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## Tax Incentives for Innovation in a Modern IP Ecosystem

Joshua Chao

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## Tax Incentives for Innovation in a Modern IP Ecosystem

Joshua Chao\*

### ABSTRACT

*Technological innovation is a long-recognized catalyst for economic growth in the United States, and its promotion is an important feature of national economic policy, as evidenced by the presence of various tax incentives for innovation in the US Internal Revenue Code. Tax incentives are an important means by which governments can deliver subsidies to promote such innovation. To be effective, however, any system of tax incentives must be tailored for current economic conditions and competitive landscapes. In the current ecosystem of innovation in the United States, this means that, at the very least, the incentives for innovation in the US Internal Revenue Code should narrowly deliver benefits to entities that create, transfer, and productively use intellectual property (IP). Moreover, there should be no opportunities for nonpracticing entities to misappropriate such benefits. But there currently are. This Article surveys the current regime of tax incentives for technological innovation and other areas of the US Internal Revenue Code affecting the economic choices of entities involved in the creation and dissemination of technological IP. It illustrates instances within the US Internal Revenue Code and its regulations where distinguishing between the “good” guys (operating companies and IP intermediaries) and the “bad” guys (nonpracticing entities) would better tailor the incentives therein to promote innovation in the modern IP ecosystem.*

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## TABLE OF CONTENTS

I.	THE INNOVATION ECOSYSTEM .....	756
	<i>A. The Inventors</i> .....	756
	<i>B. The Trolls</i> .....	758
	<i>C. The IP Intermediaries</i> .....	762
	1. IP Aggregators .....	762
	2. IP Facilitators .....	766
II.	DISTINGUISHING INNOVATORS FROM TROLLS.....	768
	<i>A. Identifying Operating Companies</i> .....	769
	<i>B. Identifying Harmful NPEs</i> .....	770
III.	INNOVATION AND THE CODE .....	771
	<i>A. Incentivizing Inventors and Operating Companies</i> .....	771
	1. Exempt Early-Stage High-Technology Companies from the Personal-Holding-Company Surtax .....	772
	2. Expand the Narrow Definition of “Research and Experimental Expenditures” to Include Patent Acquisitions .....	774
	3. Renew § 41—R&D Credits for Qualified Research Expenditures—for Substantially Longer Periods of Time or Make that Section a Permanent Part of the Code .....	777
	4. Further Shape the Regulations Regarding the Tax Treatment of Cross-Licensing Agreements to Broadly Favor Information Exchanges that Foster Innovation .....	778
	5. Formally Adopt a Liberal Interpretation of the Law Regarding the Tax Treatment of Like-Kind Patent Exchanges Under § 1031 .....	779
	<i>B. Foreclosing Misappropriation Opportunities for NPEs</i> .	781
	1. Deny Capital-Gains Treatment for Any Patent-Litigation Recoveries by NPEs.....	781
	2. Deny § 186 Deductions for Any Patent-Litigation Recoveries by NPEs.....	782
IV.	CONCLUSION .....	783

Technological innovation is a long-recognized catalyst for economic growth in the United States, and its promotion has been an important feature of US economic policy since the founding of the

nation.<sup>1</sup> Through one initiative or another, the US government has always sought to promote innovation by implementing systems of incentives for investment in intellectual property (IP). In 1954, Congress began incorporating incentives for technological innovation into the Internal Revenue Code (Code) by adding special incentives for research and development (R&D).<sup>2</sup>

Although commentators generally recognize tax incentives as an important means by which governments can deliver subsidies to promote particular economic activities,<sup>3</sup> to be effective, Congress must tailor any system of tax incentives to work in alignment with current economic conditions.<sup>4</sup> The current system of tax incentives intended to promote innovation is an example of where such an alignment can be improved.

This Article examines the current regime of tax incentives for technological innovation as well as other areas of the Code affecting the economic choices of actors involved in the creation and dissemination of technological IP. Part I surveys the current ecosystem of innovation, with particular emphasis on the growing role of IP intermediaries. Part II explores potential statutory classifications for distinguishing between “good” and “bad” actors in this ecosystem. And Part III illustrates instances where the addition

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1. See, e.g., *United States v. Line Materials Co.*, 333 U.S. 287, 332 (1948). The Supreme Court explained:

As interpreter of the Congressional Acts that have expressed the patent policy of this nation since its beginning, this Court is entrusted with the protection of that policy against intrusions upon it. The crucial importance of the development of inventions and discoveries is not limited to this nation. As the population of the world has increased, its geographical frontiers have shrunk. However, the frontiers of science have expanded until civilization now depends largely upon discoveries on those frontiers to meet the infinite needs of the future. The United States, thus far, has taken a leading part in making those discoveries and in putting them to use.

*Id.*; see also U.S. CONST. art. I, § 8, cl. 8 (“To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”); Benjamin Coriat & Fabienne Orsi, *Establishing a New Intellectual Property Rights Regime in the United States: Origins, Content and Problems*, 31 RES. POL’Y 1491, 1493–95 (2002) (discussing congressional activity in the 1980s aimed at increasing US competitiveness in innovation industries); Lawrence M. Rausch, *High-Tech Industries Drive Global Economic Activity*, NAT’L SCI. FOUND. DIV. OF SCI. RES. STUDIES (July 20, 1998), <http://www.nsf.gov/statistics/issuebrf/sib98319.htm>.

2. See Xuan-Thao Nguyen & Jeffrey A. Maine, *The History of Intellectual Property Taxation: Promoting Innovation and Other Intellectual Property Goals?*, 64 SMU L. REV. 795, 831 n.194 (2011) (explaining that § 174(a) was added in 1954, “allowing taxpayers to treat research or experimental expenditures as expenses not chargeable to capital accounts as long as those expenditures are paid or incurred in connection with the taxpayer’s trade or business”).

3. See Edward A. Zelinsky, *Efficiency and Income Taxes: The Rehabilitation of Tax Incentives*, 64 TEX. L. REV. 973, 974–77 (1986) (arguing that tax incentives, although not part of a normative income tax, are nevertheless economically efficient).

4. See *id.* at 1033–34 (discussing how a “good” tax incentive should maximize “total profitability or consumer satisfaction after accounting for externalities or barriers to entry”).

of such statutory classifications to the Code would make the tax incentives therein more congruous with current industry practices and would better tailor such incentives to promote innovation.

## I. THE INNOVATION ECOSYSTEM

Technological innovation is a foundational ethic of the quintessential American mythology—a mythology replete with a pantheon of celebrated deities: American inventors.<sup>5</sup> As schoolchildren, Americans learn the history of the nation through its inventions and the lives of its inventors, from Benjamin Franklin and his lightning rod, Alexander Graham Bell and his telephone, and the Wright Brothers and their airplane, to Steve Jobs and his Macintosh computers.<sup>6</sup> Regardless of the era, the basic story is the same: the rugged individual, spurred by a love of invention and discovery, creates something new for the benefit of society. The parallel story—the story of greed—is not popularly told.<sup>7</sup> When harnessed and properly channeled to power innovation, the profit motive is an incredible force for driving innovation.<sup>8</sup> The growing role of IP intermediaries and nonpracticing entities (NPEs) in the marketplace, however, is symptomatic of a misalignment of that force and points to a need for adjusting policies affecting innovation.

### A. *The Inventors*

Congress designed the US patent system to balance the interests of the inventor with those of society at large by granting the inventor a temporary monopoly right to the economic benefits of an invention.<sup>9</sup> The system conditions this right on the public disclosure

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5. See Mark A. Lemley, *The Myth of the Sole Inventor*, 110 MICH. L. REV. 709, 710 (2012) (“Any elementary school student can recite a number of canonical American invention stories. . . . Patent law is built around these canonical tales.”).

6. *Id.*

7. See *id.* at 711–15. Lemley attempts to debunk the myth that invention and innovation in the United States are the sole provenance of individual inventors by showing that most inventions are “simultaneous”—independently developed by disparate inventors within the same general timeframe—and that oftentimes the ideas behind inventions are generally known, or “in the air,” rather than truly groundbreaking. *Id.* at 714. Lemley further puts forth the idea that “patent races”—a phenomenon whereby invention is “motivated, or at least hastened, not merely by the hope of reward but by the fear of losing a race to a competitor who in turn obtains a dominant patent”—are not necessarily detrimental to the health of a patent system. *Id.* at 712.

8. *Id.* at 714.

9. See U.S. CONST. art. I, § 8, cl. 8; 35 U.S.C. § 154(a) (2006); R. Hewitt Pate, Assistant Attorney Gen., U.S. Dep’t of Justice Antitrust Div., Address at the Chinese Academy of Social Sciences, Institute of Law, Beijing, China: Promoting Economic Growth Through Competition and Innovation (July 1, 2004), available at <http://www.justice.gov/atr/public/speeches/204931>.

of that invention.<sup>10</sup> The general idea is that the public disclosure of an invention will promote economic growth by galvanizing entrepreneurs to market derivative products or to further improve the original invention.<sup>11</sup> At a glance, the system seems to be working well. From 1963 to 2010, the United States Patent and Trademark Office (USPTO) granted a total of 4,767,685 utility patents (i.e., patents for inventions) and saw a steady rise in applications in that period from 85,869 in 1963 to a nearly six-fold increase to 490,226 in 2010.<sup>12</sup> Coinciding with the growing volume of patent applications was an increasingly larger share of economic output in the US economy by research-intensive industries.<sup>13</sup>

Contrary to the romantic notion of the heroic individual inventor, corporations overwhelmingly dominate innovation in the United States. In 2010, corporations received approximately 90 percent of all utility patent grants.<sup>14</sup> Corporations also accounted for a great majority of R&D spending, with larger firms (those with at least one thousand people) generally spending more than three times that of smaller firms.<sup>15</sup>

The history of R&D spending evidences the importance of R&D to the US economy. From 1963 to 2007, R&D spending rose from \$19.2 billion to over \$400 billion,<sup>16</sup> with private businesses presently accounting for over two-thirds of that spending.<sup>17</sup> Today, there are more than sixteen thousand firms that currently operate their own

htm (explaining that the word “Progress” as it was understood in 1789 and in the general context of the age of enlightenment “meant not only an advancement of science, but also a triumph of the general good”).

10. 35 U.S.C. § 112(a).

11. Lemley, *supra* note 5, at 745.

12. U.S. PATENT & TRADEMARK OFFICE, U.S. PATENT STATISTICS CHART: CALENDAR YEARS 1963–2011 (2012), available at [http://www.uspto.gov/web/offices/ac/ido/oeip/tafi/data/us\\_stat.htm](http://www.uspto.gov/web/offices/ac/ido/oeip/tafi/data/us_stat.htm).

