JUST COMPENSATION AS TRANSFER PRICES

Andrew Blair-Stanek*

Intellectual property creates two serious, seemingly unrelated problems. First, IP creates deadweight losses, because the exclusive rights granted to IP owners allow them to charge higher prices that keep some customers out of the market entirely. Second, multinational corporations avoid taxes on a massive scale by transferring their IP to tax havens.

This Article's proposal would address both problems simultaneously. The government should use eminent domain (also called compulsory purchase) to take some percentage of IP transferred by multinationals to tax havens. Compensation to the multinational should equal the price the multinational chose for transferring the IP. The government should then dedicate the taken IP to the public domain, thereby eliminating the deadweight losses. The threat of taking for transfer prices will reduce tax avoidance. This solution passes legal muster, since tax law requires that IP owners attest (under penalties of perjury) that the transfer prices chosen for tax purposes meet a standard that is identical to the Fifth Amendment Takings Clause standard for determining "just compensation." Crucially, this solution would not reduce the incentives IP law creates for innovation, but would merely cut the average tax savings from transferring the IP to tax havens.

This Article also makes two theoretical contributions. First, it upends the widespread assumption that allowing property owners to self-assess their potential "just compensation" works only for real property. Second, it challenges the conventional wisdom that transferring IP to tax havens is always socially detrimental. This Article's proposal harnesses these tax-avoidance strategies to eliminate deadweight losses.

---

* Associate Professor of Law, University of Maryland Carey School of Law. J.D., Yale Law School. A.B. in Mathematics summa cum laude, Princeton University. Inventor of U.S. Patents 7,617,204 and 7,580,951. The Author thanks the participants at Duke's Tax Policy Workshop, the Critical Tax Workshop at Northwestern, and two workshops at Maryland, as well as Dean Baker, Charlotte Crane, Lorraine Eden, Daniel Epps, James Grimmelmann, Daniel Hemel, William Hoke, Arti Rai, and Lawrence Zelenak. The Author gratefully acknowledges the research assistance of Akhila Rao, Nicholas Schwienteck, and Mona Qureshi. All errors are the Author's.

TABLE OF CONTENTS

INTRODUCTION

The prices charged for patented pharmaceuticals have become a leading public-policy issue, with presidential candidates from both parties weighing in,[1]

1. *E.g.*, Stephanie Armour, *Lawmakers, Candidates Target High Drug Prices*, WALL ST. J., Nov. 16, 2015, at A4 (recounting comments by Donald Trump and Ted Cruz); Patrick Healy & Margot Sanger-Katz, *Hillary Clinton Proposes Cap on Patients' Drug Costs as Bernie Sanders Pushes His Plan*, N.Y. TIMES, Sep. 22, 2015, at A13; *Full Transcript: Democratic Presidential Debate*, N.Y. TIMES (Oct. 14, 2015), http://www.nytimes.com/2015/10/14/us/politics/democratic-debate-transcript.html [hereinafter *Democratic Presidential Debate*] ("[Moderator:] Which *enemy* are you most proud of? . . . CLINTON: . . . the drug companies . . . . SANDERS: . . . Wall Street and the pharmaceutical industry . . . ." (emphasis added)); Joseph Walker & Heather Haddon, *Marco Rubio Latest to Speak Out on Prescription Drug Prices*, WALL STREET J. (Oct. 20,

the *New York Times* and *Wall Street Journal* running numerous front-page articles,[2] and economics Nobel Laureates proposing solutions.[3] Meanwhile, in what may seem to be a completely unrelated policy challenge, multinational corporations' use of intellectual property ("IP") to avoid taxes has also risen to the front pages and drawn attention from both policymakers and scholars.[4]

This Article proposes a new approach to address both problems, while still preserving the incentives to develop new life-saving patented drugs. Holders of valuable IP—particularly drug companies—avoid taxes on an epic scale by transferring their IP to subsidiaries in tax havens for low prices. The government can use eminent domain to take this IP, with the required "just compensation"[5] equal to the same low prices that IP holders use when transferring their IP. Immediately after taking the IP, the government can make the IP free for anyone to use. When the taken IP is a drug patent, the immediate result would be to allow other companies to sell generic versions of the drug, thereby driving down prices, increasing access to medicines, and reducing healthcare expenditures.

This Article builds upon and expands the extensive "self-assessment" literature,[6] which aims to design mechanisms whereby owners of real property assess its value for both eminent domain and property tax purposes. The basic premise of the self-assessment literature is this: if landowners choose an inaccurately low value, they then have lower property taxes, but the low value is

---

2015, 8:05 PM), http://www.wsj.com/articles/marco-rubio-latest-to-speak-out-on-prescription-drug-prices-1445299557 ("Drug prices have become an increasingly hot-button issue.").

2. *See, e.g.*, Gina Kolata, *New Drugs Add to a Quandary on Cholesterol*, N.Y. TIMES, Aug. 30, 2015, at A1; Peter Loftus & Gary Fields, *Costly Drugs for Prisoners Weigh on Public Budgets*, WALL ST. J., Sep. 13, 2016, at A1; Peter Loftus, *Employers Battle Drug Costs*, WALL ST. J., Dec. 19, 2015, at A1; Andrew Pollack & Sabrina Tavernise, *A Drug Company's Price Tactics Pinch Insurers and Consumers*, N.Y. TIMES, Oct. 5, 2015, at A1; Sabrina Tavernise, *Patients Fear Spike in Price of Old Drugs*, N.Y. TIMES, Dec. 23, 2015, at A1; Joseph Walker, *Drug Prices Jolt Middle Class*, WALL. ST. J., Jan. 2, 2016, at A1.

3. *E.g.*, Glen Weyl & Jean Tirole, *Market Power Screens Willingness to Pay*, 127 Q. J. ECON. 1971 (2012); Joseph E. Stiglitz, *Prizes, Not Patents*, PROJECT SYNDICATE (May 6, 2007), *https://www.project-syndicate.org/commentary/prizes--not-patents*.

4. *See, e.g.*, Michael J. Graetz & Rachael Doud, *Technological Innovation, International Competition, and the Challenges of International Income Taxation*, 113 COLUM. L. REV. 347 (2013); Charles Duhigg & David Kocieniewski, *How Apple Sidesteps Billions in Taxes*, N.Y. TIMES, Apr. 29, 2012, at A1; Jonathan D. Rockoff & Dana Mattioli, *Pfizer Allergan Agree to Merge*, WALL ST. J., Nov. 23, 2015, at A1 (large corporate inversion driven largely by taxes); Richard Rubin et al., *Pfizer Heads for Fight with U.S. on Tax-Saving Allergan Deal*, WALL ST. J., Nov. 20, 2015, at A1.

5. U.S. CONST. amend. V (Takings Clause).

6. *See, e.g.*, Richard A. Epstein, *The Use and Limits of Self-Valuation Systems*, 81 U. CHI. L. REV. 109, 109 (2014) (calling the self-assessment literature "extensive"); Abraham Bell & Gideon Parchomovsky, *Taking Compensation Private*, 59 STAN. L. REV. 871 (2007) (proposing an "innovative bargaining mechanism" with self-assessment at its core); Saul Levmore, *Self-Assessed Valuation Systems for Tort and Other Law*, 68 VA. L. REV. 771 (1982) ("[S]elf-assessment is a valuable . . . tool for overcoming valuation problems in a wide variety of legal areas . . . .").

the compensation that they receive if the government takes their land.[7] Conversely, if landowners choose an inaccurately high value, they may receive that value if the government takes their land, but, if the government does not take their land, they face higher property taxes.[8] This extensive self-assessment literature implicitly assumes, incorrectly, that only real property is taxed based on the property's value,[9] leading to a scholarly consensus that self-assessment mechanisms can only work for real property.[10]

This Article demonstrates that this consensus is wrong: self-assessment mechanisms can easily work with IP. When a multinational corporation transfers its IP to a tax-haven subsidiary, the resulting corporate income tax is already based on the value of the IP, which the multinational has self-assessed (i.e., the transfer price).[11] Surprisingly, the self-assessment literature's approach may be even more useful with IP than with real property, because self-assessment of IP can fight the serious problem of the deadweight losses created by IP.[12]

Patents involve a trade-off between deadweight losses and giving incentives for innovation. Inventors are rewarded for their often-substantial contributions to society with a period of exclusivity, during which they can charge higher prices. But this reward comes at the cost of pricing many consumers out of

---

7. *E.g.*, Epstein, *supra* note 6, at 109–10 (self-assessment mechanisms must "punish private owners who undervalue their property").

