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## PATENT BOX REGIMES AND INNOVATION ECOSYSTEM

**1. The innovation landscape has rapidly changed in the past decade.** New trends have emerged and one of the most notable trends is the shift in innovative capacity predominantly from developed countries to emerging economies. Innovation is now understood as one of the main drivers of economic growth by developed and developing economies alike. In addition, innovation is seen as a way for developing countries to address critical social problems such as pollution, health issues, poverty, and unemployment. The potential innovation holds to close the gap between developing and developed economies has boosted the emphasis these economies place on policies that encourage innovation. However, while the gap between top innovators and emerging economies is not as wide as it was a decade ago, there remains a significant gap between these groups.<sup>1</sup>

**2. Given the desire to spur innovation domestically, many countries have instituted patent box or innovation box regimes.** A patent or innovation box is a type of tax incentive in the form of a reduced corporate income tax rate for certain levels of income arising from the exploitation of IP. It is generally provided through a 50-80 percent deduction or exemption of qualified IP income.<sup>2</sup> Turkey has also instituted a patent box regime to promote domestic innovation.

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<sup>1</sup> Cornell University, INSEAD, and WIPO, The Global Innovation Index 2015: Effective Innovation Policies for Development, Fontainebleau, Ithaca, and Geneva, 2015

<sup>2</sup> PwC, Global Research & Development Incentives Group, May 2014

3. **This policy note first describes the role of patent box regimes in the innovation space.** It goes on to compare the patent box regimes currently implemented in OECD countries in a tabular manner. Thereafter, the note describes the Turkish current patent box regime and lastly, the note discusses how the patent box can address gaps in Turkey's innovative capacity and be used to leverage its strengths.
4. **Given the increased emphasis placed on innovation in all economies, many countries have begun to explore a variety of policies that will drive innovation.** Experience has illustrated that for emerging economies, technology adoption alone is no longer sufficient to maintain a high-growth scenario.<sup>3</sup> These countries need to not only invest in innovation but they also require a great deal of government support. Patent box or innovation box regimes are a form of government support which can boost innovation domestically for emerging and developed economies.
5. **A patent box regime is a type of tax incentive aimed to encourage innovation activities through a lower corporate tax on certain levels of income arising from intellectual property.** It is a type of back-end tax incentive in that it is provided towards the end of the innovation cycle, when an IP asset has already begun to generate income. Patent box regimes can be preferable to research and development (R&D) incentives, which are provided at the front-end of the research cycle, for two reasons. First, R&D incentives can encourage wasteful R&D which do not necessarily lead to patented innovation. Second, the intellectual property profits generated from R&D can easily be moved to low tax jurisdictions abroad and thus deprive the country that subsidized R&D of the tax income generated from the innovation. Patent box regimes thus incentivize successful production of intellectual property and ensure that the benefits from the intellectual property are absorbed by the country where the intellectual property is realized.
6. **Research conducted by the National Bureau of Economic Research in the US shows a correlation between business taxes and numbers of patents filed - the lower the tax the more patents are produced.**<sup>4</sup> Furthermore, a study published in the National Tax Journal by Professors Sebastien Bradley, Estelle Dauchy, and Leslie Robinson shows that a 1 percent reduction in the preferential tax rate for patent income was associated with a 3 percent increase in new patent application among domestic inventors. The study analyzes 19 million patent applications filed in every patent office in the world from 1990 to 2012.
7. **As of 2016, 16 countries have patent box regimes in place which provide a variety of reduction in effective corporate tax rates from 0 to 22%.**<sup>5</sup> The requirements and mechanics of the patent box regimes in each of these countries differ significantly. This report draws from case studies in the Belgium, Luxembourg, the Netherlands, Ireland and Israel. Table 1 compares the implementation of the patent box regimes in these countries. It summarized which types of IP is qualified for patent box regime benefits, what types of income from this IP is eligible for benefits and what is the tax rate which is then applied to

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<sup>3</sup> Cornell University, INSEAD, and WIPO, The Global Innovation Index 2015: Effective Innovation Policies for Development, Fontainebleau, Ithaca, and Geneva, 2015

<sup>4</sup> Bob Stembridge, Thomson Reuters, Patent Box Incentives show positive signs, 2015

<sup>5</sup> PwC, Global Research & Development Incentives Group, February 2016

this income. Furthermore, it elaborates upon whether R&D can be performed abroad and if acquired IP is eligible for the benefits, amongst other aspects of the regimes.

8. **Luxembourg can be said to have the most liberal regime, Belgium and Netherlands have patent box regimes which are a little more curtailed and Ireland's regime is most conservative.** Israel has an unconventional regime, which only benefits companies which provide industrial services to foreign companies. This means that the IP which results from this activity is owned by foreign companies. Netherlands modified its regime in 2010 to provide a lower tax rate and include more IP. Conversely, Ireland tightened its regulations on IP which was included and how profits are calculated in order to prevent profit shifting.