13. See U.S. DEPT OF COMMERCE BUREAU OF ECON. ANALYSIS, RESEARCH & DEV. SATELLITE ACCOUNT, 1959–2007 RESEARCH AND DEVELOPMENT DATA tbl.7.1A (2010), available at <http://www.bea.gov/national/rd.htm>. The “total expenditures on R&D represented 2.8% of GDP in 2009,” exceeding the rate of the Euprean Union (EU) (1.9 percent) and the average of all OECD countries (2.3 percent) but was less than Japan (3.3 percent). U.S. CONGRESS JOINT COMM. ON TAXATION, TAX INCENTIVES FOR RESEARCH, EXPERIMENTATIONS, AND INNOVATION 8 (2011), available at <http://www.jct.gov/publications.html> (follow “by year” hyperlink, then follow “JCT Publications 2011”, then select JCX-45-11). In 2009, R&D spending represented 41.24 percent of all R&D expenditures undertaken by OECD countries, 35 percent greater than the total spent by the EU and 270 percent greater than the total spent by Japan. *Id.*

14. U.S. PATENT & TRADEMARK OFFICE, *supra* note 12.

15. See Raymond M. Wolfe, *Research and Development in Industry: 2006–07*, NAT’L SCI. FOUND. (June 2011), <http://www.nsf.gov/statistics/nsf11301/pdf/nsf11301.pdf> (showing, in Table 1, spending statistics for 2006, with firms of at least one thousand persons spending \$169,926,000,000 on R&D out of a total of \$223,365,000,000 spent by all firms).

16. U.S. DEPT OF COMMERCE BUREAU OF ECON. ANALYSIS, *supra* note 13, at tbl.2.1.

17. See *id.*

industrial research labs, and there are at least twenty firms that have annual R&D budgets in excess of \$1 billion.<sup>18</sup>

Moreover, the most economically significant innovations come from firms in just two industries: information technology and biotechnology.<sup>19</sup> The dominance of these industries is evident in the USPTO's pattern of patent grants between 1986 and 2010, during which time these two industries almost entirely comprised the list of firms that received at least one thousand patents.<sup>20</sup> Furthermore, the five hundred fastest growing firms in the United States as of 2011 are also nearly exclusively of these two industries.<sup>21</sup>

### B. The Trolls

Without a doubt, IP (in all its US-recognized forms: patents, copyrights, trademarks, and trade secrets) plays an important role in the US economy. According to the Department of Commerce, IP-intensive industries in the United States accounted for about \$5.06 trillion in value added, or about 34.8 percent of US gross domestic product, and provided for 18.8 percent of all US jobs in 2010.<sup>22</sup> And according to the International Fund Trade Administration, royalties and license fees in the United States totaled \$84.4 billion in 2009—nearly half of the global total estimated for 2009.<sup>23</sup> To add further context, a private study conducted in 2010 found that the value of intangible assets comprised 80 percent of the total value of the S&P 500 companies, with patent technologies representing a

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18. Nathan Rosenberg, *Innovation and Economic Growth*, ORG. ECON. CO-OPERATION DEV. CORP., 2 (2004), <http://www.oecd.org/dataoecd/55/49/34267902.pdf>.

19. See Jennifer Lee & Andrew G. Schmidt, *Research and Development Satellite Account Update: Estimates for 1959–2007*, SURV. CURRENT BUS., 16 (2010), [http://www.bea.gov/scb/pdf/2010/12%20December/1210\\_r-d\\_text.pdf](http://www.bea.gov/scb/pdf/2010/12%20December/1210_r-d_text.pdf) (showing that these two industries, which include pharmaceutical and medicine manufacturing and scientific R&D industries, accounted for 68 percent of private business R&D's average contribution to real GDP growth from 1995 to 2007).

20. U.S. PATENT & TRADEMARK OFFICE, *supra* note 12.

21. See *Deloitte's 2011 Technology Fast 500 Ranking*, DELOITTE & TOUCHE LLP (2011), [http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/TMT\\_us\\_tmt/us\\_tmt\\_2011fast500rankings\\_111411.pdf](http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/TMT_us_tmt/us_tmt_2011fast500rankings_111411.pdf).

22. U.S. DEPT OF COMMERCE, INTELLECTUAL PROPERTY AND THE U.S. ECONOMY: INDUSTRIES IN FOCUS 45 (2012), available at [www.uspto.gov/news/publications/IP\\_Report\\_March\\_2012.pdf](http://www.uspto.gov/news/publications/IP_Report_March_2012.pdf); Sean Silverthorne, *Monetizing IP: The Executive's Challenge*, HARVARD BUS. SCH. (June 9, 2008), <http://hbswk.hbs.edu/pdf/item/5925.pdf> (citing a figure presumably given by the USPTO).

23. INT'L TRADE ADMIN., U.S. EXPORT FACT SHEET: JANUARY 2010 EXPORT STATISTICS 1 (Mar. 11, 2010), available at <http://www.commerce.gov/sites/default/files/documents/migrated/Fact%20Sheet-January%20exports.pdf>.

substantial portion of this value.<sup>24</sup> Finally, from 1982 to 2006, courts awarded over \$4.5 billion in patent damages in approximately 320 published decisions, with the largest award exceeding \$870 million in 1991.<sup>25</sup> With so much money in transit, it was inevitable that the proverbial troll under the bridge would emerge to collect its toll.

Beginning in the 1980s, a new kind of entity in the IP marketplace emerged: the NPE, also known pejoratively as the “patent troll.”<sup>26</sup> Typical NPEs, unlike traditional operating companies (e.g., Apple, Sony, and IBM), neither develop IP nor market goods derived from IP.<sup>27</sup> Rather, these entities exist mainly to extract rents from traditional operating companies in the form of licensing fees or litigation damages.<sup>28</sup> In one estimate, there are currently over 380 distinct NPEs; since 1985, these NPEs have been involved in litigation with over five thousand different operating companies in over four thousand patent infringement cases.<sup>29</sup>

These NPEs are experts in patent litigation. Indeed, damages awarded to NPEs have averaged more than double those for operating companies since 1995.<sup>30</sup> This trend in damages appears to be accelerating. Between 2002 and 2009, median damages awarded to NPEs more than tripled those awarded to operating companies: \$12 million for NPEs compared with \$3.4 million for operating companies.<sup>31</sup> Further, the financial drain that NPEs have caused for operating companies is not limited to legal damages. One study estimated that NPEs caused about \$500 billion in lost stock value to

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24. *Intangible Asset Market Value*, OCEAN TOMO, <http://www.oceantomo.com/productsandservices/investments/intangible-market-value> (last visited Nov. 19, 2011).

25. J. Shawn McGrath & Kathleen M. Kedrowski, *Trends in Patent Damages*, A.B.A. SEC. LITIG., <http://docs.piausa.org/ABA/07-06-01-ABA-Report-On-Patent-Damages.pdf> (last visited Jan. 27, 2013).

26. *See generally* Andrei Hagiu & David Yoffie, *Intermediaries for the IP Market* 8–9 (Harvard Bus. Sch., Working Paper No. 12-023, 2011), available at <http://www.hbs.edu/research/pdf/12-023.pdf>; *Largest Patent Holdings*, PATENTFREEDOM, <http://www.patentfreedom.com/research-phl.html> (last visited Nov. 19, 2011); Gene C. Schaerr & Jacob R. Loshin, *Doing Battle with “Patent Trolls”: Lessons from the Litigation Front Lines*, WINSTON & STRAWN LLP (2010), <http://wfllegalpulse.files.wordpress.com/2010/09/troll-presentation-5.pdf>.

27. Hagiu & Yoffie, *supra* note 26.

28. *See id.*

29. *Most Pursued Companies*, PATENTFREEDOM, <http://www.patentfreedom.com/research.html> (last visited Nov. 19, 2011).

30. ARON LEVKO ET AL., PRICEWATERHOUSECOOPERS, A CLOSER LOOK: PATENT LITIGATION TRENDS AND THE INCREASING IMPACT OF NONPRACTICING ENTITIES 1, 5 (2009), available at [http://www.pwc.com/en\\_US/us/forensic-services/publications/assets/2009-patent-litigation-study.pdf](http://www.pwc.com/en_US/us/forensic-services/publications/assets/2009-patent-litigation-study.pdf).

31. *Id.*



affected companies during the previous decade.<sup>32</sup> To put that figure into perspective, \$500 billion is nearly the amount of value added to the US economy by patent-intensive industries in 2010.<sup>33</sup>

Several factors gave rise to these NPEs, many of which involved developments in the patent and legal systems: the overabundance of available patents in the marketplace due to the boom-and-bust cycle of the 1990s, the USPTO's granting of poor-quality and overly broad patents, the creation of a dedicated appeals court for patent disputes in the Federal Circuit, and the increasingly liberal calculation and use of damage awards and injunctions, respectively.<sup>34</sup> More importantly, the growing impact of these NPEs was indicative of the changing nature of IP-related product development itself—a change toward products requiring multiple inputs from virtual “thickets” of patented technologies.<sup>35</sup> The manufacture of integrated circuits is a prime example of this trend: “[M]anufacturing an integrated circuit requires hundreds of steps, with literally billions of transistors and thousands of complex algorithms. No firm—even the industry's largest ones—has more than 30% of the patents required to cover all aspects of semiconductor design and manufacturing.”<sup>36</sup> Typically, operating companies

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32. James E. Bessen et al., *The Private and Social Costs of Patent Trolls* 25–26 (Bos. Univ. Sch. of Law, Working Paper No. 11-45, 2011), available at <http://www.bu.edu/law/faculty/scholarship/workingpapers/Bessen-Ford-Meurer-troll.html>.

33. U.S. DEP'T OF COMMERCE, *supra* note 22, at 45 (“Patent-intensive and copyright-intensive industries accounted for 5.3 and 4.4 percent of GDP, with \$763 billion and \$641 billion in value added, respectively.”).

34. See Coriat & Orsi, *supra* note 1, at 1494–95 (discussing the creation of the US Court of Appeals for the Federal Circuit and the easing of patentability conditions in the 1980s as a response to industry demands for more uniform patent decisions); Merritt J. Hasbrouck, Comment, *Protecting the Gates of Reasonable Royalty: A Damages Framework for Patent Infringement Cases*, 11 J. MARSHALL REV. INTELL. PROP. L. 192, 195–98 (2011) (“Current law gives no clear explanation for calculation of a reasonable royalty amount.”); McGrath & Kedrowski, *supra* note 25 at 9–10 (discussing the spread between average damage amounts between bench and jury trials).