8. *E.g.*, *id.* (self-assessment mechanisms "must bite both ways" by preventing owners from "overvalu[ing property] with impunity").

9. Bell & Parchomovsky, *supra* note 6, at 895 (providing a self-assessment proposal limited to only real property because it works only for property that is "subject to . . . taxes based upon the property's value"); Levmore, *supra* note 6, at 775 (focusing on real property taxes, since income taxes and other taxes based on "actual trades" do not present the same difficulties of comparability as real property taxes).

10. *E.g.*, Bell & Parchomovsky, *supra* note 6, at 895 (noting that it is not possible to extend their self-assessment proposal to takings of property other than real property).

11. *See infra* Section I.B and note 72.

12. There are two additional reasons—other than eliminating deadweight losses—why self-assessment might be even more effective with IP than with real property. First, virtually every drug patent could be usefully taken by the government, whereas most pieces of real estate have little conceivable government use. For example, the typical house has very little potential benefit to the government—as a road, school, military base, park, stadium or other public use—and thus the self-assessment literature has very little to do with the practicalities of most real estate. Second, IP transfers involve much higher tax rates than real property taxes. The U.S. corporate tax rate is 35%, I.R.C. § 11(b), whereas real property taxes are often expressed in mere "millage rates" (i.e., one-thousands of property value). *See Mill Rate*, BLACK'S LAW DICTIONARY (10th ed. 2014) (noting that *mill rate* is "also termed *millage rate*"). The tax downside to over-self-assessing property values is thus fairly small. Epstein, *supra* note 6, at 124 ("Real estate taxes are only a small fraction of market value"). By contrast, the tax downside to over-self-assessing IP transfer prices is a very high 35% of the amount of the over-assessment. Andrew Blair-Stanek, *Intellectual Property Law Solutions to Tax Avoidance*, 62 UCLA L. REV. 2, 10 (2015) ("Google must pay U.S. Corporate tax of 35 percent on these "arm's-length royalties."); *see also* 26 U.S.C. § 11(b)(1)(D) (2012) (providing for a 35% corporate-tax rate).

the market, while generating no revenue for the patent-holder.[13] This lose-lose situation is a deadweight loss to society.[14] Drug patents alone create deadweight losses that are estimated at around $100 billion per year.[15] Economists agree that society would gain immensely if governments could purchase such patents and immediately allow generic competition.[16] Yet scholars have never developed a workable mechanism for determining the proper purchase price for drug patents, which is crucial for ensuring proper *ex ante* incentives for innovation.[17]

No one has previously noticed that multinationals, who own most valuable IP, self-assess the value of their IP as part of their tax-avoidance strategies. Self-assessment mechanisms can work extremely well for IP, not only reducing deadweight losses, but also maintaining proper incentives for innovation.

If the government announces that it will take some percentage of transferred IP, with just compensation equal to the transfer price, then multinationals will react by choosing higher transfer prices that are only slightly below the profits that they expect the IP to generate.[18] The takings will thus have minimal impact on the incentives to innovate. To the extent that multinationals still choose transfer prices below the profits they expect the IP to generate, using transfer prices as just compensation would seem at first glance to undermine incentives to innovate. But the tax savings to multinationals from this underpricing

---

13. *See infra* Section I.A.

14. *See infra* Section I.A; *accord* Abraham Bell & Gideon Parchomovsky, *Pliability Rules*, 101 MICH. L. REV. 1, 68 (2002) (discussing the deadweight losses created by patents).

15. Robert C. Guell & Marvin Fischbaum, *Toward Allocative Efficiency in the Prescription Drug Industry*, 73 MILBANK Q. 213, 224 (1995) (estimating deadweight loss at between 38% and 369% of total patented pharmaceutical drug sales) [hereinafter Guell & Fischbaum, *Toward Allocative Efficiency*]; *see also* Robert C. Guell & Marvin Fischbaum, *Estimating Allocative Inefficiency in the Prescription Drug Industry*, 4 APPLIED ECON. LETTERS 419, 422 (1997) [hereinafter Guell & Fischbaum, *Estimating Allocative Inefficiency*] (studying pharmaceuticals with $8 billion in sales, which created an estimated $5 billion in deadweight loss, nearly 70%); *cf.* IMS INST. FOR HEALTHCARE INFORMATICS, THE GLOBAL USE OF MEDICINES: OUTLOOK THROUGH 2016, 8 (2012) (estimating worldwide patented pharmaceutical drug sales of $615 to $645 billion). Even the conservative 38% deadweight loss rate on such sales would exceed $200 billion. *Cf. Intellectual property: A Question of Utility*, ECONOMIST, Aug. 8, 2015, at 50 [hereinafter *IP Utility*] (stating that America's prescription-drug bill is now $374 billion); Dean Baker, *The Reform of Intellectual Property*, POST-AUTISTIC ECON. R. (July 5, 2005), http://www.paecon.net/PAEReview/wholeissues/issue32.htm (noting that in 2005 America was projected to spend $210 billion on prescription drugs, and stating that, if all drugs were available in generic form, those drugs would have cost approximately $50 billion, leaving a cost savings of $160 billion, which dwarfs the $25 billion that drug companies spent on R&D in that year).

16. *See, e.g.*, Robert C. Guell, *Haggling for a Patent: What a Government Would Have to Pay for Prescription Drug Patents*, 6 HEALTH ECON. 179, 180 (1997).

17. *See infra* notes 58–70 and accompanying text.

18. This Article extensively models and mathematically formalizes multinationals' incentives in Section II.B, *infra*, and the Appendix, *infra* p. 1133.

will, on average, more than make up this shortfall.[19] Under this Article's proposal, multinationals' incentives for innovation will actually still be *better* than if multinationals never transferred IP to avoid taxes.[20]

This Article's proposal also reduces deadweight losses. All IP that the government takes should be made free for anyone to use, thus eliminating the deadweight losses that the taken IP would have created.

This Article's proposal is pragmatic and politically viable, particularly as applied to drug patents. Drug prices are a hot issue on both sides of the political aisle.[21] As the president of a prominent healthcare organization observed in February 2016, "There's never been a time when this issue was as red hot as it is right now . . . . We've got major political candidates and news stories talking every day about [it]."[22] A recent poll found that 72% of all Americans say drug costs are "unreasonable" and three-quarters of Republicans support various government actions to reduce drug prices.[23] Donald Trump, while vying for the Republican presidential nomination, called a drug company's CEO a "spoiled brat" and "disgusting" for raising drug prices,[24] while he also promised to "properly negotiate" with drug companies.[25] Meanwhile, Democratic presidential candidates

---

19. For a full discussion of the continued tax benefits that this Article's proposal would allow, see *infra* Section III.A.

20. *See infra* Section III.A.

21. *See supra* note 1.

