

INNOVATION BOXES: BEPS AND BEYOND

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Over the last 15 years, 16 countries have adopted intellectual property (IP) or patent box regimes, including three G7 countries. This paper explains the IP box concept, outlines recent U.S. IP box proposals with a focus on the Boustany-Neal discussion draft, and explains changes adopted in 2015 to the Organisation for Economic Co-operation and Development (OECD) standards for determining whether IP boxes should be treated as “harmful preferential tax regimes.” The paper then evaluates various rationales for enacting an OECD-compliant IP box.

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I. INTRODUCTION

Over the last 15 years, 16 countries have adopted intellectual property (IP) boxes: three of the G7 countries (France, Italy, and the United Kingdom) and 13 of the other 35 Organisation for Economic Co-operation and Development (OECD) member countries (Table 1). In addition, India's budget released in February 2016 proposes a patent box to be effective April 1, 2017.

In the United States, Reps. Charles Boustany (R-LA) and Richard Neal (D-MA) released a 2015 discussion draft of an IP box, and Sens. Rob Portman (R-OH) and Charles Schumer (D-NY) included the concept in a 2015 bipartisan framework for international tax reform, among other congressional proposals. The tax-writing committees in Congress are expected to consider including an IP box in developing U.S. tax reform proposals.

This paper briefly explains the IP box concept, outlines recent U.S. IP box proposals with a focus on the Boustany-Neal discussion draft, and explains changes adopted in 2015 to the OECD standards for determining whether IP boxes should be treated as "harmful preferential tax regimes." The paper then evaluates various rationales for enacting an OECD-compliant IP box.

II. WHAT ARE IP BOXES?

IP boxes are tax regimes that provide a reduced rate of tax — either through a separate schedule or special deduction — on income arising from the license or use of IP. In contrast to existing tax incentives for research and experimentation (R&E) that provide an income tax incentive at the front-end of the innovation process, IP boxes provide a back-end tax reduction for successful innovations. Of the 16 countries with IP boxes, thirteen also provide front-end tax incentives in the form of research credits or "super" deductions, i.e., deduction of more than 100 percent of research costs (Table 1).

The scope of IP box incentives varies widely. Some regimes target income from patents; others include a wider range of technological IP (e.g., software copyrights) and market IP (e.g., trademarks). A number of regimes are limited to “overt” IP income — i.e., royalties, license fees, IP infringement income, and gains from sale of IP — while others also include the portion of income from sales of goods and services that is deemed attributable to the value of embedded IP. Embedded IP income may be measured by reference to the hypothetical royalty that would be charged to an unrelated person (i.e., the arm’s-length standard) or through formulary methods. Other important differences among IP box regimes include whether the taxpayer is required to have developed or improved the IP; whether the regime is limited to newly developed IP; whether the costs of developing the IP are required to be deducted from qualifying income; and whether there are limitations on the amount of the tax benefit, (Merrill, et al., 2012).

III. U.S. PROPOSALS

Congressional proposals for IP boxes include (1) the “Manufacturing American Innovation Act of 2012” (H.R. 6353), introduced by former Rep. Allison Schwartz (D-PA) and Rep. Charles Boustany; (2) the “Leveling the Playing Field Act of 2012” proposed by Sen. Diane Feinstein (D-CA); and (3) the “Innovation Promotion Act of 2015,” proposed by Reps. Charles Boustany and Richard Neal.

The explanation accompanying the Boustany-Neal discussion draft (Boustany and Neal, 2015) lists three objectives: (1) to counter the pressure for U.S. multinationals to move IP development activities offshore in light of the uncompetitive U.S. tax Code, the OECD Base Erosion and Profit Shifting (BEPS) initiatives, and the enactment of IP boxes in other countries; (2) to offset tax incentives for corporate redomiciliation; and (3) to create incentives for companies to locate IP and create jobs in America.