35. See Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1, 62 n.211 (2005) (“‘Patent thickets’ refer to the fact that in many areas of technology, great numbers of related patents exist at any particular time, and many might have applicability to any commercial product.”); Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 119, 119–22 (Adam B. Jaffe et al. eds., 2001) (discussing “patent thickets” in the context of an impediment on innovation partly due to the USPTO's granting of overly broad patents on key technologies); see generally Mario Benassi & Alberto Di Minin, *Playing in Between: Patent Brokers in Markets for Technology*, 39 R&D MGMT. 68, 69–71 (2009) (discussing the conditions giving rise to cross-licensing practices).

36. Hagiü & Yoffie, *supra* note 26, at 17; see Alex Blumberg & Laura Sydell, *When Patents Attack*, THIS AM. LIFE (July 26, 2011, 8:04 PM), <http://www.npr.org/blogs/money/2011/07/26/138576167/when-patents-attack> (noting Google's desire to purchase Nortel's patents to defend itself against patent lawsuits and its willingness to spend up to \$3 billion for the acquisition of these patents); David Marcus, *Trolls, Geeks and Lots of Lawyers*, DEAL MAG. (Oct.

navigate this “thicket” by the strategic use of cross-licensing agreements (CLAs), whereby companies resolve potential or actual legal disputes by entering into mutually beneficial technology-licensing agreements.<sup>37</sup> In fact, companies even hedge against the threat of litigation by developing or acquiring IP they believe to be valuable currency for exchange with industry rivals.<sup>38</sup>

Given this context, NPEs pose a particularly significant threat to operating companies since they have no incentive to enter into CLAs.<sup>39</sup> In effect, NPEs can wield the threat of “holdup”—whereby a patent rights holder of a necessary but noncentral technology strategically refuses to license the use of that technology in order to hinder product development or further innovation—with relative impunity.<sup>40</sup> Not surprisingly, many industry commentators view the

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14, 2011, 1:00 PM), <http://www.thedeal.com/magazine/ID/042051/features/trolls,-geeks-and-lots-of-lawyers.php> (reporting on the frenzied purchase during Nortel Network Inc.’s auction of six thousand patents and patent applications at the end of June 2011 that raked in \$4.5 billion from a team of companies led by Apple, which was answered in retaliation by Google’s purchase of Motorola Mobility for its patents in August 2011 for \$12.5 billion).

37. See *Taxation of Cross Licensing Arrangements*, I.R.S. Notice 2006-34, 2006-14 I.R.B. 705; Pamela Olson et al., *Comments on Notice 2006-34: Taxation of Cross Licenses and Other Information Sharing Arrangements*, 2006 WL 4775035 (July 14, 2006); Shapiro, *supra* note 35, at 127; see generally Rosenberg, *supra* note 18, at 6 (“The benefits that can be made to flow from lasers, microprocessors, computers and information technology generally, will ultimately depend not only on its inventors, but also on the creativity of the potential users of the new technology.”).

38. Coriat & Orsi, *supra* note 1, at 1503 (“As pointed out in recent studies, it seems that most of the patents that the bigger firms have been registering are not meant to protect inventions. Instead they are supposed to ‘hinder’ virtual rivals, or create strong bargaining positions . . .”).

39. Cross-licensing, whereby operating companies agree to license relevant technologies to each other for the purpose of product development, is a common and relatively inexpensive way in which operating companies resolve patent disputes. See Shapiro, *supra* note 35, at 126–30. NPEs, on the other hand, do not produce or market any products and, hence, cannot be compelled to settle for a cross-license. See Jiaqing Lu, *The Myths and Facts of Patent Troll and Excessive Payment: Have Nonpracticing Entities (NPEs) Been Overcompensated?*, 47 BUS. ECON. 234, 235 (2012) (“Because NPEs do not have any revenue exposure in the final product or service market, the conventional market remedies such as patent pool, cross license, and defensive patenting are ineffective in preventing NPEs from pursuing holdup tactics.”). If an operating company cannot design around the use of a patent owned by a NPE, then the company is effectively barred from producing and marketing that dependent product unless it pays potentially exorbitant rents. See generally *id.* at 236–47. The holdup threat imposed by NPEs was significantly increased due to the emergence of the US International Trade Commission (ITC) as a forum for patent disputes, given the threat of potential trade bans on infringing products. See Hagi & Yoffie, *supra* note 26, at 18 (addressing the chilling effect of potential ITC injunctions).

40. See Steven Musil, *Apple Forced to Deal with Patent Troll?*, CNET (Dec. 11, 2011, 9:55 AM), [http://news.cnet.com/8301-13579\\_3-57340996-37/apple-forced-to-deal-with-patent-troll/](http://news.cnet.com/8301-13579_3-57340996-37/apple-forced-to-deal-with-patent-troll/) (“The bigger mystery is why Apple would do this. TechCrunch suggests two scenarios: Either Apple is using Digitude as a ‘hired gun’ to go after patent royalties, or Digitude went after Apple and Apple transferred these patents to assuage Digitude.”).

proliferation of NPEs to be a significant impediment to innovation.<sup>41</sup> As a response to the growing concern over product “holdup,” a new class of entities has emerged in the IP marketplace—the IP intermediaries.

### C. *The IP Intermediaries*

IP intermediaries are companies that operate in the space between entities that own or produce IP and entities that seek to purchase or license IP.<sup>42</sup> They exist to mitigate the risk of patent litigation arising from the complexities of navigating “thickets” of IP rights.<sup>43</sup> They also exist to help IP owners monetize their IP in an illiquid market.<sup>44</sup> These companies can be grouped into two general categories: (a) IP aggregators—entities that own IP rights, and (b) IP facilitators—entities that facilitate the transfer of IP rights.

#### 1. IP Aggregators

IP aggregators are similar to NPEs in that they are formed for the purpose of aggregating IP rights with the intent of extracting rents from operating companies.<sup>45</sup> They differ from NPEs in one important aspect, although the line between them is very fine: their mission is to facilitate innovation by ensuring the availability of patent rights, not to earn profit through patent litigation under the threat of holdup.<sup>46</sup> Generally, they aim to derive profits from nonexclusive licensing revenues or membership fees, and they pursue a competitive advantage in this practice by providing operating companies with a single, potentially cost-effective source for the licensing of relevant technologies.<sup>47</sup> They are successful at this practice because they are uniquely capable of efficiently identifying,

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41. See Bessen, *supra* note 32, at 2, 25–26 (finding that very little of the \$500 billion in lost wealth attributed to the actions of NPEs from 1990 to 2010 has actually transferred to inventors, suggesting a decrease in incentives for innovation overall); Hagiu & Yoffie, *supra* note 26, at 18 (“Consequently, NPEs have a negative effect on innovation by operating companies . . .”); Paul McNamara, *Patent Trolls vs. Innovation*, NETWORK WORLD (Nov. 2, 2011, 6:08 AM), <http://www.networkworld.com/news/2011/102611-tech-argument-patent-trolls-innovation-252427.html>.

42. Hagiu & Yoffie, *supra* note 26, at 1, 6–13.

43. *Id.* at 5–6.

44. *Id.*

45. *Id.* at 9–10.

46. See *id.* at 9–12.

47. *Id.*; see also John Cook, *Looking to Fend Off Patent Trolls, IBM, Cisco, Support Startup RPX*, PUGET SOUND BUS. J. (Nov. 23, 2008, 7:09 PM), [http://www.techflash.com/seattle/2008/11/IBM\\_Cisco\\_support\\_RPX\\_in\\_defensive\\_patents34959854.html](http://www.techflash.com/seattle/2008/11/IBM_Cisco_support_RPX_in_defensive_patents34959854.html).

valuing, and purchasing IP assets on a large scale.<sup>48</sup> RPX<sup>49</sup> and Intellectual Ventures<sup>50</sup> are notable examples of companies in this group.

RPX is one of several companies commonly referred to as “defensive aggregators” or “defensive patent pools”—entities that groups of operating companies have formed in reaction to the threat of holdup by industry rivals and NPEs.<sup>51</sup> Defensive aggregators are in the business of purchasing IP assets of interest to their member companies and, via nonexclusive collective licensing agreements, helping to ensure that these companies have rights to use the underlying technologies in the production of their goods.<sup>52</sup> Defensive aggregators bestow another important benefit to their member companies: they mitigate the risk of patent litigation by taking potentially toxic IP assets out of the marketplace and out of the reach of NPEs.<sup>53</sup> For this service, member companies pay annual subscription fees ranging from tens of thousands to millions of dollars, depending on income.<sup>54</sup>

Intellectual Ventures operates similarly to RPX and other defensive aggregators in the sense that it accumulates patents on a large scale and makes the technologies represented by these patents available to licensees for a fee.<sup>55</sup> But that is where the similarities end. Unlike defensive aggregators, which exist in order to mitigate the risk of product holdup and litigation for member companies, Intellectual Ventures exists in order to engage in rent-seeking behaviors aimed at maximizing profits from its IP portfolio—making it not unlike an NPE, a distinction for which it can be described as an offensive aggregator.<sup>56</sup>

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48. See Hagiu & Yoffie, *supra* note 26, at 18.

49. RPX CORP., *Patent Litigation Used to be a Form of Legal Redress. Today It Is a Business Model*, <http://www.rpxcorp.com> (last visited Nov. 19, 2011).

50. INTELLECTUAL VENTURES, <http://www.intellectualventures.com> (last visited Nov. 19, 2011).

51. See Cook, *supra* note 47; see generally Shapiro, *supra* note 35, at 127–28 (describing patent pools).

52. See Cook, *supra* note 47.

53. See *id.*

54. Hagiu & Yoffie, *supra* note 26, at 20.

55. Hagiu and Yoffie describe Intellectual Ventures as a “hybrid between a NPE and a defensive patent aggregator,” but highlight Intellectual Venture’s distinguishing feature: “[M]any of its investors are strategic and include prominent technology companies such as Amazon, American Express, Apple, Cisco, eBay, Google, Intel, Microsoft (which was the lead investor), Nokia, SAP, Sony, Samsung, and Verizon.” *Id.* at 11.

56. Amol Sharma & Don Clark, *Tech Guru Riles the Industry by Seeking Huge Patent Fees*, WALL ST. J. (Sept. 17, 2008), <http://online.wsj.com/article/SB122161127802345821.html>.