22. Joseph Walker, *Drugmakers Bid to Burnish Image*, WALL ST. J., Feb. 8, 2016, at B1 (quoting Michael Weinstein, president of the AIDS Healthcare Foundation, a nonprofit group that operates clinics and pharmacies for people with AIDS); *see also* Peter Loftus, *Drug Firms Ring in Higher Prices*, WALL ST. J., Jan. 11, 2016, at B1 (reporting 9–10% list-price increases in many pharmaceutical drugs between December 2015 and January 2016); Peter Loftus, *U.S. Drug Spending Climbs*, WALL ST. J., Apr. 14, 2016, at B3 (noting the importance of patent protection to increases in drug prices, which have drawn increasing criticism); Joseph Walker, *Drug Makers Raise Prices Despite Protests*, WALL ST. J., July 15, 2016, at B1 [hereinafter *Drug Makers Raise Prices*] (recounting complaints from insurers, lawmakers, and patients about prices); Walker & Haddon, *supra* note 1 ("Drug prices have become an increasingly hot-button issue."); Ron Winslow, *Cholesterol War Gets Pricey Weapon*, WALL ST. J., July 25, 2015, at A1 ("[A] highly anticipated medical advance that nevertheless promises to escalate the growing clamor over drug costs . . . [and] could lead to a potential $50 billion to $100 billion-a-year national tab . . . .").

23. Bianca DiJulio et al., *Kaiser Health Tracking Poll: August 2015*, HENRY J. KAISER FAMILY FOUND. (Aug. 20, 2015), http://kff.org/health-costs/poll-finding/kaiser-health-tracking-poll-august-2015/.

24. Armour, *supra* note 1; Sarah Ferris, *Trump: Drug CEO that Raised Prices 4,000 Percent is 'Spoiled Brat'*, HILL (Sept. 23, 2015, 6:24 PM), http://thehill.com/policy/healthcare/254727-trump-drug-ceo-that-raised-prices-4000-is-spoiled-brat.

25. Team Fix, *The Fox News GOP Debate Transcript Annotated*, WASH. POST: THE FIX (Mar. 3, 2016), https://www.washingtonpost.com/news/the-fix/wp/2016/03/03/the-fox-news-gop-debate-transcript-annotated/ (recounting Trump saying "We will save $300 billion a year if we properly negotiate. We don't do that. We don't negotiate. We don't negotiate anything."). Meanwhile, Republican presidential candidate Senator Ted Cruz proposed reforms to the FDA to lower drug prices. Armour, *supra* note 1. Republican

Hillary Clinton and Bernie Sanders both boasted that they are "enemies" of drug companies.[26]

This Article's proposal uses eminent domain in a way that is politically palatable. Eminent domain became contentious after a 2005 Supreme Court decision allowed the City of New London, Connecticut, to take the longtime family home of Susette Kelo to redevelop her neighborhood into a facility (ironically) for the drug company Pfizer.[27] This decision prompted outrage across the political spectrum.[28] Family homes are intertwined in the identity, emotions, and personhood of individuals in a way that monetary just compensation cannot always replace.[29] By contrast, multinational corporations do not have emotional connections with their patents and copyrights. Moreover, taking a corporation's IP for "just compensation" equal to the price that the corporation itself set for tax-avoidance purposes comports with notions of equity and estoppel.[30]

Although this Article follows the vast majority of the literature on government buyouts of IP by focusing on drug patents,[31] the principles presented here apply to other types of IP. Of all types of IP, drug patents are touted as the most justifiable, given the huge costs of developing drugs and extensively testing them for safety.[32] Drug patents also create the most severe deadweight losses.[33] But this Article's proposal applies equally to patents on inventions other than

---

presidential candidate Senator Marco Rubio attacked drug companies' "pure profiteering" that threatens to "bankrupt our system." Walker & Haddon, *supra* note 1.

26. *See Democratic Presidential Debate*, *supra* note 1.

27. Kelo v. City of New London, 545 U.S. 469, 473–77 (2005).

28. ILYA SOMIN, THE GRASPING HAND: *KELO V. CITY OF NEW LONDON* AND THE LIMITS OF EMINENT DOMAIN 137–38 (2015) (noting criticism from anti-corporate activist Ralph Nader, Democratic National Chair Howard Dean, Sen. Bernie Sanders, the NAACP, as well as many conservatives); *id.* at 139 tbl.5.1 (collecting polls showing disapproval of the *Kelo* decision by over 80% of public).

29. *See* Margaret Jane Radin, *Property and Personhood*, 34 STAN. L. REV. 957, 959 (1982).

30. *See* Blair-Stanek, *supra* note 12, at 60–63 (discussing longstanding use of estoppel in IP law).

31. *E.g.*, Michael Kremer, *Patent Buyouts: A Mechanism for Encouraging Innovation*, 113 Q. J. ECON. 1137, 1146–48 (1998); sources cited *infra* notes 58–70. Further justifying this Article's focus on drug patents, many of the largest tax disputes ever over IP transfer pricing have also arisen in the pharmaceutical industry. *See, e.g.*, *IRS Accepts Settlement Offer in Largest Transfer Pricing Dispute*, IRS (Sep. 11, 2006), http://www.irs.gov/uac/IRS-Accepts-Settlement-Offer-in-Largest-Transfer-Pricing-Dispute (announcing a settlement between IRS and Glaxo SmithKline Holdings (Americas) Inc. & Subsidiaries for $3.4 billion).

32. *IP Utility*, *supra* note 15 ("Even if many industries do not really need patents—and a fair few might be better off without them—there is still a strong belief that in some businesses they are vital. The example always touted is pharmaceuticals.").

33. Alberto Galasso et al., *Market Outcomes and Dynamic Patent Buyouts*, 48 INTL. J. INDUS. ORG. 207, 207 (2016) ("In sectors like pharmaceuticals, where monopoly distortions seem particularly severe, there is growing international political pressure to identify new reward mechanisms which complement the patent system and reduce prices.").

drugs, as well as to other types of IP, like copyrights.[34] Like patents, copyrights generate deadweight losses and are transferred by multinational corporations to tax-haven subsidiaries to avoid taxes.[35]

Part I begins by explaining how patents create deadweight loss. It also surveys several scholarly proposals for minimizing this deadweight loss, none of which are workable. Part I then details how multinational companies transfer valuable IP to minimize taxes, a practice which costs the U.S. government as much as $111 billion annually in lost tax revenue.[36] It also explains why tax law has been unable to stop such strategies.

Part II demonstrates how taking IP using eminent domain with just compensation equal to the transfer price can simultaneously minimize both tax avoidance and deadweight losses. The tax-law standards required for transfer prices closely mirror those in case law for just compensation under the Takings Clause. That clause also requires that the taking be for "public use." Taking IP and putting it in the public domain, making it free for anyone to use, easily meets this requirement. Then, Part II develops a straightforward economic model to show why multinationals currently lowball transfer prices. This model also allows developing several easily implemented government strategies for fighting both deadweight loss and tax avoidance. Part II concludes by noting that foreign governments can also use this Article's approach.

Part III considers potential objections. Innovators—most notably drug companies—would object that this Article's approach would reduce incentives for innovation. But this approach would merely reduce the average payoff from their tax-avoidances strategies. It would not cut into the profits from their core business of developing patented life-saving cures.