The Boustany-Neal discussion draft would establish a deduction equal to 71 percent of a corporation's "innovation box profit," which is equivalent to a 10.15 percent tax rate for a corporation in the 35 percent corporate tax bracket. Innovation box profit is defined as profit from sale or license of "qualified property," times the ratio of total domestic research and development (R&D) expenses in the prior five years to "total costs," in those years. Total costs are all costs less costs of goods sold, interest, and taxes. Qualified property is defined to include manufacturing IP (i.e., patents, inventions, formulas, processes, designs, patterns, and knowhow), products produced using manufacturing IP, films and videos, and computer software (other than databases). The discussion draft also would allow tax-free repatriation of manufacturing IP, software, films, and videos from foreign affiliates.¹

The Boustany-Neal discussion draft calculates innovation box profit as a fraction of the sum of overt IP income and income from the sale of products produced using qualified IP.² The amount of innovation box profit eligible for the 71 percent deduction under the Boustany-Neal innovation proposal can be expressed as

$$(1) \quad IBP = QPI \times SRD / STC,$$

¹ The discussion draft raises a number of technical issues, including (1) whether the innovation box deduction comes before or after the section 199 deduction (for domestic production activities income); (2) how the innovation box deduction is determined for partnerships with corporate partners; (3) whether total costs should include costs related to nonqualified income; (4) how a taxpayer should treat the cost of R&D that is reimbursed by a related or unrelated party; and (5) disparate treatment of income from the license of IP to a third-party for the provision of services (qualified income) and income from services directly provided by the taxpayer owning the IP (not qualified income).

² By contrast, the UK patent box separately accounts for overt and embedded patent income. Income from embedded patents is measured as gross income from sales of goods and services produced with qualified patents, less allocable expenses, less a routine return, less an arm's-length return on marketing IP.

where *IBP* denotes innovation box profit eligible for 71 percent deduction, *QPI* denotes qualified property income, *SRD* denotes the sum of domestic R&D expense for the prior five years, and *STC* denotes the sum of total costs for the prior five years.

Thus, the effective tax rate (*ETR*) on qualified property income for a corporation subject to the 35 percent tax bracket is

$$(2) \quad ETR = 0.35(QPI - 0.71 \times IBP) / QPI = 0.35(1 - 0.71(SRD / STC)).$$

Based on IRS and National Science Foundation data for 2008–2012, the North American Industry Classification Code System (NAICS) industry that would have had the *lowest* effective tax rate under the Boustany-Neal innovation box is “internet search providers and data processing services,” at 27.2 percent (Table 2)³. As this is above the average statutory tax rate for the other 34 OECD member countries, the Boustany-Neal discussion draft seems unlikely to achieve the objectives of retaining IP in the United States and encouraging repatriation of IP migrated abroad.

From (1), the Boustany-Neal innovation box can be seen to be a back-ended, income-varying R&D credit, where the R&D credit is 24.85 percent (35 percent \times 71 percent) multiplied by a measure of the markup on qualified property (i.e., the ratio of qualified property income to average total cost), as shown by

$$(3) \quad TB = 0.35 \times 0.71 \times IBP = 0.2485 \times ARD(QPI / ATC),$$

where *TB* denotes the tax benefit of the IP box deduction for a taxpayer in the 35 percent tax bracket, *ARD* denotes the average domestic R&D expense for the prior five years, and *ATC* denotes the average of total costs for the prior five years.

³ Within the industry, some companies undoubtedly would have higher and lower effective tax rates.

Viewed as a research credit, the Boustany-Neal innovation box would provide more incentive per dollar of R&D for companies that have higher profit margins at the time the R&D is performed.

The 2012 Schwartz-Boustany bill (H.R. 6353) would have allowed taxpayers to elect to use arm's-length pricing rather than a formulary approach to measure IP box income.¹ The Feinstein proposal differs from both the Boustany-Neal discussion draft and the Schwartz-Boustany bill by limiting the tax benefit to IP income connected with domestic manufacturing.

The "Tax Reform Act of 2014" (H.R. 1), introduced by then House Ways and Means Committee Chairman David Camp (R-MI), is considered by some to include an IP box.² Under the Camp bill, income from IP, whether earned by a U.S. corporation or a foreign subsidiary, is subject to current U.S. tax at an effective 15 percent rate if related to foreign market sales, while at the generally applicable 25 percent rate if related to U.S. market sales. IP income generally is measured as the excess of taxable income (excluding income from commodities) over a 10 percent return on the tax basis of depreciable property (other than property related to commodities income). The 15 percent rate for IP income earned by a U.S. corporation can be viewed as an IP box limited to income arising from foreign market sales. No country has adopted such a destination-based IP box, and it is uncertain whether this part of H.R. 1 would be viewed as compatible with international trade agreements.³

¹ See, <https://www.congress.gov/bill/112th-congress/house-bill/6353>

² See, <https://www.congress.gov/bill/113th-congress/house-bill/1>

³ With respect to goods, the World Trade Organization's Agreement on Subsidies and Countervailing Measures generally prohibits export-contingent reductions in direct tax rates.