No other nonoperating company in history has ever controlled more patents.<sup>57</sup> As of mid-2011, Intellectual Ventures had amassed more than thirty thousand patents (compared with about one thousand five hundred owned by RPX).<sup>58</sup> Moreover, since its founding, it has earned over \$2 billion in licensing fees, with \$700 million earned just in 2010<sup>59</sup> (compared with about \$153 million in expected revenue for RPX in 2011).<sup>60</sup>

At first glance, IP aggregators such as Intellectual Ventures and RPX appear to provide successful market-driven solutions to ensnarement by patent “thickets” and harassment by NPEs. For instance, by controlling a large pool of interrelated patents and by licensing exclusively to operating companies, IP aggregators can reduce both litigation risks and IP procurement costs. Indeed, they can keep patents out of the hands of NPEs and eliminate the incremental costs of searching and negotiating a multitude of licensing agreements from a multitude of disparate sources.<sup>61</sup> IP aggregators can also effectively deliver lowered procurement costs to operating companies by leveraging economies of scale, which they achieve through sheer purchasing power and expertise in finding undervalued IP assets.<sup>62</sup> Finally, these aggregators can increase the liquidity of IP assets by voraciously purchasing patent rights—buying from IP owners who otherwise would have trouble finding a market for their patents.<sup>63</sup>

But some problems are beginning to emerge that bring to question the efficacy of IP aggregators as a solution to patent holdups. First, both offensive aggregators and defensive aggregators practice “catch-and-release” patent monetization, whereby value is extracted once through the assignment of licenses to member companies and then again by the reselling of these patents, sometimes to NPEs.<sup>64</sup>

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57. Hagiu & Yoffie, *supra* note 26, at 22 (“[Intellectual Ventures] has brought more resources (more than \$5 billion in committed capital) and has developed a larger controlling position of patents than any non-operating company in history.”).

58. *See id.*; *see also* Tom Ewing & Robin Feldman, *The Giants Among Us*, 2012 STAN. TECH. L. REV. 1, 3–4.

59. John Letzing, *Myhrvold's Patent Firm Sees Revenue Swell: Intellectual Ventures Licensing Revenue Hits \$700 Million in 2010*, MARKETWATCH (Mar. 4, 2011, 1:59 AM), <http://www.marketwatch.com/story/myhrvolds-patent-firm-sees-revenue-swell-2011-03-04>.

60. Press Release, RPX, RPX Announces Third Quarter 2011 Financial Results (Nov. 1, 2011), *available at* <http://ir.rpxcorp.com/releasedetail.cfm?ReleaseID=619881>.

61. Hagiu & Yoffie, *supra* note 26, at 18, 23.

62. *Id.* at 20, 22 (reporting that RPX spent over \$250 million in acquiring IP assets and that Intellectual Ventures has over \$5 billion in committed capital).

63. *Id.* at 22 (describing purchasing activity by Intellectual Ventures at certain IP auctions as “creat[ing] the illusion of liquidity in the patent market”).

64. *Id.* at 18, 21.

Depending on the terms of these licensing agreements, operating companies can effectively face two layers of value extraction: first, from licensing fees paid to IP aggregators, and second, from litigation damages or settlements with NPEs who have acquired patents in subsequent “releases.”<sup>65</sup> The second layer of value extraction is potentially more problematic than the first since an operating company may already produce and market products using the allegedly infringing technology, making the consequences of holdup much more severe.<sup>66</sup>

A second problem with reliance on IP aggregators is that they may themselves behave like NPEs.<sup>67</sup> For instance, Intellectual Ventures has recently started to file litigation claims on its own behalf, a development that has caused some commentators to characterize it as a “patent troll on steroids.”<sup>68</sup> Furthermore, there is evidence that prior to directly filing lawsuits, Intellectual Ventures effectively outsourced litigation to NPEs by entering into behind-the-scenes revenue-sharing agreements in which it shared in any litigation damages extracted from the patents it sold to these NPEs.<sup>69</sup> Technologists truly fear Intellectual Ventures given its alleged anticompetitive practices and its ability to “literally obliterate startups.”<sup>70</sup>

Finally, IP aggregators are essentially the quasi-autonomous offensive litigation arms of operating companies,<sup>71</sup> akin in spirit to multinational military pacts (e.g., the North Atlantic Treaty Organization). Like military pacts, IP aggregators can shield their constituents from the psychological and financial costs of offensive

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65. Brian T. Yeh, *An Overview of the “Patent Trolls Debate”*, CONG. RES. SERVICE 6–8 (Aug. 20, 2012), <http://www.fas.org/sgp/crs/misc/R42668.pdf>.

66. See Thomas F. Cotter, *Patent Holdup, Patent Remedies, and Antitrust Responses*, 34 J. CORP. L. 1151, 1188 (2009) (describing the practice of “patent ambush” in which an operating company is sued for patent infringement after the patent holder induces it to produce products reading on the allegedly infringed-upon patent).

67. See Blumberg & Sydell, *supra* note 36.

68. Lisa Lerer, *Going Once*, CORP. COUNSEL (Nov. 1, 2005), <http://www.law.com/corporatecounsel/PubArticleFriendlyCC.jsp?id=900005439584> (acknowledging that there is concern regarding whether “Intellectual Ventures is . . . a ‘patent troll on steroids,’ stockpiling patents to hold entire industries hostage”); see also Zusha Elinson, *Intellectual Ventures Takes Indirect Route to Court*, RECORDER (Sept. 1, 2009), <http://www.law.com/jsp/ca/PubArticleCA.jsp?id=1202433488815> (describing the fact that “you never know what unscrupulous and lawsuit-prone troll is going to buy it” as the threat inherent in selling patents to third parties).

69. Blumberg & Sydell, *supra* note 36 (“Peter Detkin, an attorney who co-founded Intellectual Ventures with Nathan Myhrvold, told us that IV likely has a ‘back-end arrangement’ with Oasis.”).

70. *Id.* (recounting a venture capitalist’s sentiment that there is a lot of fear about Intellectual Ventures given that it has the power to “literally obliterate startups”).

71. Companies that invested in Intellectual Ventures indirectly benefit from any offensive actions that it takes. See Hagiu & Yoffie, *supra* note 26, at 11.

actions as well as hide the identity of the true aggressors.<sup>72</sup> Without prohibitive costs or fear of reprisals, constituent operating companies may be more likely to use IP aggregators as vehicles to engage in anticompetitive behaviors.<sup>73</sup> Absent the anonymity that IP aggregators may provide, operating companies would have greater incentive to engage in cross-licensing negotiations for fear of mutually assured destruction from patent holdups.<sup>74</sup>

## 2. IP Facilitators

IP facilitators perform a variety of intermediary functions intended to assist patent owners in monetizing patent rights through sales, licensing agreements, and other creative monetization techniques.<sup>75</sup> These companies are unlike IP aggregators in that they typically neither own nor seek to own the IP in question.<sup>76</sup> Moreover, companies in this group are usually small and have been relatively unsuccessful compared with IP aggregators.<sup>77</sup> Companies in this group can be organized into three categories: (i) platforms or exchanges, (ii) brokers or agents, and (iii) financiers. Of these three general categories, platforms-or-exchanges and brokers-or-agents are the primary players in facilitating IP transfers, and they can be considered prototypical “IP intermediaries.” In some cases, companies play more than one role.

Companies that fall into the platforms-or-exchanges category provide electronic platforms on which patent owners and rights seekers can find each other and engage in desired IP transactions.<sup>78</sup> Although these services in their purest forms resemble commercial listing websites like eBay or Craigslist, the illiquidity of IP assets

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72. *Id.* at 10–12.

73. *Id.* at 11.

74. Taking this military analogy further, IP aggregators outsourcing patent litigation to NPEs is akin to the military outsourcing specific engagements to mercenaries or terrorists. Interestingly, the following passage by Machiavelli describing military mercenaries could also be used to describe NPEs:

The mercenaries and auxiliaries are useless and dangerous, and if anyone supports his state by the arms of mercenaries, he will never stand firm or sure, as they are disunited, ambitious, without discipline, faithless, bold amongst friends, cowardly amongst enemies, they have no fear of God, and keep no faith with men.

NICCOLÓ MACHIAVELLI, *THE PRINCE* 50 (Rositer Johnson & Dora K. Ranous eds., 1907).

75. *See, e.g.*, Hagi & Yoffie, *supra* note 26, at 18.

76. *See id.* at 9.

77. *See, e.g.*, Benassi & Di Minin, *supra* note 35, at 83 (“We believe that patent brokers tend to emerge and be co-localized in highly innovative areas. The reasons are simple. Patent brokers have been, up to now, small-medium companies with limited resources.”). *See generally* Raymond Millien & Ron Laurie, *Meet the Middlemen*, *INTELL. ASSET MGMT.*, 53–58 (2008), <http://www.iam-magazine.com/article.ashx?g=449a0f0e-630b-4c51-8fb4-2a4fe550f03c>.

78. *Id.* at 55–56.

necessitates much more hands-on involvement by intermediary agents knowledgeable in perfecting such transactions.<sup>79</sup> Therefore, these companies also provide brokerage services, with agents ready to advise and perfect the transaction immediately after interested parties have discovered each other using the platform and agreed to an exchange.<sup>80</sup> In some cases, platform providers perform live auctions in order to “make” markets for listed IP.<sup>81</sup>

Companies that fall into the brokers-or-agents category help alleviate the information gap between buyers and sellers of IP assets.<sup>82</sup> Like in other markets where information asymmetries characterize economic exchanges, it is often difficult to value and market IP assets. These companies alleviate this problem by drawing on their particular expertise in the dealing of IP assets.<sup>83</sup> In some cases, they prepare and conduct the actual IP transaction.<sup>84</sup> For these services, patent brokers receive commissions as high as 50 percent of the value of the transaction.<sup>85</sup>

Companies that fall into the financiers category are essentially financial services firms that specialize in dealing with IP assets.<sup>86</sup> The range of services these firms offer is quite varied and depends on the specialty of the firm. Some services include advising corporate or university spin outs, advising mergers and acquisitions transactions, securitizing IP assets, and arranging venture capital investments.

The emergence of IP facilitators has generated positive industry buzz and academic optimism regarding increased liquidity in the IP markets.<sup>87</sup> Generally, this excitement is based on three

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79. *Id.*

80. Yet2.com and Tynax.com are examples of companies that provide a listing and matching service whereby interested parties can post information on their needs, and after parties are matched, agents of these companies offer their services to assist in completing the transaction. See YET2.COM, <http://www.yet2.com> (last visited Nov. 19, 2011); TYNAX.COM, <http://www.tynax.com> (last visited Nov. 19, 2011).

81. Ocean Tomo calls itself “The Intellectual Capital Merchant Banc Firm” and provides a number of patent intermediation services including auctions, listings, brokerage, and financing and investment-banking services. OCEAN TOMO, <http://www.oceantomo.com> (last visited Nov. 19, 2011).