---

34. Certainly this Article's analysis also applies to related types of IP such as plant patents, see 35 U.S.C. §§ 161–164 (2012), and semiconductor chip designs, see 17 U.S.C. §§ 901–914 (2012). This Article's analysis may apply to trademarks in some circumstances, since trademarks can create deadweight losses, see William A. Landes & Richard A. Posner, *Trademark Law: An Economic Perspective*, 30 J.L. & ECON. 265, 268 (1987), and trademarks are transferred to tax-haven subsidiaries to avoid taxes, see Edward D. Kleinbard, *Through a Latte Darkly: Starbucks's Stateless Income Planning*, 139 TAX NOTES 1515 (2013) (detailing Starbucks' tax avoidance, including using its trademarks and trade dress). However, trademarks serve not only their owners, but also consumers to avoid confusion, making the costs and benefits more complicated. 5 J. THOMAS MCCARTHY, MCCARTHY ON TRADEMARKS AND UNFAIR INFRINGEMENT § 30:52 (4th ed. 2014). The applicability of this Article's approach to trademarks is a subject for future scholarship and potentially testing by policymakers.

35. Note, *Copyright Reform and the Takings Clause*, 128 HARV. L. REV. 973, 981 (2015) ("[T]he copyright holder has by necessity acquired market power that results in higher prices for consumers; some consumers are priced out of the market, producing a deadweight loss"). For a high-profile transfer-pricing case involving transfer of copyrighted computer software to cost sharing arrangement with taxpayer's Irish subsidiary, see Veritas Software Corp. v. Comm'r, 133 T.C. 297 (2009).

36. *See infra* notes 98–102 and accompanying text.

Another potential objection addressed in Part III relates to cost. Paying "just compensation" requires the government to spend money. The threat of eminent domain will rein in transfer-pricing abuse, which will increase tax revenues—potentially by enough to fully cover the cost of paying just compensation. Furthermore, this Article's proposal will also reduce government expenditures. For example, the government already funds a majority of U.S. pharmaceutical drug spending.[37] Taking drug patents and immediately opening generic competition will further offset the cost of paying "just compensation."

I. THE TWO PROBLEMS

This Part discusses the two problems with IP that this Article's proposal would address: deadweight losses to society and enabling tax avoidance.

A. IP Law: Deadweight Losses

Patents have both an inherent upside and an inherent downside. Patents' inherent upside is that they improve social well-being by creating incentives for innovation by giving the inventors exclusive rights to their inventions.[38] These exclusive rights allow patent-holders to charge higher prices. For example, patented drugs cost between five and ten times more than the generic versions of the same drugs that emerge once the patent expires, becoming free for all to use.[39] In some instances the markup allowed by patent protection is substantially higher: the breakthrough Hepatitis C drug Sovaldi costs less than $1 per pill to manufacture but sells for $1,000 per pill.[40]

But these higher prices create patents' inherent downside, as they lead many consumers not to purchase at all. These priced-out consumers lose by getting no access to the invention—yet the patent-holder gets no corresponding gain, because it receives zero money from priced-out consumers.[41] This loss to priced-

---

37. *See infra* notes 258–261 and accompanying text.

38. Ted Sichelman, *Commercializing Patents*, 62 STAN. L. REV. 341, 357–58, 377 (2010) (describing the "reward" of exclusive patent rights as a "dominant justificatory theor[y] of patent law" that "largely motivates current patent doctrine").

39. DAN L. BURK & MARK A. LEMLEY, THE PATENT CRISIS AND HOW THE COURTS CAN SOLVE IT 8 (2009); *see also* FED. TRADE COMM'N, PAY FOR DELAY: HOW DRUG COMPANY PAY-OFF COSTS CONSUMER BILLIONS 1 (2010), https://www.ftc.gov/sites/default/files/documents/reports/pay-delay-how-drug-company-pay-offs-cost-consumers-billions-federal-trade-commission-staff-study/100112payfordelayrpt.pdf.

40. S. FIN. COMM., THE PRICE OF SOVALDI AND ITS IMPACT ON THE U.S. HEALTH CARE SYSTEM, S. REP. NO. 114-20, at 17–19 (2015) [hereinafter SENATE SOVALDI REPORT].

41. Deadweight losses can be mitigated by "price discrimination," whereby the IP holder "discriminates" between different potential purchasers based on where they are on the demand curve. Thus, the IP holder can capture part of what would be the deadweight loss as profit to itself. James Boyle, *Cruel, Mean, or Lavish – Economic Analysis, Price Discrimination and Digital Intellectual Property*, 53 VAND. L. REV. 2007, 2028 (2000). Drug companies engage in some price discrimination through mechanisms such as rebates to low-income patients and contributions to charitable foundations that help patients with co-pays. But the price discrimination remains imperfect, leaving many patients unable to

out consumers that has no offsetting benefit to the patent-holder is the "deadweight loss," a pure economic inefficiency that makes the economic "pie" smaller.[42] Although the patent created the incentive for the invention, which made the economic "pie" bigger, this deadweight loss makes the "pie" smaller than it could be.

A recent front-page article in the *Wall Street Journal* neatly exemplifies the heart-wrenching human aspect of this deadweight loss.[43] The article profiles middle-class Americans with cancer who—despite having good health insurance—could not afford the co-pays on patented drugs that offered their best hope of survival.[44] These patients simply forgo the patented drug, hoping that less-expensive, less-effective drugs will keep them alive.[45] Academic research confirms that a substantial number of Americans with insurance forgo potentially life-saving patented drugs due to cost.[46]

No healthcare reform can eliminate deadweight losses from drugs. Even countries like Norway, with well-run national health systems that aggressively

---

access the patented invention. *See, e.g.*, *Drug Makers Raise Prices*, *supra* note 22; *infra* note 54 and accompanying text; *cf.* Julie E. Cohen, *Copyright and the Perfect Curve*, 53 VAND. L. REV. 1799, 1802 (discussing the limitations of price discrimination in intellectual property).

42. IP also arguably creates social losses in ways other than higher prices. For example, patents can cause transacting parties that are both interested in using patented technology to incur high transaction costs. WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 33 (2003). Patents arguably create incentives for others to invest resources to develop inventions that provide very little social benefit over existing patented inventions, all to grab a portion of an existing patent-holder's patent profits. *See* Joshua J. Gagne & Niteesh K. Choudhry, *How Many "Me-Too" Drugs Is Too Many?*, 305 JAMA 711, 711 (Feb. 16, 2011). As another example, the exclusivity provided by patents can also cause pharmaceutical companies to be inefficient in their manufacturing processes. William Hubbard, *The Debilitating Effect of Exclusive Rights: Patents and Productive Inefficiency*, 66 FLA. L. REV. 2045, 2077 (2014); *see also* Kremer, *supra* note 31, at 1137–38 (discussing other socially wasteful activities caused by patents, including reverse engineering around existing patents); Mark A. Lemley, *Property, Intellectual Property, and Free Riding*, 83 TEX. L. REV. 1031, 1058–60 (2005) ("[T]he prospect of intellectual property rights encourages rent-seeking behavior that is socially wasteful."); Baker, *supra* note 15. This Article's proposal would curtail many of these inefficiencies for IP taken by the government and committed to the public domain. Note also that drug companies spend approximately 18% of their sales on marketing, and such largely inefficient, rent-seeking behavior would disappear for drugs whose patents were dedicated to the public domain. Julie M. Donohue et al., *A Decade of Direct-To-Consumer Advertising of Prescription Drugs*, 2007 NEW ENG. J. MED. 673, 675 (Aug. 16, 2007). The greatest benefit of taking patents and dedicating them to the public domain would likely be eliminating the deadweight loss, which is the focus of the main text of this Article.