**Table 1. Comparison of Patent Box Regimes**

Tax Factors	Belgium	Luxembourg	Netherlands	Ireland	Israel
Year Enacted	2007	2008	2007, 2010	December 2015, effect for accounting periods beginning on or after January 2016	2004 onwards
Effective Tax Rate	6.8%	5.76%	5.0%	6.25% on qualifying profits	9%/16% - according to the geographic location in the country of the company performing the R&D
Qualifying IP	Patents and supplementary patent certificates	Patents, trademarks, designs, domain names, models, and software copyrights	Patented IP or IP from approved R&D projects	A qualifying computer program or patent which is the result of qualifying R&D activities	N/A* Companies which provide Industrial R&D services for a foreign resident, subject to governmental "Office of the Chief Scientist" approval, are eligible for tax relief
Qualifying income	Gross patent income (less cost of acquired IP)	Royalties	Net income from qualified IP	Profits of a specified trade relevant to the qualifying IP	Income generated by providing Industrial R&D services for a foreign resident
Acquired IP?	Yes, if IP is further developed	Yes, from non-directly associated companies	Yes, if IP is further self-developed	If qualifying IP is acquired and further R&D activities are undertaken by the Irish company on the acquired IP, there may be some scope to claim the relief subject to nexus formula.	No
Cap on benefits?	Deduction limited to 100% of pretax income	No	No	The profits qualifying for the regime are limited by reference to a formula that takes account of the qualifying R&D expenditure that has been incurred by the Irish company on the development of the IP. If the qualifying R&D expenditure incurred by the Irish company is limited, the benefit would also be limited.	No
Includes embedded royalties?	Yes	Yes	Yes	Yes	Yes
Includes gain from sale of qualified IP?	No	Yes	Yes	No	N/A
Can R&D be performed abroad	Yes, if R&D center qualifying as a branch of activity *condition not applicable for SME's) and oversight remains in the company	Yes	Yes for patented IP; strict conditions for IP from approved R&D projects	Limited - the R&D activities must be undertaken by the Irish company employees in an EU member State and the costs must not qualify for a tax deduction in such Member State.	Yes, under certain limitations
Credit for tax withheld on qualified royalty?	Yes	Yes	Yes, subject to limitations	Yes	No

\* Patent Box regime offers tax relief for companies which provide industrial R&D services for a foreign resident, which means the IP is owned by the foreign company

Source: PriceWaterhouseCoopers

9. **In Turkey a patent box regime of sorts was first enacted in 2001.** Under this regime, license, patent, adaptation, development, revision, deployment and plug-in derived from the software or products developed as a result of the research and development activities in technology development zones were considered qualified IP for a deduction in tax levied. Technology Development Zones (TDZs) are areas designed to support R&D activities and attract investments in high technology fields, integrating academic, economic and social structures at or near the campus of certain universities.
10. **A new legislation launched in 2014, Law No. 6518, introduced a more conventional patent box regime effective from 1<sup>st</sup> January 2015.** Under this new legislation a 50% reduction in corporate tax is applied towards revenue derived from (i) lease, (ii) transfer or sale, or (iii) marketing through serial production of inventions created as a result of research, development and innovation activities, and (iv) sales of products manufactured by using inventions licensed as patents or utility models (limited to the amount of sales attributed to patents or utility models). However, the research and development costs associated with the IP need to be carried out in Turkey. In addition, this exemption applies for any income generated as a result of breach of inventions rights or any other kind of compensation, e.g., insurance compensation.<sup>6</sup> Moreover, the rental, transfer or sale of the immaterial rights regarding patented or utility model certified invention arising as a result of R&D, innovation and software activities realized in Turkey, will also be exempt from Value Added Tax.<sup>7</sup> The reduced tax rate also applies to acquired IP under certain conditions.
11. **Till 2014, different countries were able to set their own conditions for income which can be included in the patent box regime without any obligations.** Additionally, some countries allowed acquired intellectual property to be eligible for patent box benefits as well as intellectual property (hereby referred to as IP) for which research and development occurred abroad and included gross instead of net income from IP. This quickly turned into a competition for countries to provide the lowest effective tax rate for multinationals in order to encourage them to relocate to the lower tax jurisdiction.<sup>8</sup>
12. **In October of 2015, the OECD deemed preferential patent regimes as a harmful tax practice under its base erosion and profit sharing (BEPS) project.**<sup>9</sup> However, a new approach to patent boxes was suggested instead of their complete elimination. This new approach, called the Nexus Modified Approach, links benefits to the amount of qualifying research and development (R&D) carried out by the claimant company. To determine the tax benefit, the following equation, called the Nexus Fraction, is applied to overall income from IP.<sup>10</sup> Expenditure considered qualified is in-house direct expenditure on R&D and expenditure on R&D subcontracted to third parties. Overall expenditure is qualified