IV. OECD BEPS REPORT ON HARMFUL TAX PRACTICES

In October 2015, the OECD published its final report on Action 5 of the BEPS project (OECD, 2015b), relating to harmful preferential tax regimes. Chapter IV of this report addresses application of the substantial business activity requirement to IP regimes. All OECD member countries approved this report and agreed to ongoing monitoring and review of IP regimes by the Forum on Harmful Tax Practices.

The report promulgates a guideline (“modified nexus approach”) that describes the maximum amount of IP income that may benefit from a preferential tax regime. The nexus approach allows a preferential tax rate on IP-related income to the extent it is connected to qualifying expenditures in the taxing jurisdiction. Such a connection typically exists in the case of front-end incentives for IP development, such as R&D credits. The modified nexus approach similarly seeks to link back-end tax incentives for IP income to developmental (R&D) expenditures.

The OECD report limits IP assets that can qualify for innovation box tax benefits to patents, copyrighted software, and certain other assets that are “functionally equivalent” to patents and (where relevant) are subject to similar legal protection and registration processes. Market-related IP such as trademarks cannot qualify for preferential taxation. Only income from IP owned by the taxpayer qualifies for tax benefits.

Qualifying expenditures are expenditures that are: (1) made by the taxpayer claiming the tax benefit on IP income,⁵ (2) directly connected to the qualified IP asset, and (3) of a type that typically qualifies for research tax incentives. R&D that cannot be linked to a specific IP asset (such as general and speculative R&D) may be allocated pro rata across relevant IP assets.

⁵ No distinction is drawn for developmental expenditures that are reimbursed by the government through a grant or research credit.

Expenditures for unsuccessful R&D are not included in the nexus ratio because unsuccessful R&D does not produce IP income; however, expenditures incurred in connection with a larger R&D project that produced an income-generating asset may be treated as qualifying expenditures and either attributed to the income-generating asset or treated as general and speculative R&D (OECD, 2015b).

While one of the overarching themes of the BEPS project is to align the location of taxable profits with related economic activities, the nexus approach does not require that R&D activities physically take place in the jurisdiction where the IP is owned.⁶ Such a requirement would have been inconsistent with the EU Treaty and thus unenforceable in those OECD countries that are EU member states (Faulhaber, 2016). Instead, the nexus approach excludes from qualified expenditures related-party outsourcing⁷ (but not unrelated-party outsourcing⁴).

Qualifying expenditures do not include expenditures occurring prior to the acquisition of IP. The cost of acquiring IP is viewed as a proxy for pre-acquisition developmental expenditures and thus is not a qualifying expenditure.⁵ To prevent circumvention of this rule, acquisition of a company is treated as an acquisition of its assets.⁶ The costs of improving an IP asset after it is acquired may be qualifying expenditures.

The “*nexus ratio*” determines the portion of income from each qualified IP asset that is eligible for tax benefits, as shown by

⁶ The taxpayer claiming the benefit of the IP regime may directly conduct research activities outside its home country; however, this generally would give rise to a permanent establishment (PE) in the jurisdiction where the research activities take place, with income attributed to the PE for local income tax purposes.

⁷ The OECD report notes that non-EU member countries may include related-party outsourcing if the activities occur within the same jurisdiction (e.g., OECD, 2015b).

⁴ The rationale for not excluding unrelated-party outsourcing is that “it is unlikely that a company will outsource the fundamental value-creating activities to an unrelated party, ...” (OECD, 2015b, p. 30).

⁵ The cost of acquiring IP typically will be larger than the pre-acquisition developmental expenditures, which can artificially depress the nexus ratio shown in (4).