43. Walker, *supra* note 2, at A1.

44. *Id.*

45. *Id.*

46. *See, e.g.*, Scott F. Huntington et al., *Financial Toxicity in Insured Patients with Multiple Myeloma: A Cross-Sectional Pilot Study*, 2 LANCET HAEMATOLOGY 408, 412 tbl.3 (2015).

negotiate drug prices, end up leaving some drugs uncovered either totally or for all but the sickest patients.[47] Those patients who remain uncovered are the deadweight loss. For example, Norway and drug maker Roche failed to negotiate an acceptable price for the new breast-cancer drug Perjeta, meaning it was not covered; Norwegian patients and physicians vehemently protested in response.[48] Some patients will inevitably remain uncovered. For healthcare to remain affordable, drug costs must be kept in check. When insurers or governments try to negotiate down drug prices, their leverage is threatening to limit coverage of the drug. These limits can take the form of denying coverage entirely, allowing coverage to only patients meeting certain criteria, or requiring large co-pays.[49] Any such limits create deadweight losses, because some patients lose access to the drug.

A recent Senate investigation into the pricing of the Hepatitis C drug Sovaldi shows the creation of deadweight loss from the perspective of the drug maker.[50] Hepatitis C is a life-threatening viral infection that had no reliable, safe cure—until Sovaldi.[51] Sovaldi is a true breakthrough.[52] Sovaldi's owner, Gilead Sciences, originally planned to charge $60,000 for a course of treatment.[53] But its financial projections showed that charging $84,000 (i.e., $1,000 per pill) instead would increase profits by about 25%, even though approximately 10% of patients would lose access to the drug as insurers denied coverage due to the higher cost.[54] Ultimately, Gilead chose the higher price, $84,000.[55] The 10% of patients lost access to the cure, and Gilead got no revenue from those patients.[56]

The following figure illustrates the concept of deadweight loss created by IP.[57] This familiar figure shows the behavior of monopolists, because patents grant temporary monopolies. The profits that the patent-holder receives as the reward for innovating are the gray rectangle. The deadweight loss is the black triangle.

---

47. Jeanne Whalen, *U.S. Drug Prices Dwarf Other Nations': State Buyers Drive Hard Bargains, Are Willing to Say No to a Costly Therapy*, WALL ST. J., Dec. 1, 2015, at A1.

48. *Id.* ("When Norway last year declined to cover Roche's injected breast-cancer drug Perjeta because of its cost, 'patients and physicians were on television and demonstrating a lot'. . . .").

49. *See, e.g.*, Loftus, *supra* note 2 (noting employer cost-saving strategies, including paying for only a few pricey pills at a time); Whalen, *supra* note 47.

50. SENATE SOVALDI REPORT, *supra* note 40.

51. *Id.* at 5–12.

52. *Id.*

53. *Id.* at 53–54.

54. *Id.* at 43.

55. *Id.* at 17. This was the price in the United States; prices were somewhat lower in many other countries. *Id.* at 59.

56. Indeed, there is additional deadweight loss, consisting of all those patients who would have been priced out even at $60,000. *See id.* at 51.

57. Figure 1 makes the reasonable assumption, also made throughout the economics literature, that the marginal cost of producing drugs is constant. Hence, the marginal cost curve is flat. *See* Earl L. Grinols & James W. Henderson, *Replace Pharmaceutical Patents Now*, 25 PHARMACOECONOMICS 355, 359 (2007); *see also* Cohen, *supra* note 41, at 1804 (providing a substantially identical diagram).

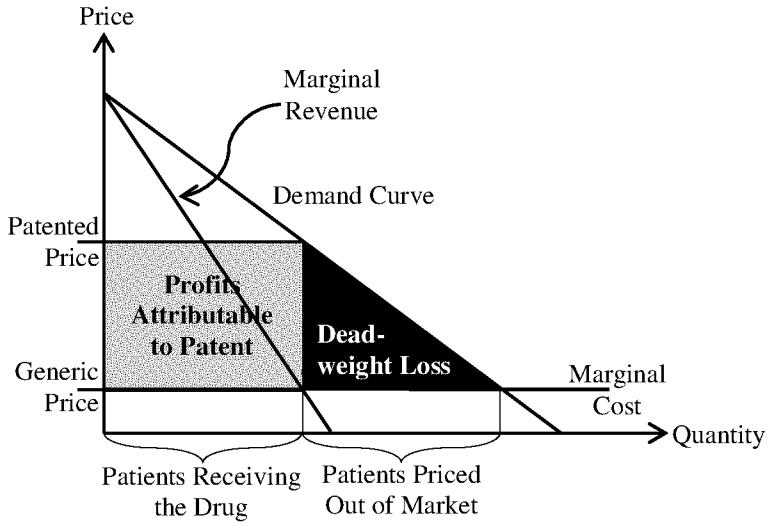

Figure 1: Deadweight Loss Illustrated

One option for reducing the deadweight loss from patents is to limit the prices that patent-holders can charge, thus reducing the number of consumers who are priced out of the market. Such price-controls have enduring populist appeal.[58] But, as economists have long noted, the inevitable and serious downside to price controls is that they would reduce incentives for future innovations.[59]

---

58. Healy & Sanger-Katz, *supra* note 1; *see Hillary Clinton's Plan for Lowering Prescription Drug Costs*, THE BRIEFING, https://www.hillaryclinton.com/briefing/factsheets/2015/09/21/hillary-clinton-plan-for-lowering-prescription-drug-costs/ (last visited Oct. 3, 2016) (proposing capping costs for prescription drugs). States including Ohio and California are currently considering laws that would impose limits on drug prices. Letter from Donald J. McTigue to Mike DeWine, Ohio Attorney Gen. (July 21, 2015), http://www.sos.state.oh.us/sos/upload/ballotboard/2015/2015-07-21-petition.pdf (filing a petition to include the Ohio Drug Price Relief Act of 2016 as a ballot initiative limiting prices on the November 2016 ballot); CAL. SEC'Y STATE, OFFICIAL VOTER INFORMATION GUIDE 72–77, 154–56 (2016), http://vig.cdn.sos.ca.gov/2016/general/en/pdf/complete-vig.pdf (presenting the California Drug Price Relief Act as Proposition 61 on the November 2016 ballot). Some scholars continue to provide intellectual support. *See, e.g.*, Amy Kapczynski & Aaron S. Kesselheim, *'Government Patent Use': A Legal Approach to Reducing Drug Spending*, 35 HEALTH AFFS. 791, 794 (2016) (proposing that the government infringe on drug patents in the hope that courts will apply an undercompensatory measure of damages). *But see id.* at 793 (conceding that "our approach [may] diminish[] incentives for research to some degree").

59. Carmelo Giaccotto et al., *Drug Prices and R&D Investment Behavior in the Pharmaceutical Industry*, 48 J. L. & ECON. 195, 219–20 (2005); Rexford Santerre & John

For well over a century,[60] economists have recognized that society would benefit if the government were able to purchase patents for the expected present value of the profits that result from the patent exclusivity (the gray rectangle in Figure 1 above) and dedicate the patent to the public domain, making it free for all to use.[61] Paying the full value of the patent would preserve incentives for future innovations. And putting the patent in the public domain would allow competitors to enter the market freely, resulting in generic competition and eliminating the

---

A. Vernon, *Assessing Consumer Gains from a Drug Price Control Policy in the United States*, 73 S. ECON. J. 223, 234 (2006).