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<sup>6</sup> Dr.Erdal Ekinisi, Esin Attorney Partnership, Corporate income tax exemption, December 2014

<sup>7</sup> PwC, Global Research & Development Incentives Group, February 2016

<sup>8</sup> Nick Cronkshaw, Simmons & Simmons elexia, OECD progress towards implementing BEPS, February 2015

<sup>9</sup> HM Treasury, Patent Box: substantial activities, Consultation, October 2015

<sup>10</sup> Deloitte, BEPS action 5: Countering harmful tax practices more effectively taking into account transparency and substance, October 2015

expenditure plus expenditure on acquisition of IP and expenditure subcontracted to related parties. The first half of the equation is called the nexus fraction which is then multiplied by the income from IP assets to qualify the income which receives tax benefits.

13. **Turkey's existing patent box is already compliant with the modified nexus approach to a certain extent in that, only inventions arising as a result of research, development, innovation and software activities in Turkey itself are eligible for the reduced tax.** Furthermore, the tax benefit is applied to net profit instead of gross profit, which is also consistent with the nexus modified approach. In this manner the Turkish patent box regime differs substantially from the European regimes which have not yet adopted the nexus modified regime. The European patent box regimes all allowed R&D to be performed abroad for the IP asset received patent box benefits although some countries had strict conditions on what percentage of R&D can be performed abroad. Furthermore, certain countries, such as Belgium, Malta and Switzerland allowed gross income instead of net income to receive patent box benefits.
14. **However, even within the Turkish patent box regime IP can be acquired, and research costs can be subcontracted to related parties within Turkey.** Therefore, in cases where there has been related party R&D outsourcing or an IP acquisition, the nexus equation will be useful not only to comply with the OECD guidelines, but also in order to ensure the optimal use of the government's resources. In this respect Turkey can follow the guideline proposed for UK's reformed patent box regime.<sup>11</sup>
15. **In the past three decades Turkey's economy has gone through an economic transformation prompted by rural-to-urban migration.** The migration resulted in increased efficiency and thus higher rates of economic growth. However, Turkey's urbanization rate is now at 75% and urbanization as means to achieve economic growth is no longer sustainable. Given this scenario Turkey needs a new economic agenda which focuses on innovation. Turkish governmental policies in the innovation space should be used to leverage the strengths of Turkey's innovative capacity in order to correct for the weaknesses. Gaps in Turkey's innovative capacity span a variety of different areas and the patent box regime can contribute to narrow or close these gaps.
16. **The lack of venture capital deals can be addressed through the patent box as the patent box would provide increased incentive for venture capitalists in the form of greater profits.** The patent box would essentially lower tax rates on innovative products and thus, the reward for venture capitalists to invest in early stage IP projects would be greater. Turkey ranks well in its ease of protecting investors and this strength can be leveraged through the patent box regime to increase venture capital deals. The increased profit motive can be applied in the case of joint ventures/strategic alliance deals as well. Joint venture/strategic alliance deals can increase with the introduction of a patent box regime, within the constraints of the nexus modified approach, because substantial IP profits often require a large investment in R&D.<sup>12</sup> The increase in potential profits that can now be derived from IP income and this will incentivize entities to engage in joint ventures/strategic alliance deals to produce profit inducing IP.

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<sup>11</sup>M Treasury, Patent Box: substantial activities, Consultation, October 2015

<sup>12</sup> Deloitte, BEPS action 5: Countering harmful tax practices more effectively taking into account transparency and substance, October 2015

- 17. Turkey now competes with 12 European countries which have instituted patent box regimes.** Turkey's patent box regime will allow it to gain a level playing field with these countries and also leverage its' strength of population enrolled in tertiary education and the intense local competition to attract R&D expenditure from abroad. Lastly, even as Turkey excels in R&D expenditure from local businesses it lacks in patents filed in 3 or more offices. According to the Global Innovation Index report, patent families filed in 3 or more offices are a good indicator of the quality of the innovation.<sup>13</sup> The Turkish patent box regime will reward successful innovation and thus ensure that the result of R&D are prioritized. In this manner, profits from successful patents can then be re-invested to build up to a patent family. Furthermore, patents can then be filed in multiple offices to gain profits from multiple jurisdictions.
- 18. The patent box regime in Turkey can address these gaps best if it is implemented under the nexus modified approach.** Furthermore, even as the patent box will be able to address certain gaps in Turkish innovative capacity and leverage Turkey's strengths, this is not a comprehensive strategy that will tackle all the gaps and leverage all of the country's strengths. That said, given the widespread implementation of patent box regimes in European countries, Turkey will definitely be set back if a patent box regime is not applied as it will forego the benefits that can, and often do, arise from such a regime.

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<sup>13</sup>Cornell University, INSEAD, and WIPO, The Global Innovation Index 2015: Effective Innovation Policies for Development, Fontainebleau, Ithaca, and Geneva, 2015