⁶ The report notes that countries that are not EU Member States may modify this rule to treat pre-acquisition developmental expenditures as qualifying if the activities occurred in the acquirer’s jurisdiction (OECD, 2015b).

$$(4) \quad \text{nexus ratio} = (a + b) / (a + b + c + d),$$

where a denotes cumulative R&D expenses incurred by the taxpayer that are connected to the IP asset, b denotes cumulative expenditures for R&D contracted from an unrelated party that are connected to the IP asset, c denotes the cumulative costs of acquiring the IP asset, and d denotes cumulative expenditures for R&D contracted from a related party that are connected to the IP asset.

The *nexus ratio* may be modified to provide an uplift for qualifying expenditures, not to exceed 30 percent, provided that the *modified nexus ratio* does not exceed one.⁷ This modification leads to

$$(5) \quad \text{modified nexus ratio} = \min[(1 + g)(\text{nexus ratio}), 1],$$

where g denotes the uplift percentage, which must be less than or equal to 30 percent.

For purposes of the nexus ratio, costs must be tracked separately for each qualified IP asset. Where separate tracking for each IP asset is not practical, taxpayers may group IP assets by product or, where appropriate, by family of related products. Costs are tracked cumulatively from the date that expenditures related to a qualified IP asset commence.⁸

Income eligible for preferential tax treatment is the product of (1) income derived from qualified IP, and (2) the modified nexus ratio. Income derived from qualified IP includes royalties, gain on the sale of qualified IP, and embedded IP income “from the sale of products or use of processes directly related to the IP asset.” (OECD, 2015b, p. 29) For example, qualified IP

⁷ The intent of the uplift is to mitigate the penalty for acquiring IP or outsourcing R&D activities to related parties (OECD, 2015b).

⁸ Countries may provide a transitional rule for taxpayers that did not track developmental expenditures for each IP asset prior to the effective date of the IP box. Under such a transitional rule, the nexus ratio may be calculated on an overall basis for all qualified IP assets for three to five years during which period the taxpayer is required to track and trace developmental expenditures by IP asset and to begin using these tracked expenditures after the transition period ends (OECD, 2015b).

income includes income from the sale of a product that is related either to a patent for the product itself or a component thereof, or a patent for the manufacturing process.¹³ The OECD report does not specify how embedded IP income from qualified assets is to be separated from other types of income (e.g., income from marketing or routine manufacturing activities), but requires that the method be “consistent and coherent” (OECD, 2015b, p. 29) and notes transfer pricing principles may be used.

Qualified IP income for the taxable year is determined net of allocable expenditures incurred in that year including amortization and license costs for acquired IP (OECD, 2015b). Because the nexus ratio includes acquisition costs for acquired IP in the denominator, only a fraction of the IP income attributable to the taxpayer’s improvements effectively would be eligible for IP box benefits.¹⁴ Where qualified IP income is negative (e.g., due to startup losses), the BEPS report (OECD, 2015b) states that jurisdictions should adopt rules preventing use of these losses to reduce income that is taxed at ordinary rates.x

The question arises whether the Boustany-Neal discussion draft would be consistent with the BEPS nexus approach. From (1), the amount of income eligible for the Boustany-Neal innovation box is

$$(6) \quad IBP = 0.71 \times QPI \times A \times B,$$

¹³ It is unclear whether income from the sale of services that are directly related to qualified IP is eligible for benefits (e.g., software as a service).

¹⁴ For example, suppose a taxpayer acquires patent rights for a \$10 annual payment over \$10 years, incurs \$100 of R&D expenditures to improve the patent, and derives gross income from the improved patent of \$25 per year. Qualified IP income would be \$15 (\$25 less \$10) for the first 10 years, which is net of payment for the use of acquired patent rights. Over this period, the nexus ratio would decline from \$100/\$110 to \$100/\$200 because cumulative patent acquisition costs are included in the denominator. The 30 percent uplift is intended, in part, to compensate for the inclusion of IP acquisition costs in the denominator of the nexus ratio.

where $A = SRD / SDC$, $B = SDC / STC$, and SDC denotes the sum over the prior five years of the costs to develop and acquire qualified IP, i.e., R&D incurred by the taxpayer, expenditures for R&D contracted from related and unrelated parties, and costs of acquiring IP.

Written in this way, the A factor is a version of the nexus ratio and the B factor is a formulaic approach to measuring the portion of qualified property income that is attributable to qualified IP assets.