60. ALFRED MARSHALL, PRINCIPLES OF ECONOMICS 112 n.1 (1890).

61. Various legal and economic hurdles limit the entry into the market of generic versions of drugs whose patents have lapsed. Importantly, FDA approval for selling generic drugs is slow and expensive, as the FDA has a backlog of about 4,000 applications and a wait time of 27 months. *See* U.S. FOOD & DRUG ADMIN., THE GENERIC DRUG REVIEW DASHBOARD 3 (May 2016), http://www.fda.gov/downloads/Drugs/DevelopmentApprovalProcess/HowDrugsareDevelopedandApproved/ApprovalApplications/AbbreviatedNewDrugApplicationANDAGenerics/UCM484740.pdf; *Painful Pills*, ECONOMIST, Sep. 26, 2015, at 66; Joseph Gulfo, *Medicare Negotiating with Pharma is Not the Answer*, HILL (Dec. 4, 2015, 7:00 AM), http://thehill.com/blogs/pundits-blog/healthcare/262077-medicare-negotiating-with-pharma-is-not-the-answer; *see also* 21 U.S.C. § 355(j) (2012) (providing for Abbreviated New Drug Applications (ANDAs) to FDA for generic version of off-patent drugs); FED. TRADE COMM'N, *supra* note 39, at 1–2 (discussing arguably collusive payments by patent-holders to potential generic entrants to delay entry of generic drugs). *See generally* Joan Costa-Font, et al., *Price Regulations and Relative Delays in Generic Drug Adoption*, 38 J. HEALTH ECON. 1 (2014) (detailing and analyzing factors that limit entry of generic competition). Turing Pharmaceuticals recently took advantage of the FDA regulatory barriers to entry to increase the price of Daraprim, a potentially life-saving drug whose patent long ago expired, from $13.50 a pill to $750. *Painful Pills*, *supra*. Currently, both Congress and the FDA are working to expedite the approval of generic drugs. *See Implementation of the Generic Drug User Fee Amendments of 2012 (GDUFA)*, U.S. FOOD & DRUG ADMIN. (Jan. 28, 2016), http://www.fda.gov/newsevents/testimony/ucm484304.htm (testimony of Janet Woodcock, M.D., Dir., Center for Drug Evaluation and Research).

Other options are allowing importing generic drugs from other countries with high drug safety standards. *See Painful Pills*, *supra* (reporting that Hillary Clinton made this proposal); James Surowiecki, *Taking on the Drug Profiteers*, NEW YORKER, Oct. 12, 2015, http://www.newyorker.com/magazine/2015/10/12/taking-on-the-drug-profiteers, and ensuring that compounding pharmacies, which can mix generic drug compounds into compounded pills without FDA approval, can continue to do so, Jonathan D. Rockoff, *Express Scripts Turns to a Compounder to Avoid a Turing Drug*, WALL ST. J. (Dec. 1, 2015, 12:01 AM), http://www.wsj.com/articles/express-scripts-seeks-lower-price-alternative-to-daraprim-1448946061. All these reforms are obviously beneficial regardless of whether this Article's proposals are adopted. But moving forward on these reforms will ensure that a drug patent, once taken via eminent domain, will quickly open up cost-saving generic versions.

deadweight loss from that patent. But actually determining an appropriate price to pay is exceptionally difficult.[62]

Numerous legal scholars and economists (including several Nobel Prize winners) have proposed a wide variety of mechanisms to determine the appropriate price.[63] For example, one prominent proposed mechanism is for the government to hold an auction in which private-sector bidders determine a market value for the patent; the government then buys most (but not all) of the patents for the market value thus established. [64] This mechanism has several obvious downsides, including the serious danger of collusion in the bidding.[65]

Another proposed mechanism would rely on the stock market.[66] The government could suspend trading in the stock of a company holding a patent, take the patent, then allow trading to resume and observe the difference between the pre- and post-suspension market prices for the firm's stock.[67] The fall in the total market value of the company's stock should, in theory, equal the patent's value.[68] The obvious objection to this mechanism is that it relies on stock markets having perfect knowledge of the value of the patent, even though companies keep information about the value and potential of their patents closely guarded competitive secrets.[69]

In sum, none of the mechanisms proposed by scholars have proven practical for combating the deadweight losses created by IP.[70] But scholars have

---

62. Matthew S. Bethards, *Condemning a Patent: Taking Intellectual Property by Eminent Domain*, 32 AIPLA Q.J. 81, 100 (2004) ("Determining the fair market value of a patent can be a formidable task . . . .").

63. *See, e.g.*, Weyl & Tirole, *supra* note 3 (Tirole is a Nobel Prize winner); Stiglitz, *supra* note 3 (as is Stiglitz).

64. Kremer, *supra* note 31, at 1146–47.

65. *Id.* at 1140 ("Perhaps the chief problem with patent buyouts is that they are potentially vulnerable to collusion, since inventors could bribe auction participants to submit high bids."); *see also* John F. Duffy, *The Marginal Cost Controversy in Intellectual Property*, 71 U. CHI. L. REV. 37, 48–49 (2004) (discussing various disadvantages to Kremer's auction proposal); Grinols & Henderson, *supra* note 57, at 357 (same).

66. Duffy, *supra* note 65, at 47–48 n.37.

67. *Id.*

68. *Id.*

69. *See* Liz Hoffman, *Drug Maker Mylan Sues Law Firm Kirkland & Ellis*, WALL ST. J., May 2, 2015, at B3 (reporting that a drug company argued that a law firm that once represented it had access to its intimate knowledge about its intellectual property). More generally, this proposal relies upon the "strong form" of the efficient capital markets hypothesis, which is that stock prices incorporate all possible information about the company—including private information, such as the value of patents. But empirical evidence strongly indicates that the "strong form" of this hypothesis is incorrect. FRANK J. FABOZZI & FRANCO MODIGLIANI, CAPITAL MARKETS: INSTITUTIONS AND INSTRUMENTS 291 (4th ed. 2009).

70. In addition to the sampling discussed in the main text, scholars have proposed a wide array of (ultimately impractical) mechanisms, often grappling with the severe information asymmetry between innovating companies and the government regarding the value of an invention. *See, e.g.*, Michael Abramowicz, *Perfecting Patent*

overlooked a key fact: when a multinational company transfers a piece of IP to a tax-haven subsidiary, tax law already requires the company to state, under penalties of perjury, what it believes the value of its own IP to be. In other words, multinationals are already determining the private information that economists propose eliciting via elaborate mechanisms. The next section explains how and why corporations transfer their IP to avoid taxes.

B. Tax Law: IP as Tax Shelter

The second problem that this Article addresses is tax avoidance. IP is used to avoid taxes on a massive scale. Workers, factories, or stores are difficult to move, but a corporation can transfer economic ownership of a patent or copyright to a subsidiary in a tax haven with mere paperwork.[71] A U.S. multinational may develop a patented invention in the United States and then transfer the patent to a

---

Prizes, 56 VAND. L. REV. 115 (2003); V. Chari et al., *Patents and Prizes: Using Market Signals to Provide Incentives for Innovations*, 147 J. ECON. THEORY 781 (2012); Francesca Cornelli & Mark Schankerman, *Patent Renewals and R&D Incentives*, 30 RAND J. ECON. 197 (1999); Nancy Gallini & Suzanne Scotchmer, *Intellectual Property: When Is it the Best Incentive System*, 2 INNOVATION POL'Y & ECON. 51 (2002); Hugo Hopenhayn et al., *Rewarding Sequential Innovators: Prizes, Patents, and Buyouts*, 114 J. POL. ECON. 1041 (2006); Steven Shavell & Tanguy van Ypersele, *Rewards versus Intellectual Property Rights*, 64 J.L. & ECON. 525 (2001); Brian D. Wright, *The Economics of Invention Incentives: Patents, Prizes, and Research Contracts*, 73 AM. ECON. REV. 691 (1983).