82. See Millien & Laurie, *supra* note 77, at 55.

83. *Id.*

84. *Id.*

85. *Licensing Agent Fees: How Much Do Licensing Agents and Invention Brokers Charge for Their Services*, INVENTIONSTATISTICS.COM, [http://www.inventionstatistics.com/Licensing\\_Agent\\_Fees.html](http://www.inventionstatistics.com/Licensing_Agent_Fees.html) (last visited Nov. 19, 2011); see also Eric Young, *Patent Marketeers*, S.F. BUS. TIMES (Mar. 23, 2008, 9:00 PM), <http://www.bizjournals.com/sanfrancisco/stories/2008/03/24/focus1.html> (estimating that “most IP brokers . . . earn[] commissions in the double-digits on each deal”).

86. See Hagiu & Yoffie, *supra* note 26; Millien & Laurie, *supra* note 77.

87. See Hagiu & Yoffie, *supra* note 26, at 1 (“And indeed, during the last 5–10 years a variety of novel and intriguing intermediaries has emerged, all using different business models



propositions, all of which directly impact innovation. First, increased liquidity leads to increased opportunities for technology monetization.<sup>88</sup> Second, more opportunities for monetization will galvanize IP creation and innovation.<sup>89</sup> Third, facilitators will facilitate the transfer of technologies to companies that can put them into productive use.<sup>90</sup> But there is some evidence that, so far, these companies have been ineffective in this regard.<sup>91</sup> For instance, the majority of the patents sold at auctions organized by a leading IP brokerage company appear to have gone into the wrong hands: 75.8 percent of the patents sold at auction have gone to Intellectual Ventures, 13 percent have gone to NPEs, and just 11.2 percent have gone to operating companies.<sup>92</sup> Given that Intellectual Ventures essentially operates as an NPE,<sup>93</sup> nearly 90 percent of all patents transacted by this brokerage company have actually gone to entities engaging in practices potentially detrimental to innovation.

Despite the discouraging revelation that, at least in some cases, NPEs may be the primary purchasers of IP assets transacted by these intermediaries, IP facilitators may still play an important role in the IP marketplace in terms of increasing liquidity. Their actions may still have the potential to positively affect innovation. Assuming that the encouragement of IP intermediation is sound policy, the task before policymakers then is one of ensuring that IP assets are transferred to companies that can put them to productive use.

## II. DISTINGUISHING INNOVATORS FROM TROLLS

As discussed in Part I, innovation in the high-growth, high-technology information-technology industry and biotechnology industry is characterized by the interactions of three groups of entities: operating companies, NPEs, and IP intermediaries.<sup>94</sup> An optimal policy to promote innovation would favor the productive

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while attempting to bring more liquidity to the patent market.”); *see also* Benassi & Di Minin, *supra* note 35, at 83 (“Patent brokers are market makers, in the sense that they ‘play in between’ technology demand and supply. They make decisions and take actions by promoting new connections. They search for new, viable solutions. They organize and orchestrate the needed resources.”).

88. *See* Hagiu & Yoffie, *supra* note 26, at 1–2.

89. *See id.* at 24.

90. *See id.* at 14 (noting that Intellectual Ventures is the single largest buyer at Ocean Tomo auctions, accounting for over 70 percent of all purchases).

91. *See id.*

92. *Publicly Auctioned Patent Buyers: Intellectual Ventures & Others*, AVANCEPT LLC, <http://www.avancept.com/iv-report-auction.html> (last visited Nov. 19, 2011).

93. *See* Blumberg & Sydell, *supra* note 36; Letzing, *supra* note 59.

94. *See generally* Hagiu & Yoffie, *supra* note 26.

activities of operating companies and IP intermediaries (i.e., IP creation and exchange) and disfavor the unproductive activities of NPEs (i.e., holdup and value extraction). Federal tax law can be an important instrument in the implementation of such a policy in that an awareness of the distinctions between these entities in the Code will allow Congress to narrowly target the various incentives for innovation therein. At a minimum, improving the Code in this manner would require definitions for operating companies and NPEs.

### A. Identifying Operating Companies

Currently, the Code promotes technological investment and research activity across a broad swath of industries by remaining mostly silent about who may claim the various pro-innovation tax incentives.<sup>95</sup> As Part III discusses, however, there are certain instances where a clear definition of qualified entities is necessary in order to improve the Code.

Some state tax codes already include meaningful definitions of the types of entities entitled to claim innovation incentives. The state of Hawai'i and the District of Columbia (DC) provide models for what such a definition in the Code may look like. The state of Hawai'i confers several state tax benefits upon "Qualified High Technology Businesses" (QHTBs) and their investors.<sup>96</sup> Similarly, DC provides tax benefits to "Qualified High Technology Companies" (QHTCs).<sup>97</sup> Both Hawai'i and DC define qualified entities using some combination of income thresholds, operations requirements, and industry classifications. For instance, to be a QHTB in Hawai'i, more than 50 percent of a business's activities must be "qualified research," as defined by § 41 of the Code,<sup>98</sup> or more than 75 percent of its gross income must derive from "qualified research," provided that the business receives this income from either products "sold from, manufactured in, or produced in" the state or from services performed

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95. See I.R.C. § 1235 (2006) (limiting benefits granted to qualified "holder[s]" of patent rights); *cf. id.* §§ 41, 174.

96. HAW. REV. STAT. § 235-7.3 (2012) (exclusion from gross income of royalties derived from intangibles developed by QHTBs); *id.* § 235-110.9 (tax credit for investments in QHTBs); *id.* § 235-110.91 (tax credit for research activities conducted by QHTBs); *see generally* David H. Hu, Comment, *Seed Capital is Not Enough: Lessons from Hawai'i's Attempt to Develop a High-Technology Sector*, 30 U. HAW. L. REV. 401 (2008).

97. See D.C. CODE § 47-1808.01(5) (2012) (exemption from the unincorporated business tax); *id.* § 47-1817.02-1817.05 (tax credits covering human-resources costs); GOV'T OF D.C., OFFICE OF THE CHIEF FIN. OFFICER, OFFICE OF TAX AND REVENUE, QUALIFIED HIGH TECHNOLOGY COMPANIES (2001), available at [http://app.cfo.dc.gov/services/tax/forms/forms/HiTech\\_Pub399.pdf](http://app.cfo.dc.gov/services/tax/forms/forms/HiTech_Pub399.pdf).

98. HAW. REV. STAT. § 235-7.3(c)(1).

in the state.<sup>99</sup> Similarly, to be a QHTC in DC, at least 51 percent of a business's gross income must derive from activities in one of five technology categories,<sup>100</sup> and the business must have at least two employees.<sup>101</sup> DC further lists types of businesses that do not qualify for QHTC status.<sup>102</sup>

A definition in the Code identifying qualified operating companies could use similar criteria. Setting a threshold requirement for income derived from "qualified research" as defined by § 41 of the Code is minimally restrictive and does not run counter to the policy behind the overall system of incentives for innovation in the Code that depend on that term.<sup>103</sup> Further, setting operational requirements, such as minimum employee numbers and income sources (e.g., products and services), would narrow the definition to companies actively engaged in the productive use of IP.<sup>104</sup> Also, targeting particular industries and listing excluded business types can further tune this definition.

### *B. Identifying Harmful NPEs*

As Part III discusses, the use of a statutory definition of a harmful NPE, instead of a qualified operating company, in certain provisions of the Code would be more practical. Such a definition could borrow from the structure of the definition for a qualified operating company; that is, the definition could specify an income

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99. *Id.* § 235-110.9(g).

100. The categories covered include: (1) Internet-related activities; (2) information and communication technologies; (3) advanced-materials and processing technologies; (4) engineering, production, biotechnology or defense technologies; and (5) electronic and photonic devices and components. D.C. CODE § 47-1817.01(5)(A)(iii).

101. *Id.* § 47-1817.01(5)(A).

102. *Id.* § 47-1817.01(5)(B).

103. The term "qualified research" is used throughout various sections of the Code in the context of "qualified research expenses" (QRE). *See, e.g.*, I.R.C § 280C(c) (2006) (denying a deduction for the portion of QRE or basic research expenses equal to the amount of the elected research credit). The purpose for granting the research credit in § 41 of the Code, as added by the Economic Recovery Tax Act of 1981, was to stimulate innovation. Specifically, Congress stated the following reasons: (1) To overcome the resistance of some businesses to incur the significant costs involved in research projects; (2) To encourage companies to engage in research activities which might otherwise not be undertaken because of the reluctance to allocate scarce funds for "uncertain rewards"; (3) That incentives to stimulate productivity would lead to greater private activity in research; and (4) The decline in R&D activities in the United States adversely affected economic growth and competitiveness in world markets and needed to be addressed. *See S. REP. NO. 97-144 (1981), reprinted in 1981 U.S.C.C.A.N. 105, 181-82.*

104. Such an operational requirement would weed out NPEs existing solely on paper. *See Blumberg & Sydell, supra* note 36 (noting that some NPEs are nothing more than a group of lawyers running "paper" companies with empty offices).

threshold and operations or industry requirements.<sup>105</sup> For example, the Code could define a harmful NPE as a business that receives at least 51 percent of its gross income from royalties derived from IP developed neither in-house nor through the use of contractual R&D services. Defining a harmful NPE in this manner targets the fact that the vast majority of patent holdings by NPEs are not developed by those NPEs. Furthermore, such a definition may apply in other situations where IP rights are similarly abused, such as the tax-avoidance schemes involving IP holding companies.<sup>106</sup>

### III. INNOVATION AND THE CODE

As Part I discusses, the development and dissemination of technological innovation in the modern IP ecosystem involves the interactions of distinct sets of actors, some of whom operate to benefit the progress of innovation while others act to impede it. Although the primary mechanism for promoting innovation should probably not come from tax law,<sup>107</sup> the Code already contains provisions that with slight modification could better promote their desired effects on innovation. Namely, the suggested modifications to the Code detailed below will better incentivize inventors and operating companies to create, exchange, and productively use IP assets and foreclose opportunities for NPEs to misappropriate tax incentives.

#### *A. Incentivizing Inventors and Operating Companies*

Generally, there are two areas of the Code where Congress can make improvements to better incentivize technological innovation: rules governing IP asset creation and exchange and rules incentivizing investments in technology companies. Many of these improvements are incremental in nature, like adjusting the depreciation schedule of IP assets.<sup>108</sup> A change in these rules to narrowly tailor the incentives therein would improve their effects.

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105. Cf. HAW. REV. STAT. § 235–110.9(g).

106. See generally Xuan-Thao N. Nguyen, *Holding Intellectual Property*, 39 GA. L. REV. 1155 (2005) (discussing the general scheme of tax avoidance using IP holding companies and the constitutional challenges to limiting them).

107. U.S. CONGRESS JOINT COMM. ON TAXATION, *supra* note 13, at 16–18 (stating that although current data indicates research spending in the United States is not at efficient levels, the effect of tax policy on research activity is largely uncertain because there is relatively little consensus regarding the magnitude of the responsiveness of research to changes in taxes and other factors affecting its price).