While the Boustany-Neal discussion draft appears similar to the nexus approach, it is not clear whether it meets all of the strict requirements for a number of reasons, including: (1) The discussion draft defines qualified IP to include types of manufacturing intangibles as well as films and videos that may not meet the “functionally equivalent to a patent” test; (2) The discussion draft does not require separate tracking of R&D costs for each IP asset and only accounts for R&D costs over a rolling five-year period rather than cumulatively from the date that development of an IP asset begins; and (3) The approach use to determine the portion of qualified property income that is attributable to IP assets may not meet the “consistent and coherent” standard.¹⁵

Notwithstanding these issues, if the amount income qualifying for the Boustany-Neal IP box does not exceed the amount determined under the nexus approach, it will be deemed consistent with the nexus approach (OECD, 2015b).

V. IP BOX AS A RESEARCH INCENTIVE

A commonly cited rationale for enactment of IP boxes is the promotion of domestic research activities. If this were the sole rationale for adopting an IP box, though, it is unclear why enhancement of the existing research credit would not be a more direct and effective mechanism

¹⁵ For example, for taxpayers that capitalize royalty expense in costs of goods sold, “total costs” as defined in the discussion draft would exclude this expense.

(Graetz-Doud (2013), Sullivan, 2015; Furman, 2016; White House and Department of Treasury, 2016). A research credit or other direct tax incentive for research has a number of advantages over an IP box.

First, a direct tax incentive can be tailored to encourage the types of basic research and experimentation activities that are thought to have the largest spillover benefits.

Second, unlike IP boxes, front-end research tax incentives may provide liquidity benefits to cash constrained taxpayers. While cash-constrained taxpayers may not always have sufficient tax liability to utilize front-end tax incentives, as a result of the Protecting Americans from Tax Hike (PATH) Act of 2015, the U.S. R&E credit now has a refundability feature that provides limited tax benefits for taxpayers without current tax liability.¹⁶

Third, the United States has had a research credit for 35 years and, in addition to a large body of administrative guidance, taxpayers and the IRS have substantial experience in interpreting and implementing the rules. Adoption of an IP box consistent with the modified nexus requirement of the BEPS agreement would necessitate complex tracking and tracing of research expenses by IP asset. While replacement of the R&E credit with an IP box need not increase overall administrative and compliance burden over the long run, initially there would be substantial costs to develop and implement the new rules.

Fourth, to maximize the amount of domestic R&D for a given revenue cost, the tax benefit per dollar of incremental research should be equalized across taxpayers (assuming the same R&D investment responsiveness). Although the existing research credit does not provide identical tax benefits per dollar of research for all taxpayers (because the credit is incremental

¹⁶ For tax years beginning after 2015, small startup businesses, with their first gross receipts within the prior five years and with less than \$5 million of gross receipts in the current taxable year, may elect to claim up to \$250,000 of the research credit as a credit against the employer share of payroll tax (OASDI) liability.

and taxpayers may not be able to fully utilize credits in the current year), the disparity in tax benefits per dollar of research expense under an IP box is likely to be much larger because the tax benefit is tied to the ultimate profitability of the R&D investment. Consequently, a research credit is likely to result in more domestic R&D activity per dollar of revenue cost than an IP box with a nexus requirement.

Fifth, an IP box that imposes a reduced tax rate on both profit and loss resulting from R&D investments reduces the share of the risk that effectively is borne by the government, which potentially will dampen research expenditures by risk-averse investors (Domar and Musgrave, 1944).¹⁷ Moreover, with risk aversion, investors will discount the future stream of tax reductions under a patent box regime at a higher rate than the federal government's borrowing rate. By contrast, a front-end research credit (that can be used currently) is valued equally by both the investor and the government. Thus, evaluated at the government's discount rate, a research credit with the same expected present value revenue cost as a patent box will provide a larger incentive for a risk averse investor.

In summary, if the sole policy goal were to stimulate domestic research, it is unclear why adoption of an IP box would be superior to enhancement of the existing research and experimentation credit.⁹ Other possible rationales for adopting an IP box are discussed in the following section.

VI. OTHER POSSIBLE RATIONALES FOR AN IP BOX

¹⁷ The Domar and Musgrave result assumes loss refundability and does not address the use of tax revenues. Buchholz and Konrad (2014) discuss the implications of relaxing these assumptions.