71. Yariv Brauner, *Value in the Eye of the Beholder: The Valuation of Intangibles for Transfer Pricing Purposes*, 28 VA. TAX REV. 79, 88 (2008).

subsidiary in a tax haven such as Ireland.[72] The profits from the patent then pile up tax-free in the Irish subsidiary.[73]

The breakthrough Hepatitis C drug Sovaldi provides an excellent case in point. In a 2013 conference call with investors, Sovaldi's owner, Gilead Sciences, Inc., announced that Sovaldi was nearing FDA approval.[74] In the same call, Gilead also told investors that Sovaldi's patent was now "domiciled in Ireland . . . So as we commercialize that, there is opportunity for our tax rate to decline over time."[75]

---

72. Due to a quirk in U.S. tax law, the transfer of U.S. patent rights is often structured as a patent license that is economically equivalent to an outright sale of the patent itself. JOINT COMM. ON TAX'N, JCX-37-10, PRESENT LAW AND BACKGROUND RELATED TO POSSIBLE INCOME SHIFTING AND TRANSFER PRICING 64 n.186 (2010) [hereinafter JCT REPORT]. It is easy to structure a patent license that is economically equivalent to an outright sale of the patent. PHILIP F. POSTLEWAITE ET AL., FEDERAL INCOME TAXATION OF INTELLECTUAL PROPERTIES & INTANGIBLE ASSETS ¶ 2.04 (2013). The consideration paid for the license is included in the multinational's gross income and taxed once. I.R.C. § 61(a)(6) (2012). The quirk of tax law that makes licensing more favorable than sale is that a sale to the tax-haven subsidiary would generally be taxed twice. First, selling the right to use IP in the United States is a purchase of "United States property" under *id.* § 956(a), (c)(1)(D), resulting in double taxation to the multinational, once from *id.* § 951(a)(1)(B), and again from *id.* § 61(a)(3). Merely licensing the U.S. IP rights to the Irish subsidiary does not cause this double-tax. *See* Treas. Reg. § 1.956-2(d)(1)(i)(a) (2016); *accord* JCT REPORT, *supra*, at 72 n.186. Multinationals sometimes contribute the patent rights to their tax-haven subsidiary as a contribution to capital, which U.S. tax law treats as if there were a deemed license. I.R.C. § 367(d) (2012). Sometimes multinationals use alternative methods (other than licenses economically equivalent to a sale) to transfer their IP, such as cost sharing arrangements ("CSAs") and IP embedded in services contracts. JCT REPORT, *supra*, at 20–21; Graetz & Doud, *supra* note 4, at 397–98. *See generally* BORIS I. BITTKER & LAWRENCE LOKKEN, FEDERAL TAXATION OF INCOME, ESTATES, AND GIFTS ¶ 79.8A (1999 & Supp. 2013) (discussing CSAs).

73. Although Ireland technically has a 12.5% tax rate, clever tax planning allows re-routing of the profits through further subsidiaries in other tax havens to result in a near-zero tax rate, which is fine by Ireland because it benefits from having multinationals base subsidiaries there. Caelainn Barr & Theo Francis, *Ireland to Close a Tax Break, Open Another*, WALL ST. J., Nov. 5, 2014, at B1; Duhigg & Kocieniewski, *supra* note 4.

74. *Gilead Sciences, Inc. (GILD) Q4 2012 Earnings Conference Call*, NASDAQ (Feb. 4, 2013, 4:30 PM), http://www.nasdaq.com/aspx/call-transcript.aspx?StoryId=1155591&Title=gilead-sciences-ceo-discusses-q4-2012-results-earnings-call-transcript ("[CEO John Martin]: 'These four Phase III studies, along with a number of additional studies in special populations, will support the marketing authorization applications of Sofosbuvir [which is the nonproprietary name for Sovaldi], which are planned for submission in the second quarter of this year.'").

75. *Id.* (quoting Chief Financial Officer Robin Washington). Note that the Gilead officials often refer to Sovaldi as 7977, which is the code that appears on one side of the pill itself. U.S. Food & Drug Admin., *Sovaldi* (Dec. 2013), http://www.accessdata.fda.gov/spl/data/b0de1fcd-6d03-4a91-a7df-72a14c8bc7d0/b0de1fcd-6d03-4a91-a7df-72a14c8bc7d0.xml. The Senate Report on Sovaldi's pricing, which seemed utterly oblivious to the tax abuse involving Sovaldi, noted that many foreign licensing fees for Sovaldi flow to Gilead Sciences Limited, an Irish subsidiary of Gilead. SENATE SOVALDI REPORT, *supra* note 40, at 60.

In other words, Gilead transferred the U.S. patent on Sovaldi to Gilead's Irish subsidiary, where the profits from selling the drug would escape taxation. This simple strategy is illustrated below:

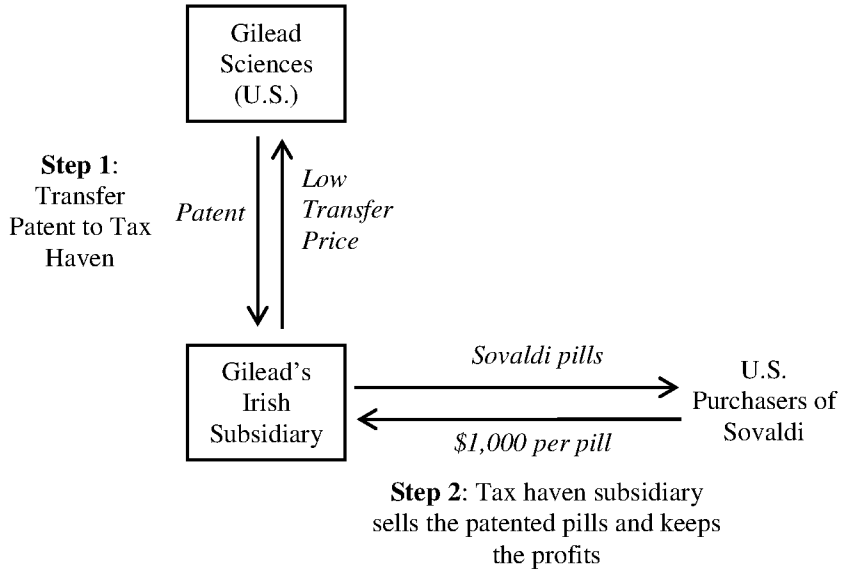

Figure 2: Transferring Patent to Avoid Taxes

When Gilead Sciences transferred the U.S. patent rights in Sovaldi to its Irish subsidiary for a low price, Gilead Science paid U.S. corporate taxes of 35% on this low transfer price, resulting in a low up-front U.S. tax bill.[76] Then the Irish subsidiary's employees contract out the manufacturing of the Sovaldi pills,[77] which cost about $1 per pill to manufacture.[78] The Irish subsidiary is the owner of

76. *See supra* note 72 (discussing form and taxation of transfers).

77. Having Irish employees oversee the contracting out of the manufacturing and similar activities means that the Irish subsidiary makes a "substantial contribution" to manufacturing the pills. *See* Treas. Reg. § 1.954-3(a)(4)(iv) (2011). As a result, any profits will not be subject to U.S. taxation as "Subpart F income." *See id.* § 1.954-3(a)(4)(i) (excluding the income from "foreign base company sales income"); *see also* I.R.C. §§ 954(a)(2), 952(a)(2), 951 (2012). *See generally* Lee A. Sheppard, *Reflections on the Death of Transfer Pricing*, 120 TAX NOTES 1112, 1113 (2008) (discussing use of contract manufacturing to avoid profits being subpart F income). The actual manufacturing can be contracted out to an unrelated third party or even to a U.S. subsidiary of Sovaldi that manufactures the pills on behalf of Sovaldi's Irish subsidiary, receiving only a small profit margin subject to U.S. taxation. *See id.* at 1113 fig. ("Example of Outbound Transfer Pricing Structure").

