effects the regimes will have on various tax revenues of the European Countries and the United States. While the empirical data presented in this study lacks the detail to allow the drawing of any conclusions regarding the effects of individual patent box variables, such as effective rate or intellectual property scope, it is sufficient to draw preliminary conclusions regarding the big-picture effects of patent box regimes. The study found that the introduction of patent box regimes yields a noticeable increase in the country's share of newly created patents. For instance, the authors estimate that following the introduction of the U.K. regime, the United Kingdom’s share of newly created patents will increase to 17 percent. By contrast, its share of newly created patents before the existence of the Benelux regime was 12 percent, and its share of these patents after the introduction of the Benelux regimes was 8 percent. Somewhat predictably, the study found that the introduction of patent box legislation leads to an increase in patent share, but as other countries introduce their own patent boxes, that share will recede, although will likely remain above pre-patent box levels. While this finding is both unsurprising and a seemingly promising result for patent box advocates, later findings in the study suggest that patent boxes, at least in their current form, may not be as effective as they are...
intended to be. The second major finding in the study relates to the effect of patent boxes on short-term tax revenue. The study, as it related to tax revenue, was bifurcated: first, it addressed the effect the Benelux regimes would have on tax revenue from income related to new patents across the European Union and the United States; and second, it considered the effect of adding the U.K.'s proposed regime would have on patent-related revenue in those same nations. The authors' simulations provide that, following the introduction of the Benelux regimes, tax income strictly from new patent revenue fell drastically in each of the fifteen countries considered, with revenues related to new patents falling more than 50 percent in several nations and with the nations suffering from the largest decrease in patent revenue being those enacting the patent box regimes. This finding suggests that while patent boxes are likely to attract a greater share of new patents, the increase in patent applications is unlikely to come close to making up for the significantly reduced tax rate of income derived from those patents. The trend is predicted to continue as more patent boxes are introduced, with the study predicting that following the introduction of the U.K. patent box regime, tax revenues will decrease in every nation, with the United Kingdom suffering the largest decrease in revenue. These results present a startling, but not altogether surprising, conclusion: the continued introduction of patent box tax regimes is likely to lead to a decrease in new patent-related income in all developed nations, with the enacting nations experiencing the most significant immediate reduction in revenue.

While this early study does not paint a rosy picture for patent box regimes, there are several caveats that must be noted in considering the findings of the study. First, the study measures only the immediate static effects of enacting patent box legislation. That is, the study only contemplated two factors in calculating the potential tax revenue consequences of the patent box regimes: (1) effective tax rates and (2) share of new patents. The potential and desired consequences of patent box regimes, however, is not merely to increase revenue directly from taxes on patent income by increasing patent income to a large enough extent to overcome the reduced tax rate, but rather to drive the economy as a whole by increasing employment and high-tech exports and encouraging additional research, development, and innovation efforts in the nation. These potential outcomes are not modeled in this study, and in fact, are likely particularly difficult to study empirically in this context given the novelty of patent box regimes and the sheer number of variables that play a role in achieving those outcomes.

In addition, the study fails to account for another frequently stated benefit of patent box regimes—the domestic market may bear a higher tax rate on relatively immobile, location-specific income if such a rate is supported by a significantly reduced tax rate on income from more mobile assets, such as patents and intellectual property. In other words, proponents contend that a government may be able to maintain a relatively high

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168. Id. at 10.
169. Id. at 11.
170. Id.
171. See id.
172. Atkinson & Andes, supra note 1, at 10.
173. Griffith et al., supra note 163, at 11.
175. See id. at 11.
176. Id.
general corporate tax rate by providing companies with a lower rate of taxation on mobile asset-derived income. The logic behind this argument is that companies displeased with the corporate tax rate in a given location can—and in fact will—relocate mobile assets to locations offering lower tax rates, but will likely be unable to relocate immobile or location-specific assets. This relocation of mobile assets to offshore locations then applies downward pressure on the corporate tax rate, as the domestic government struggles to make up for lost revenue from the assets transferred offshore.177 Instead of substantially reducing the general corporate tax rate to entice firms to repatriate their mobile assets, however, the government may lower the rate on income from only those mobile assets it seeks to bring back from foreign locations, thus relieving some of the downward pressure on the general corporate tax rate.178 This potential benefit is particularly relevant in a country like the United States, which has one of the highest corporate tax rates of all OECD nations and is currently subject to calls from tax commenters to reduce corporate tax rates to remain competitive with other OECD countries.179

A final note regarding this preliminary patent box study—one which was conceded by the authors in a subsequent publication—is that the study fails to address how countries without patent boxes will fare in the future with regards to tax revenue as more and more countries enact patent box legislation.180 In the words of the authors: “in a world in which, say most European countries are expected to introduce some form of Patent Box, it is possible that tax revenues would fall even more if the [United Kingdom] did not introduce the Patent Box.”181 This leads to a realization that parallels the conclusion above regarding participating in intergovernmental tax competition: regardless of the likelihood that patent boxes will, at least in the short term, lead to noticeable reductions in tax revenue, the reduction that would likely follow a sustained failure to compete for mobile assets would likely exceed the predicted post-patent box reduction while providing none of the potential big-picture benefits of the patent box. That is to say, in light of the frequency in which the United States’ economic competitors are passing patent box legislation, not competing may simply not be an option. Instead of discussing the merits of whether or not the United States should enact a patent box regime, then, perhaps the discussion should center around determining how to design the best patent box.