⁹ Gravelle (2016) argues that the marginal effective tax rate for domestic R&D investments is not reduced by an IP box regime because the immediate deduction of R&D expenses already results in a zero effective tax rate. This argument does not, however, apply to investments that return more than the cost of capital.

The fact that 13 of the 16 countries with IP boxes also have some form of front-end research tax incentive (Table 1) suggests that other considerations have influenced the adoption of IP box regimes. Below, we consider three alternative rationales for an IP box, some of which are more relevant in the U.S. than in the foreign context.

A. Ramsey Rule

In a classic paper, Ramsey (1927) demonstrated that a monopolist seeking to generate a fixed amount of revenue with the least reduction in utility would vary prices in inverse proportion to customers' elasticities of demand. The same logic applies to a government with a fixed income tax revenue constraint that sets tax rates for different types of income (Hines, 2016). Thus, if a particular category of income is highly sensitive to tax rates, e.g., capital gain realizations, welfare maximization subject to a fixed income tax revenue constraint would lead to lower tax rates on this type of income.

It is widely recognized that the geographic reporting of certain types of patent income is sensitive to tax rates; this is one of the principal areas of focus of the OECD BEPS project (Alstadsæter, et al., 2015; Bradley, Dauchy, and Robinson, 2015; Griffith, Miller, and O'Connell, 2014; Karkinski, and Riedel, 2012; and OECD, 2015a, 2015b). The mobility of patent income is due primarily to the substantial theoretical and administrative challenges in establishing the arm's-length value of unique IP transferred between related parties.

The mobility of patent income might be reduced or eliminated through alternative income sourcing rules, such as the destination-based income tax proposed by Auerbach (2010). However, unilateral implementation of alternative sourcing rules may be inconsistent with bilateral income tax treaties and international trade rules governing border tax adjustments.

Alternatively, the United States could address the mobility of patent income by treating patent-related income of foreign subsidiaries as a deemed dividend to the U.S. parent under Subpart F of the Internal Revenue Code.¹⁹ In conjunction with the foreign tax credit, this approach would largely remove tax considerations from the location of patents. However, to avoid this rule, U.S. companies would have an incentive to move their corporate tax residence abroad.²⁰

If patent income remains mobile for tax purposes, lower taxation of patent income may be justified by the Ramsey principle, with the optimal tax rate reduction depending on the relative mobility of this income. However, there are two main difficulties with implementing Ramsey-based taxation of IP income.

First, a Ramsey tax rule requires that mobile IP income (i.e., IP income that a multinational company can move easily in response to tax rate differentials) be measured with reasonable precision. However, a key reason why IP income is mobile for tax purposes is the difficulty in determining the arm's-length sourcing of this income in related-party transactions. If the mobile component of IP income is not susceptible to precise measurement, the case for Ramsey taxation is weakened.

Second, under the nexus approach that OECD member countries have agreed to apply, tax rates may only be reduced for patent income that meets a development test. Patent development activities, such as the R&D conducted by skilled scientists and engineers in specialized labs and testing facilities, may have limited international mobility. By linking tax

¹⁹ The CFC rules are included in subpart F of the Internal Revenue Code, which was enacted in 1962. The House version of this legislation included income from intangible assets as subpart F income; however, this was not included in the enacted legislation. See, H.R. REP. NO. 87-1447 (1962) and section 13(a) of H.R. 10650, 87th Cong. (1962), as well as the discussion in Lenter (2013).

²⁰ A number of large UK-based multinationals, including Wolseley, Ineos, Shire, UBM, and WPP, redomiciled after H.M. Treasury proposed to expand the scope of the UK CFC rules to include royalty income. The proposal subsequently was withdrawn (Jackson, 2010).

benefits for IP income to developmental activities, the nexus approach weakens the case for Ramsey taxation, which calls for reduced tax rates on relatively mobile income. That said, the Ramsey argument remains applicable to companies that perform R&D in the United States, even if this R&D cannot be moved, provided they have the ability to shift IP income abroad.¹⁰ By contrast, for companies that cannot cost effectively move foreign R&D into the United States, an IP box will neither attract mobile patent income nor generate incremental revenues from such income