108. The following are common recommendations for improving the Code: (1) make various tax credits usable against AMT; (2) regularly review the economic lives of intangible assets and adjust depreciation schedules accordingly; (3) extend § 1202 to cover investments in

## 1. Exempt Early-Stage High-Technology Companies from the Personal-Holding-Company Surtax

The Personal-Holding-Company (PHC) surtax under §§ 541 and 542 seeks to eliminate incentives for taxpayers to create “incorporated pocketbooks.”<sup>109</sup> The PHC surtax was introduced at a time when the top corporate tax rate was lower than the top individual tax rate, and when wealthy individuals and families would abuse this tax rate differential by placing their investment assets into controlled corporations so that the income generated from those assets would be taxed at a lower rate.<sup>110</sup> Without change, this provision may inadvertently impede technological innovation at the point of IP creation.

The PHC surtax is prohibitively costly to companies that fall outside its exemptions. Currently, the PHC surtax is set at 15 percent of a corporation’s undistributed “personal holding company income”<sup>111</sup> and is imposed on a qualified corporation whenever at least 60 percent of its adjusted ordinary gross income for the taxable year is “personal holding company income.”<sup>112</sup> A qualified corporation is one in which no more than five individuals either directly or indirectly owned at least 50 percent of the value of the stock in the company during the last half of the taxable year.<sup>113</sup> Unless a corporation is of a type

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other business forms in addition to C-corporations; (4) broaden § 174 to include patent licensing costs; and (5) broaden § 1235 to include transferring entities other than individuals. *See Tax Reform Options: Incentives for Innovation, Hearing Before the S. Fin. Comm.*, 112th Cong. (2011) (statement of Annette Nellen, Professor, San Jose State University); Jeffrey A. Maine & Xuan-Thao Nguyen, *The Unequal Tax Treatment of Intellectual Property*, 2011 TAX NOTES TODAY 931, 934–35; Nguyen & Maine, *supra* note 2, at 838–45.

109. Edward A. Morgan, *The Domestic Technology Base Company: The Dilemma of an Operating Company Which Might Be a Personal Holding Company*, 33 TAX L. REV. 233, 237–40 (1978). Morgan points to statutes and congressional reports to support the proposition that, “The personal holding company tax was enacted in 1934 (and significantly strengthened in 1937 and in 1964) to mechanically impose a stiff penalty on ‘incorporated pocketbooks,’ ‘incorporated yachts,’ ‘incorporated talents’ and the like, without any necessity for proving a purpose of avoiding income taxes.” *See id.* at 239–40 (footnotes omitted).

110. *See id.*

111. I.R.C. § 541 (2006), amended by American Taxpayer Relief Act of 2012, Pub. L. No. 112-240, § 102(c)(1)(B), 126 Stat. 2313, 2319 (2013).

112. Classification as a “personal holding company” occurs when two requirements are met: (1) at least 60 percent of a corporation’s adjusted ordinary gross income is “personal holding company income,” and (2) at any time during the last half of the taxable year, more than 50 percent in value of a corporation’s outstanding stock is owned, directly or indirectly, by or for five or fewer individuals. *Id.* § 542(a). A “personal holding company” is any corporation, other than a corporation described in I.R.C. § 542(c), where at least 60 percent of its adjusted ordinary gross income is “personal holding company income.” *Id.* “Personal holding company income” means the portion of adjusted gross income that consists of certain classes of passive income touching on qualified dividends, interest, royalties, and rents. *Id.* § 543(a).

113. *Id.* § 542(a).

exempted under § 542(c), if it passes the income and ownership tests, it qualifies as a PHC and is subject to the surtax, even if the company is not an “incorporated pocketbook.”<sup>114</sup>

Unfortunately, in some instances, early-stage high-technology startups may unwittingly fall into this trap. Take, for instance, a startup with five founders who have licensed two patents (Patent One and Patent Two) with which they intend to build products. The founders decide that it makes good business sense to sublicense Patent One and use the resulting revenues to develop a product incorporating the technology of Patent Two. They will, at a later date, use the earnings from that initial product to fund product development incorporating Patent One. Despite their intention to retain the sublicensing royalties for product development and not for tax evasion as preempted by § 541, this startup would nevertheless be subject to the surtax.<sup>115</sup>

The unintended tax that the PHC surtax imposes on legitimate technology companies has been observed for at least thirty years.<sup>116</sup> The solution to removing it, however, is actually quite simple: add high-technology startup companies and other legitimate IP-oriented companies to the list of exempted business types in § 542(c). Such an addition would align with the PHC surtax’s legislative intent of not hampering active operating businesses.<sup>117</sup> Congress has used § 542(c) as a safety valve; indeed, for a period of about forty years after the enactment of the PHC surtax in 1937, Congress continually added to the list of exempted businesses.<sup>118</sup> In sum, a modification to § 542(c)

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114. *Id.*

115. Walter E. Daniels, *The Personal Holding Company Tax: A Potential Trap for Early Stage High Tech Companies*, WRALTECHWIRE (Feb. 20, 2008), [http://wraltechwire.com/business/tech\\_wire/opinion/story/2458989](http://wraltechwire.com/business/tech_wire/opinion/story/2458989).

116. See, for example, Morgan, *supra* note 109, at 240–44, published in 1978, and which discusses the unintended impact of the PHC surtax on technology companies.

117. The 1937 committee reports discussed the protection of operating companies: “Under existing law, rents are excluded from the [personal holding company income] classification. This was done principally so as not to interfere with bona-fide and legitimate operating companies, whose business consisted of the ownership and operation of office buildings, apartment houses, etc.” Morgan, *supra* note 109, 240–41 (citation omitted).

118. *Id.* at 241–44. Such businesses include:

[H]olders of mineral, oil, or gas royalties (in 1937); licensed personal finance companies (in 1938); affiliated groups of railroad corporations (in 1938); industrial banks and Morris Plan companies (in 1942); other small loan companies and finance companies (in 1950); corporations renting property to shareholders for use in an active commercial, industrial or mining enterprise (in 1950, retroactive to 1945); domestic building and loan associations (in 1951); shipping enterprises depositing amounts in Merchant Marine Act reserves (in 1954); corporate affiliated groups generally (in 1954); corporations renting property to shareholders but not having other significant personal holding company income (in 1954); small business investment companies (in 1959); music publishers (in 1960); movie producers (in 1964 and again in 1976); securities dealers handling U.S. government bonds (in 1964); manufacturers leading

to exempt certain high-technology startup companies would comport with the original legislative intent of this provision and alleviate an unintended nuisance on technological innovation at the point of IP creation.

## 2. Expand the Narrow Definition of “Research and Experimental Expenditures” to Include Patent Acquisitions

Sections 174 and 41 provide tax incentives to encourage research activity and to stimulate technological development.<sup>119</sup> Section 174 gives taxpayers the option of either currently deducting or amortizing certain “research and experimental expenditures,”<sup>120</sup> while § 41 gives taxpayers an incremental credit for any increases in those expenditures above a base amount.<sup>121</sup> Congress’s intent in creating these provisions was to encourage innovation by decreasing the business risks associated with research in technologies exhibiting uncertain market value.<sup>122</sup>

Generally, §§ 174 and 41 work in conjunction to incentivize activities falling into a narrow definition of R&D, effectively limiting the application of these incentives to just those expenses that are proximately related to laboratory research.<sup>123</sup> Specifically, according to the regulations, the term “research or experimental expenditures” as used in these sections means expenditures incurred in connection with the taxpayer’s trade or business that represent R&D costs in the “experimental or laboratory sense.”<sup>124</sup> The regulations further state, albeit in broad language, that to qualify as a cost in the experimental or laboratory sense, the cost must be incurred “for activities intended to discover information that would eliminate uncertainty concerning the development or improvement of a product.”<sup>125</sup> Despite this broad language, the IRS and the courts have narrowly interpreted qualified expenses under § 174 to be limited to in-house wages and necessary overhead costs (e.g., costs of facilities, utilities and maintenance, and

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their products and also realizing related royalty income (1964, and again in 1966); corporate affiliated groups with life insurance subsidiaries (in 1974); and franchisors leasing the franchise and other property to shareholders for use in an active business (in 1976).

*Id.*

119. See *Tax Reform Options: Incentives for Innovation*, *supra* note 108, at 4–5; Nguyen & Maine, *supra* note 2, at 831–33.

120. I.R.C. § 174(a)–(b) (2006).

121. American Taxpayer Relief Act of 2012, Pub. L. No. 112-240, § 102(c)(1)(B), 126 Stat. 2313, 2326–27 (2013).

122. See Nguyen & Maine, *supra* note 2, at 831–33.

123. *Id.*

124. Treas. Reg. § 1.174–2(a)(1) (as amended in 1994).

125. *Id.*

supplies) related to research that either the taxpayer or a third party working on behalf of the taxpayer has directly incurred.<sup>126</sup>

Moreover, in situations where capital assets are involved, the regulations make a strong distinction between the cost of developing an asset as a result of research versus the cost of acquiring an asset that another party has developed: only the former is eligible for special treatment under § 174.<sup>127</sup> This distinction is explicit with respect to patents where the regulations disqualify the costs associated with “[t]he acquisition of another’s patent, model, production or process,”<sup>128</sup> but allow the costs, including attorneys’ fees, of “making and perfecting a patent application.”<sup>129</sup>

Although Congress designed this distinction to work in harmony with the intangible-asset-depreciation rules,<sup>130</sup> it is incongruous with current R&D practices in high-technology industries where products are characterized by a substantial interdependence of disparate technologies.<sup>131</sup> Take, for instance, the estimate that no single firm owns more than 30 percent of the patents required to design and manufacture a semiconductor.<sup>132</sup> In this case, it is conceivable that the largest cost component of researching new ways to design or manufacture these products actually comes from the licensing or acquisition of necessary patents.

This incongruity also arises in biotechnology research where it is common industry practice for companies to enter into collaboration agreements with each other for the right to exploit the result of promising high-risk research. Usually, these agreements arise when a

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126. See Rev. Rul. 73-275, 1973-1 C.B. 134 (determining that unspecified overhead costs of a product engineering department were covered by § 174 given that the development and design of each product is undertaken at the taxpayer’s risk); Rev. Rul. 73-20, 1973-1 C.B. 133 (determining that expenses paid to an intermediary administrative organization that channeled funds to a separate organization conducting research were covered by § 174); see also *Kilroy v. Comm’r*, 41 T.C.M. (CCH) 292 (1980) (holding that a taxpayer’s research and experimental inventing activities as well as office expenses related to inventing were deductible under § 174 because his patent applications and marketing activities showed that he was engaged in the trade or business of inventing); *Magee v. Comm’r*, 32 T.C.M. (CCH) 1277 (1973) (holding that a broad range of general business-related overhead costs associated with the invention of a scaffolding device by a painter qualified under § 174).