D. THE U.S. PATENT BOX: MAXIMIZING BENEFICIAL OUTCOMES WHERE EUROPEAN REGIMES COULD NOT

In considering a potential ideal patent box structure for the United States, a key assumption will be made regarding the hypothetical U.S. patent box regime: the ultimate goals of such a regime would be both (1) to increase research and development activity within the United States and (2) to increase subsequent commercialization efforts within the United States. With this assumption in mind, there are at least two important elements that a U.S. patent box should possess to stand out in an ever-growing sea of similar

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177. Griffith & Miller, supra note 13.
178. Id.
180. Griffith & Miller, supra note 13.
181. Id.
regimes: (1) a method of directly tying preferential taxation of patent-related income to domestic research and commercialization and (2) a reasonable level of simplicity. Note that in light of the lack of evidence regarding the effect individual aspects of a patent box, such as effective rate and scope of intellectual property, actually have on research and development and commercialization activities, it is virtually impossible to predict with certainty how the United States should address those aspects at this time. It can be said with some certainty, however, that a domestic research-commercialization link and simplicity would help a U.S. patent box in achieving its assumed goals.

As Robert Atkinson and Scott Andes stress in their 2011 report on patent boxes, establishing a connection between the reduced tax rate and domestic research and development and the commercialization of qualifying intellectual property would be pivotal in addressing the United States’ “noticeable state of [manufacturing] decline throughout the last decade.” The closest and most obvious form of this linkage would be to simply condition receipt of the reduced patent box tax rate on a taxpayer’s conducting both the research and development giving rise to the patent and the subsequent manufacturing of patented goods in the United States. Therefore, in order to qualify for the patent box regime, a company would have to establish that it conducted its research and development in the United States, or for acquired patents, that additional development occurred in the United States and that subsequent related manufacturing activities occurred in the United States. In the event the patenting company elects to not manufacture any goods with its new patent but rather licenses those patents to third parties, the company would only have to establish that the patents were developed and are currently held in the United States to qualify for the patent box. In either case, creating such a link between the preferential tax rate and domestic research and commercialization would allow the United States to mitigate potential revenue reductions and realize greater tangential benefits from its patent box in a way that no European nation has been able to do.

The other essential element of a potential U.S. patent box would be simplicity. There is currently a growing number of major businesses calling for reforms to the U.S. tax system to address the complexity of the tax code. These businesses—the very parties to whom the regime would be targeted—would be reluctant to take advantage of an unnecessarily complex patent box regime when simpler regimes are available overseas. In light of criticisms the United Kingdom has received for the formulaic approach it took to calculating qualifying income in its proposed patent box regime, the United States could simplify its patent box regime by using established transfer pricing methods to determine qualifying income and establishing dedicated panels of tax professionals to quickly provide rulings to businesses seeking to take advantage of the patent box regime. While such measures to simplify the regime would not, in and of themselves, ensure the success of a U.S. patent box, they would certainly be a substantial step in competing with those European and Asian boxes that are considered to be more complex.

As for the other elements of a potential patent box regime—of which there are many—it is simply beyond the scope of this article to attempt to predict how those should be structured. Absent substantial empirical evidence regarding how those elements affect a

182. Atkinson & Andes, supra note 1, at 18.
183. Id.
184. RATE Coalition, supra note 162.
185. Sullivan, supra note 144, at 1307.
patent box's success, and in light of the extent to which such elements would likely be subject to the bidding of political lobbyists, predictions regarding such patent box aspects presently serve a very limited purpose. At this point, however, two things seem clear: (1) it is unlikely that the United States will be able to remain competitive in innovative industries if it does not enact a patent box and (2) the extent to which such a regime would achieve its desired goals would depend on the extent to which it connected tax benefits to domestic activities and on the extent to which businesses could take advantage of it without combating significant complexity.

IV. Conclusion

There can be little doubt that patent boxes are shaping up to be the latest tool in the international competition to encourage domestic innovation and commercialization. In the last five years, nine nations have established patent box regimes, and those regimes—specifically those in the Benelux nations and the United Kingdom—have provided a blueprint upon which the United States can improve to re-position itself as the worldwide leader in high-tech research and manufacturing. To do so, a U.S. patent box would need to be reasonably simple while remaining competitive with its European counterparts in terms of effective tax rates, scope of income, and scope of intellectual property. But, more importantly, a U.S. patent box would need to establish a firm connection between the receipt of preferential taxation to domestic research and commercialization activities in a way the European regimes have been unable to do. Such a connection would ensure that the patent box does not merely become a haven for holding companies, but rather encourage the active development and commercialization of new intellectual property. In so enacting a patent box, the United States could address, in large part, the criticisms of both the academic and business communities regarding its declining international competitiveness and reestablish itself as a leader in innovation and manufacturing.
ARTICLES

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