B. Location of Manufacturing

U.S. multinationals that own IP abroad are discouraged by U.S. tax rules from locating related manufacturing operations in the United States. Royalty payments made by a U.S. manufacturer to a foreign IP holding company are subject to current U.S. taxation under Subpart F. By contrast, if the manufacturing operations are in a foreign subsidiary, royalty payments to a foreign IP holding company are excluded from subpart F under the so-called “CFC look-through” rule.¹¹

As an alternative to a royalty arrangement, a foreign subsidiary that owns the IP can contract as principal for manufacturing services, with the inventory owned by the principal rather than the manufacturing services provider. However, if manufacturing services are performed in the United States, there is a risk that the principal’s U.S. inventory holdings will trigger U.S. tax on the principal’s income under the rules of Code section §956 (which tax foreign subsidiary earnings to the extent invested in U.S. property).¹² Moreover, U.S. manufacturing operations

¹⁰ The Boustany-Neal bill seeks to facilitate repatriation of foreign IP by treating this as a tax-free transaction under U.S. law.

¹¹ Under §954(c)(6), inter-CFC interest, dividends, and royalty payments are excluded from subpart F (i.e., not treated as foreign personal holding company income) if paid out of active business income.

¹² Under §956, investment in U.S. property by a CFC may result in taxation of the CFC’s earnings up to the amount of U.S. property. An exception applies if the inventory is exported from the United States.

create a risk that the IRS will assert the foreign principal has a taxable U.S. presence and seek to tax a portion of its income. These risks are avoided if the manufacturing services are conducted outside the United States.

To the extent U.S. manufacturing activity is moved abroad to avoid jeopardizing the tax benefits of migrating U.S. IP to low-tax jurisdictions, a direct response would be to treat the IP income of foreign subsidiaries as a deemed dividend to the U.S. parent under Subpart F. However, as discussed above, this would increase the incentive for U.S. companies to redomicile abroad.¹³

One alternative approach would be to narrow Subpart F by excluding U.S. source manufacturing royalties and by excluding investment in U.S. inventory from section §956. This would allow U.S. multinationals with IP held in foreign affiliates to manufacture in the United States with less risk of triggering U.S. tax on the related IP income. Such an approach, however, would have the unintended effect of increasing the incentive for U.S. companies to migrate IP abroad.

Adoption of a U.S. IP box along with rules allowing tax-free repatriation of foreign IP potentially would be a way to encourage IP retention and repatriation to the United States. If successful in retaining and repatriating IP, this would remove a tax barrier to domestic manufacturing. If this were the main motivation for adopting an IP box, it would be logical to require domestic exploitation as a condition for the IP, as in the Feinstein proposal. This would convert the IP box regime into a version of the domestic production activities deduction (§199), under which the tax benefit is limited to the portion of domestically manufactured goods attributable to domestic IP. Recognizing the lead time required to construct new U.S.

¹³ Such a rule also would handicap the ability of U.S. multinationals to be successful bidders for foreign companies with valuable IP.

manufacturing facilities (and obtain FDA approval in the case of pharmaceuticals and medical devices) any such domestic manufacturing requirement might be phased in.

C. Location of Corporate Residence

Another IP box rationale offered by Reps. Boustany and Neal is to deter redomiciliation of U.S. corporations abroad. This argument is not intuitive, as the benefits of the Boustany-Neal innovation box apply equally to U.S. companies regardless of the tax residence of the parent company. The potential tax advantages of foreign residence that have received the most attention in the literature are (1) the dividend exemption (territorial) tax systems used in many other OECD countries as compared to the worldwide tax system used in the United States (Feld, et al., 2013)¹⁴ and (2) the ability of foreign resident multinationals to erode the U.S. tax base through related-party interest payments (Seida and Wempe, 2004).¹⁵ Adoption of an IP box would have no effect on either of these two incentives for corporate redomiciliation.

An IP box might put U.S. corporations on a more level playing field if foreign multinationals have a greater ability to migrate IP income out of the United States to low-tax jurisdictions than U.S. multinationals. If so, an IP box might deter U.S. companies from redomiciling abroad to facilitate IP migration. While the transfer pricing regulations apply equally to U.S. and foreign resident companies, IRS enforcement may be more stringent for U.S. multinationals. If this is the case, equal enforcement of the transfer pricing rules seemingly would be a more targeted approach to addressing the redomiciliation of U.S. companies than adoption of an IP box.