127. See Rev. Rul. 73-275, 1973-1 C.B. 134 (distinguishing between the costs of developing the concept of a product and the costs of developing the product itself); Rev. Rul. 73-20, 1973-1 C.B. 133 (distinguishing between acquiring a model and acquiring land or depreciable property); *Magee*, 32 T.C.M. (CCH) 1277 (holding that goods purchased to use predominantly for innovation may fall under § 174).

128. Treas. Reg. § 1.174-2(a)(3)(vi) (as amended in 1994).

129. *Id.* § 1.174-2(a)(1).

130. See generally I.R.C. § 197 (2006) (setting forth depreciation rules for intangible assets).

131. See *supra* Part I.

132. Hagi & Yoffie, *supra* note 26, at 17.



smaller company with promising research in the development of a precursor technology does not have the proper resources to bring its product to fruition.<sup>133</sup> To overcome this problem, the smaller firm contracts with a larger firm that has an interest in incorporating the smaller firm's potential technology into a commercial product. These agreements usually involve up-front payments, as well as milestone payments, by the larger firm to the smaller firm for incremental progress in R&D (e.g., advancement to Phase III clinical trials, filing of a New Drug Application, or receiving FDA marketing approval).<sup>134</sup> Although the larger firm would like to claim these payments as qualified research expenses under § 174, the current regime characterizes these payments as capital expenses subject to § 263(a).<sup>135</sup> Oddly though, if the product were a depreciable asset instead of a patent, these expenses might possibly be deductible under § 174.<sup>136</sup>

In light of these incongruities with current R&D practices, modifying § 174 by removing the bar on patent acquisition expenses might better achieve Congress's original intent in enacting this provision. Some additional rules must be in place, however, in order to protect against abuse. First, there should be some mechanism to recapture the benefits from current deductions or the potentially shorter amortization schedule under § 174 in the event that the acquired patent is used to generate income as a stand-alone capital asset. For instance, when the taxpayer begins to derive royalties from the acquired patent independent from the technology resulting from his research, the costs associated with acquiring that patent should

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133. Jennifer Giordano-Coltart & Charles W. Calkins, *Best Practices in Patent License Negotiations*, 25 NATURE BIOTECHNOLOGY 1 (Oct. 26, 2007), <http://www.nature.com/bioent/2007/071001/full/bioe.2007.5.html>.

134. *See id.* at 3 (“[A] typical license will include a signing fee, reimbursement and ongoing payment of patent prosecution costs, milestone payments, minimum annual royalties and a percentage royalty on sales.”).

135. Memorandum from John Risacher to IRS Industry Directors, Industry Director Directive on the Proper Treatment of Upfront Fees, Milestone Payments, Royalties and Deferred Income (May 7, 2007), available at <http://www.irs.gov/Businesses/Industry-Director-Directive-on-the-Proper-Treatment-of-Upfront-Fees,-Milestone-Payments,-Royalties-and-Deferred-Income>. Industry Director John Risacher explained:

Generally, these type[s] of costs are not currently deductible under I.R.C. § 174 either because they represent payments to participate (entry fees) in the research endeavor or because they represent payments for already developed know how, and thus are not a cost of research that is yet to be performed. Rather, these payments are capital expenditures subject to I.R.C. § 263(a).

*Id.*; *see also* Treas. Reg. § 1.263(a)-4(b)(1), (3) (as amended in 2004).

136. *See* Rev. Rul. 69-484, 1969-2 C.B. 38 (allowing an airline to claim, as I.R.C. § 174 expenses, payments made to an aircraft manufacturer to defray the cost of design, development, and fabrication of a prototype aircraft that the manufacturer would eventually develop for sale in its business and where the units of which would be available for sale to the airline).

permanently revert to a capital expense adhering to a fifteen year depreciation schedule under § 197, as opposed to an immediate deduction or a greatly shortened schedule under § 174.<sup>137</sup> Another necessary protection should guard against abuse by NPEs. Since some NPEs conduct research and develop patented technologies, albeit for the purpose of waging patent litigation, there should be an additional test for eligibility under § 174 that examines the amount of litigation activity performed by the taxpayer. Such a test could require a taxpayer claiming a § 174 deduction for a patent acquisition to account for his litigation expenditures. Furthermore, his eligibility would depend on whether his average expenditures in a given period exceeded a certain threshold. An analog to such a test currently exists in § 41 R&D tax-credit determinations for qualified research.<sup>138</sup> A test to weed out NPEs in this scenario would be especially necessary given the increased opportunity to abuse the capital-gains incentive under § 1235.<sup>139</sup> A strict statutory definition for NPEs could serve such a purpose.

### 3. Renew § 41—R&D Credits for Qualified Research Expenditures—for Substantially Longer Periods of Time or Make that Section a Permanent Part of the Code

Congress enacted the research expenditure credit under § 41 in 1981 in order to encourage increased research spending in the United

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137. As soon as a patent is used to generate revenue independent from its use as a component of R&D, it falls outside the purpose of I.R.C. § 174, which is to promote innovation. Therefore, the holder of that patent should not be allowed to recover the cost of his acquisition on an accelerated schedule under § 174 (i.e., immediate deduction or ratable deduction over a period of at least five years). See I.R.C. § 174(a)–(b) (2006). “Depreciation” or “amortization” allows a taxpayer to recover the cost of his capital on a schedule based on the theoretical depreciation of the asset at issue. A deduction of his capital cost against gross income is a method by which a taxpayer may recover his capital. Under the principles of US tax law, recovery of capital is not considered “income” and is therefore not taxable. See *generally* *Commr. v. Glenshaw Glass Co.*, 211 F.2d 928 (1954) (stating the basic tenet of the recovery of capital doctrine by declaring “[i]f the property or money paid represents a return of capital or a contribution to capital it is not subject to income taxation”).

138. The tax credit applies to incremental increases in R&D spending above a base amount (e.g., the average spending over the last three years). See I.R.C. § 41(a), (c) (2006), *amended by* American Taxpayer Relief Act of 2012, Pub. L. No. 112-240, § 102(c)(1)(B), 126 Stat. 2313, 2326–28 (2013).

139. Section 1235 categorizes any gain on the sale or other qualified disposition (including some licenses) of a patent as capital gain. Awards from litigation can be categorized as royalties, and depending on the type of license that is constructed, may be qualified as capital gains. Since § 1235 is available only to inventors or persons who acquire an invention from an inventor, NPEs can take particular advantage of § 1235 if unchecked (most NPEs are pass-through entities, and the royalties are allocated to individuals behind the entity, in this case for § 1235 determinations). See I.R.C. § 1235(a); Treas. Reg. § 1.1235-1(c)(1) (1980).

States by alleviating some of the risks companies faced when undertaking research with uncertain rewards.<sup>140</sup> The credit applies only to a portion of qualified research expenditures above what a company typically spends, effectively making the credit an incentive only for increased research activity.<sup>141</sup>

Since its inception, however, § 41 has remained a temporary provision, and Congress has allowed it to expire repeatedly over its life only to renew it again, sometimes retroactively. In fact, the most recent session of Congress at the time of this writing, the 112th Congress, allowed this provision to expire on December 31, 2011, its fifteenth expiration since 1985.<sup>142</sup> There are currently a number of congressional bills proposing to extend this provision for another year, but thus far, these bills are still in committee.<sup>143</sup>

Extending this credit for periods longer than one year would be conducive to the goal of promoting innovation. Such an extension would provide companies more clarity when crafting their long-term plans. A longer effective period is also necessary since it may take some time before any significant increases in R&D spending as a result of the credit can occur.<sup>144</sup> Also, a temporary credit may place the United States at a competitive disadvantage in the global economy compared with countries that offer permanent credits.<sup>145</sup>

#### 4. Further Shape the Regulations Regarding the Tax Treatment of Cross-Licensing Agreements to Broadly Favor Information Exchanges that Foster Innovation

The proper tax treatment of CLAs has been under much debate. In 2006, the IRS issued a request for comments, information, and documents on CLAs in order to better understand these transactions.<sup>146</sup> In response to this request, several commentators stated that companies typically enter into CLAs to provide each party unfettered use of their respective patents. That is, parties to a CLA seek the “freedom to operate” or the freedom to use their own IP without threat of costly patent litigation from potentially competing

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140. See *Tax Reform Options: Incentives for Innovation*, *supra* note 108, at 8–9.

141. *Id.* at 9.

142. *Id.*

143. See, e.g., H.R. 3476, 112th Cong. (2011) (as referred to H. Subcomm., Jan. 12, 2012); S. 1866, 112th Cong. (2011) (as referred to S. Comm. on Fin., Nov. 15, 2011).

144. See *Tax Reform Options: Incentives for Innovation: Hearing Before the S. Fin. Comm.*, *supra* note 108 (statement of Dr. Dirk Pilat, Head of the Structural Policy Division, Organisation for Economic Co-operation and Development Directorate for Science, Technology and Industry).

145. See *id.*

146. I.R.S. Notice 2006-34, 2006-1 C.B. 705.

patent claims of the other party.<sup>147</sup> Typically, parties to these arrangements do not value the patents involved beyond a broad relative judgment reflected in the cash payments made between contracting parties.<sup>148</sup> Based on this general characterization, the Internal Revenue Service issued Revenue Procedure 2007-23 describing the proper tax treatment of what it calls a Qualified Patent Cross Licensing Arrangement (QPCLA).<sup>149</sup> A QPCLA is a CLA that is nonexclusive, nontransferable, and between uncontrolled parties, the subject matter of which is limited to the parties' present or future patent rights, as specified in the arrangement.<sup>150</sup> QPCLAs are taxed only on the amount of any cash exchanged.<sup>151</sup> This Revenue Procedure is the first step among many required to grant more clarity into the tax consequences of information-sharing activities of operating companies. In fact, in the same Revenue Procedure, the IRS requested additional information on other types of arrangements, such as joint IP-development agreements.<sup>152</sup>

#### 5. Formally Adopt a Liberal Interpretation of the Law Regarding the Tax Treatment of Like-Kind Patent Exchanges Under § 1031

Section 1031 grants taxpayers nonrecognition of gains or losses on like-kind exchanges of properties held for productive use in a trade or business or for investment.<sup>153</sup> Congress enacted this provision to facilitate transactions where a taxpayer does not “cash out” of his economic position. Cashing out typically occurs in exchanges of illiquid assets such as real estate.<sup>154</sup>

Despite the longevity of both the patent system and the special treatment of like-kind exchanges,<sup>155</sup> there has been relatively little

147. Rev. Proc. 2007-23, 2007-1 C.B. 675.

148. *Id.*

149. *Id.*

150. *Id.*

151. *Id.*

152. *Id.*

153. I.R.C. § 1031(a) (2006).

154. See Erik M. Jensen, *The Uneasy Justification for Special Treatment of Like-Kind Exchanges*, 4 AM. J. TAX POL'Y 193, 199–200 (1985). Jensen explains:

The basic reason for allowing nonrecognition of gain or loss on the exchange of like-kind property is that the taxpayer's economic situation after the exchange is fundamentally the same as it was before the transaction occurred . . . . The underlying assumption of section 1031(a) is that the new property is substantially a continuation of the old investment still unliquidated.