¹⁴ The authors estimate that if the United States were to switch to a typical OECD-member territorial tax system, the number of international mergers and acquisitions with U.S. acquirers would increase by 17.1 percent.

¹⁵ Inter-company debt is ineffective in reducing the U.S. tax liability of a U.S.-resident multinational because interest income received by a foreign subsidiary from U.S. sources is foreign personal holding company income subject to current U.S. taxation under Subpart F of the Code. On April 4, 2016, the U.S. Treasury released proposed regulations that would, in certain cases, recharacterize related-party debt as equity.

VII. CONCLUSION

With surprising speed, IP boxes have become what one author has called the “new normal” corporate tax policy (Jefferis, 2016). While often characterized as an incentive for R&D, few of these IP box regimes to date actually require domestic developmental activities, and a number of the regimes apply to non-technological IP such as trademarks. Indeed, most countries that have adopted IP box regimes also have research tax incentives such as credits and super deductions. This suggests that an important motivation for these regimes has been to attract mobile income.

The potential for IP boxes to attract mobile income was reviewed as a potentially harmful preferential tax practice as part of the OECD BEPS project. The BEPS report issued in October 2015 concluded that IP boxes constitute a harmful preferential tax regime unless (1) qualified IP is limited to patents and functionally equivalent IP assets, and (2) the taxpayer satisfies a developmental requirement referred to as the modified nexus test.

To the extent R&D activities are relatively immobile, the modified nexus test substantially reduces the effectiveness of IP boxes in attracting mobile income. In this case, the impact of an IP box would be mainly on the location of IP by companies that currently perform R&D in the United States. To be effective, a low tax rate would be required to compete with countries such as Ireland, which has a 12.5 percent statutory corporate income tax rate. Aside from reducing base erosion by encouraging repatriation of IP to the United States, an IP box could remove a tax barrier to manufacturing in the United States. These reasons for adopting an IP box are distinct from promoting domestic R&D, which likely can be done more effectively by enhancing the current R&E credit.

If Congress decides to enact a U.S. IP box, there will be a number of challenges. One is how to measure income attributable to patents, as this income is internationally mobile precisely because fair market value is difficult to determine for unique assets that are not traded with unrelated parties. A second is how to offset the revenue cost, which is likely to be substantial for an IP box with a rate low enough to be internationally competitive. An IP box policy would seem worth pursuing only if the revenue cost is offset in a way that has a smaller welfare cost to the U.S. economy than the gain from the IP box itself.

Table 1
Countries with IP Boxes, February 2016

Country	R&D Credit	R&D Super Deduction
Belgium	yes	yes
France	yes	
Hungary	yes	yes
Ireland	yes	
Israel		yes
Italy	yes	
Korea	yes	
Lichtenstein		
Luxembourg		
Malta	yes	yes
Netherlands	yes	yes
Portugal	yes	
Spain	yes	
Switzerland ¹		
Turkey	yes	yes
UK	yes	yes

Notes: China has a reduced tax rate for high and new technology enterprises (HNTEs) that meet a number of requirements, including having proprietary IP rights or a minimum worldwide exclusive five-year license of the respective core technology of the enterprise's main products or services.

¹ Switzerland has a patent box at the cantonal level.

Source: PwC, Global Research and Development Incentives Group, February 2016,
<http://www.pwc.com/gx/en/services/tax/international-tax-services/global-research-and-development-incentives-group.html>.

Table 2
Industries with Lowest Effective IP Box Rates (2008–2012 data)

NAICS Industry	<i>Effective Tax Rate</i> on Tentative Innovation Profits (Percent)
1. Internet search providers and data processing services	27.2
2. Computer and electronic product manufacturing	28.2
3. Publishing industries (except Internet)	29.5
4. Chemical manufacturing	30.4
5. Transportation equipment manufacturing	30.8
6. Other information services	31.2
7. Leather and allied product manufacturing	31.3
8. Miscellaneous manufacturing	31.4
9. Machinery manufacturing	31.8
10. Nonmetallic mineral product manufacturing	32.4

Source: PwC calculations based on IRS and NSF data

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