*Id.* at 199 n.29 (citing *Koch v. Comm'r*, 71 T.C. 54, 63–64 (1978)).

155. The patent system has its origins in the founding of the nation and like-kind exchanges have received special treatment since 1921. See U.S. CONST. art. I, § 8, cl. 8; I.R.C. § 202(c)(1).

guidance on the proper treatment of patent exchanges. What little guidance there is comes from regulations dealing with intangibles in a general sense and case-by-case interpretations of the rules.<sup>156</sup> For instance, according to Treasury Regulation Section 1.1031(a)-2(c), whether an exchange of intangibles qualifies for non-recognition under § 1031 depends on a two-prong test analyzing the “nature or character” of the rights inherent in the intangible and the underlying property itself.<sup>157</sup> In Technical Advice Memorandum 200602034, the IRS analogizes to the treatment of depreciable tangible personal property in deciding that an exchange of patents passes this test whenever the patents match North American Industry Classification System (NAICS) general asset classes and product classes.<sup>158</sup> In this same memorandum, the IRS explicitly rejected the use of the broad classification scheme used in US patent law (i.e., process, machine, manufacture, or composition of matter), stating that “the tax law with respect to like-kind exchanges generally mandates specificity and the analysis of exchanges on an item-by-item basis rather than on a global basis.”<sup>159</sup>

Ironically, although the IRS sought to narrow the test for qualified like-kind patent exchanges, it inadvertently created a rather liberal interpretation of the rules. Patents are, by nature, descriptive of fundamental technologies that can touch upon several different classes of products; for example, a patent for an electronic circuit could touch upon a multitude of consumer products as well as industrial products. The regulations the IRS has cited state that NAICS product classes are determined as of the date of the exchange and that a property listed in more than one product class is treated as listed in any one of those product classes. Given this guidance, it would appear that patents can qualify for § 1031 like-kind exchanges with relative ease—a condition that would facilitate the information exchanges between operating companies necessary to promote innovation. There

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156. LaVonne D. Lawson, *Like-Kind Exchanges of Intangible Assets under Section 1031*, L.A. CNTY. BAR ASS'N TAXATION SECTION, at 6 (2006), <http://www.lacba.org/Files/Main%20Folder/Sections/Taxation/Files/7.pdf>.

157. Treas. Reg. § 1.1031(a)-2(c)(1) (as amended in 2005).

158. The IRS included the following explanation in a national office technical advice memorandum:

Thus, the first prong of the test under § 1.1031(a)-2(c)(1) is satisfied if a patent exists on both sides of the exchange. In testing whether there is a match of the underlying property for purposes of satisfying the second prong of the like-kind test set forth in § 1.1031(a)-2(c)(1), matching by General Asset Class under § 1.1031(a)-2(b)(2) and the Product Classes of § 1.1031(a)-2(b)(3) is both reasonable and consistent with the Income Tax Regulations.

I.R.S. Tech. Adv. Mem. 200602034 (Jan. 13, 2006).

159. *Id.*

is continued uncertainty, however, because this guidance currently rests solely on an analogy to a related item in the regulations and on a single case analysis. Formally adopting this guidance by adding it to the regulations would remove uncertainty and promote innovation.

### *B. Foreclosing Misappropriation Opportunities for NPEs*

Another important way to ensure that the tax incentives for innovation in the Code are validly used by innovating companies is to eliminate any application of these incentives to income derived from litigation. The following recommendations require an operable mechanism for distinguishing NPEs from operating companies. Congress could borrow such a mechanism from state tax codes containing provisions that directly target high-technology companies, for example the tax codes of Hawai'i and DC.<sup>160</sup>

#### 1. Deny Capital-Gains Treatment for Any Patent-Litigation Recoveries by NPEs

Congress enacted § 1235 to encourage innovation by allowing professional inventors and technology investors to treat proceeds from a qualified disposition of a patent as capital gains.<sup>161</sup> In order to obtain capital-gains treatment, the transferor must be an individual (as opposed to a corporation), must transfer an undivided interest in all substantial rights to an unrelated entity (i.e., an individual, a partnership, or a corporation), and must make this transfer before reducing the invention to practice (i.e., before commercializing the invention).<sup>162</sup> An undivided interest can be a fraction of each individual right in the bundle provided by the patent, for example the right to exclude others from making, using, or selling the invention. And the Code determines whether all substantial rights have been

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160. For example, the Hawai'i Code provides:

“Qualified high technology business” means a business, employing or owning capital or property, or maintaining an office, in this State; provided that:

(1) More than fifty per cent of its total business activities are qualified research; and provided further that the business conducts more than seventy-five per cent of its qualified research in this State; or

(2) More than seventy-five per cent of its gross income is derived from qualified research; and provided further that this income is received from:

(A) Products sold from, manufactured in, or produced in this State; or

(B) Services performed in this State.

HAW. REV. STAT. § 235-110.9 (2012); see *supra* Part II; see also GOVERNMENT OF D.C., *supra* note 97.

161. Treas. Reg. § 1.1235-1(a) (1980).

162. *Id.* § 1.1235-2(c), -2(d)(1)(ii) (including “prior to the actual reduction of the invention to practice” language).

transferred by what the transferor retains after the transaction and not by what he has given up.<sup>163</sup> For example, an inventor who transfers all of his rights in an invention to a partnership owned by individuals of no relation to the inventor may treat his earnings as capital gains (or losses, if incurred). In this scenario, each partner receives a fraction of the undivided interests in the patent, which he may then subsequently transfer again with capital-gains treatment under § 1235.<sup>164</sup> Most importantly for NPEs, according to the regulations, earnings from settlements or damages from patent disputes may also qualify as capital gains under § 1235 so long as a party transfers all substantial rights.<sup>165</sup>

The tax incentive § 1235 provides is potentially an unintended boon to the NPE industry since many NPEs are small non-operating partnerships or limited liability companies consisting mainly of a handful of individual investors or lawyers.<sup>166</sup> By structuring settlements in patent disputes properly, such NPEs could enjoy capital-gains treatment under § 1235 for their recoveries.<sup>167</sup> The same treatment could also be applicable to gains from court judgments<sup>168</sup> but only as applied to compensatory damages for economic losses.<sup>169</sup> Given that Congress did not intend to enact § 1235 in order to incentivize litigation, a test to disqualify NPEs from claiming this incentive would be prudent. A simple statutory exclusion or qualifier may suffice—one that explicitly limits § 1235 capital gains to QHTBs.<sup>170</sup>

## 2. Deny § 186 Deductions for Any Patent-Litigation Recoveries by NPEs

In a similar vein, Congress should also narrowly tailor the tax benefit under § 186 to exclude NPEs. Congress added § 186 to the Code in 1969 to reduce or eliminate the tax on compensatory damages

163. See *id.* § 1.1235-2(d)(1)(ii).

164. *Id.* § 1.1235-2(d)(2).

165. *Id.* § 1.1235-1(c)(1).

166. See Blumberg & Sydell, *supra* note 36.

167. See Treas. Reg. § 1.1235-2(c), -2(d)(1)(ii) (including “prior to the actual reduction of the invention to practice” language).

168. See *Longino Estate v. Comm’r*, 32 T.C. 904 (1959) (considering a settlement); *Levens v. Comm’r*, 10 T.C.M. 1083 (1951) (considering an arbitration award); see generally Robert W. Wood, *More Thoughts on Taxation of Commercial Litigation Income*, 84 TAX NOTES 1100 (1999) (discussing issues in the tax treatment of commercial litigation recoveries).

169. Treas. Reg. § 1.186-1(c)(1) (1972).

170. Hawai’i exempts patent royalties from state income taxes only for individuals or QHTC and only for those patents developed and arising out of business. HAW. REV. STAT. § 235-7.3 (2012).

in antitrust, breach of contract, and patent-infringement recoveries.<sup>171</sup> Under § 186, a taxpayer is allowed to deduct an amount from ordinary income, subject to certain qualifications, that is equal to the compensatory damage amount or unrecovered loss amount, if during the years of the violation the taxpayer had net operating losses greater than or equal to those loss amounts.<sup>172</sup> The purpose of enacting § 186 was to ensure that compensatory damages would be taxable only when the lost profits for which they compensate would have been taxable.<sup>173</sup>

NPEs can abuse this deduction under § 186 rather easily by claiming an unrecovered loss on the allegedly lost royalties, regardless of the validity of the patent from which these royalties would have derived. In 1969, NPE activity was nonexistent, and Congress did not intend for § 186 to subsidize a patent-litigation industry as § 186 likely does currently. Removing NPEs from qualifying for this deduction would better suit Congress's original intent for this section.

#### IV. CONCLUSION

The current ecosystem of innovation requires an adjustment to the existing tax laws governing and incentivizing the development, exchange, and productive use of technological IP. Operating companies today face many potentially crippling challenges to innovation due to the ever-present threat of patent holdup. For instance, the modern process of technological innovation requires input from a multitude of patented technologies, and it is uncommon for any one company to own or otherwise have rights to every necessary patent. This problem is further exacerbated by the opportunistic behavior of NPEs. Although the Code should not be the primary mechanism by which to promote innovation, there are existing provisions within the Code that Congress can adjust in order to better incentivize IP creation and exchange, and to foreclose opportunities by NPEs to misappropriate the tax benefits therein. One way of accomplishing this change is to incorporate a clear distinction between operating companies and NPEs into the Code. Some jurisdictions have already adopted such a strategy in their local tax laws. Given the increasingly challenging environment in which individuals and companies achieve innovation in the modern IP

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171. Edward Yorio, *The Taxation of Damages: Tax and Non-Tax Policy Considerations*, 62 CORNELL L. REV. 701, 724–25 (1977).

172. Treas. Reg. § 1.186-1(a) (1972).

173. See Yorio, *supra* note 171.



ecosystem, it may be prudent to consider doing the same at the federal level.