78. SENATE SOVALDI REPORT, *supra* note 40, at 19.

these pills, which it then sells to U.S. purchasers at $1,000 per pill.[79] This $999 profit per pill is not subject to U.S. tax.[80]

This strategy relies on Gilead being able to transfer the patent to its Irish subsidiary for a low price, since Gilead is subject to U.S. tax only on this transfer price.[81] Tax law requires that this transfer price be "arm's-length," meaning the price should be what an unrelated party would pay for the IP.[82] But promising IP is rarely transferred to unrelated parties, so there is no observable "arm's-length" price.[83] In an attempt to fill this gap, Treasury Regulations have fleshed out the meaning of "arm's-length" with detailed econometric methods to estimate IP values.[84] But these methods often lead to a wide range of acceptable prices.[85] Tax law requires multinationals to hire appraisers (typically economists) to ascertain the "arm's-length" price and to support that price with extensive contemporaneous documentation.[86] But the multinational selects and pays these appraisers, who want

79. Sovaldi may have a U.S.-based distribution subsidiary that employs salespersons. Sheppard, *supra* note 77, at 1113 fig. ("Example of Outbound Transfer Pricing Structure"). If so, this U.S. distribution subsidiary's profit is subject to U.S. corporate taxation, but it maintains no risk and thus can be allocated very little profit. *Id.* For example, the U.S. distribution subsidiary may buy the Sovaldi pills from the Irish subsidiary for $980 per pill and resell them to U.S. healthcare providers for $1000 per pill, leaving only $20 subject to U.S. corporate tax.

80. *See* Income Tax Treaty, Ir.-U.S., Dec. 17, 1997, 2141 U.N.T.S. 167, art. 7(1) (excluding from U.S. taxation any profits of an Irish company that has no "permanent establishment" in the U.S.); *id.* art. 5(7) (providing that an Irish company does not have a "permanent establishment" by being the subsidiary of a U.S. company); *id.* art. 5(6) (providing that an Irish company does not have a "permanent establishment" by having sales agents in the U.S.); *see also* JOEL KUNTZ & ROBERT J. PERONI, U.S. INTERNATIONAL TAXATION ¶ C4.21[1], [2] (rev. ed. 2015) (explaining this "permanent establishment" limitation, which is in nearly all tax treaties); Sheppard, *supra* note 77, at 1113 (describing such outbound transfer pricing structures in more detail).

81. *See supra* note 72 (discussing the U.S. taxation of patent transfers).

82. Treas. Reg. § 1.482-1(b)(1) (2015).

83. JCT REPORT, *supra* note 72, at 110 ("[T]axpayers that develop unique intangible property rarely, if ever, transfer that property to third parties; as a result, it is difficult to determine the terms under which an arm's-length transfer of the property might have occurred.").

84. Treas. Reg. § 1.482-4 (2015).

85. Brauner, *supra* note 71, at 98.

86. I.R.C. § 6662(e)(3)(B) (2012); Treas. Reg. § 1.6662-6(d)(2)(iii) (2011) (detailing contemporaneous documentation requirements to avoid serious penalties); Robert Culbertson, *The Interplay Between Substantive and Penalty Rules in the U.S. Transfer Pricing Regulations*, 11 TAX NOTES INT'L 1509 (Dec. 5, 1995) ("The regulations 'encourage' taxpayers to [follow these contemporaneous documentation requirements] by threatening them with crippling penalties.").

future business and thus "tend to agree with their paymasters"[87] that a low transfer price is justifiable.[88]

Such transfer-pricing abuse is definitely not tax fraud. Tax fraud generally requires either misleading the IRS or hiding information.[89] By contrast, multinationals like Gilead hire appraisers to prepare extensive documentation justifying their low transfer prices and promptly make it fully available to the IRS on request.[90]

Gilead transferred the Sovaldi patent to its Irish subsidiary shortly before getting FDA approval.[91] Such timing is common practice for drug companies, since it further minimizes their taxes.[92] Bringing just one new patented drug from the lab, through clinical trials, to FDA approval costs an average of $1.4 billion.[93] If the patent remains in the U.S. during this time,[94] the company can deduct this $1.4 billion from its U.S. taxes,[95] and can then further reduce its U.S. tax bill with

87. Sheppard, *supra* note 77, at 1112.

88. *See* Brauner, *supra* note 71, at 108 ("[T]he clear incentive created by the system is to push the envelope and reach the price that is most aggressive, yet still within the very wide margin of reasonability.").

89. Stoltzfus v. United States, 398 F.2d 1002, 1004 (3d Cir. 1968); Beck v. Comm'r, 82 T.C.M. (CCH) 738 (2001); BITTKER & LOKKEN, *supra* note 72, at ¶ 114.6.

90. *See supra* note 86 and accompanying text (discussing contemporaneous documentation requirement); *see also* Treas. Reg. § 1.6662-6(d)(2)(iii)(A) (2011) (stating that companies must provide documentation to IRS within 30 days).

91. See *supra* note 75 and accompanying text.

92. Drug companies have used this strategy for decades. *See, e.g.*, N.Y. STATE BAR ASS'N, REPORT ON SECTION 367(D), at 16 & n.15 (Oct. 12, 2010), 2010 TNT 198-20; CYM H. LOWELL & PETER L. BRIGER, U.S. INTERNATIONAL TRANSFER PRICING ¶ 5.05 ("The prototypical transaction was a U.S. pharmaceutical company developing a product, obtaining patents and, during or just after clinical testing and FDA certification, transferring the intangible . . . ."); *see also* Eli Lilly & Co. v. Comm'r, 856 F.2d 855, 857–58 (7th Cir. 1988) (discussing a drug company's transfer of patents for tax-avoidance purposes). Many multinationals other than drug companies also identify promising IP early and transfer it as soon as possible to tax-haven subsidiaries. At this early stage, the IP's value is only speculative, which allows multinationals to justify the lowest possible transfer price, which results in the lowest possible tax on the transfer. Sheppard, *supra* note 77. This Article's proposals could be extended to such IP. *See infra* Section III.D.4.

93. *Cost to Develop and Win Marketing Approval for a New Drug Is $2.6 Billion*, TUFTS CTR. FOR STUDY DRUG DEV.: NEWS (Nov. 18, 2014), http://csdd.tufts.edu/news/complete_story/pr_tufts_csdd_2014_cost_study [hereinafter *Tufts Study*]. The total cost is approximately $2.6 billion, of which $1.4 billion represents out-of-pocket expenses that are deductible for tax purposes. *Id.* The remaining $1.2 billion is the opportunity cost of capital, which is generally not deductible for tax purposes.

94. *See* Treas. Reg. § 1.482-4(f)(3) & (4) (2011) (limiting tax benefits from developing IP to the related party that, in substance, owns the IP rights).

95. I.R.C. § 174 (2012). The total cost is approximately $2.6 billion, of which nearly $1.4 billion represents out-of-pocket expenses that are deductible for tax purposes. *Tufts Study*, *supra* note 93. The remaining $1.2 billion is the opportunity cost of capital, which is generally not deductible for tax purposes.

the research and experimentation tax credit[96] and other specific drug-development tax credits.[97] In other words, drug companies reap these deductions and credits during drug development—and then transfer the patent to a tax-haven subsidiary for a low price shortly before the drug begins generating income.

No one knows exactly how much transfer-pricing abuse involving IP costs the government in lost taxes,[98] since multinationals understandably keep these strategies as confidential and as opaque as possible.[99] But estimates range as high as $111 billion in tax revenues lost each year by the U.S. government alone.[100]

Transferring drug patents has allowed drug companies to substantially lower their taxes.[101] As a result of such gamesmanship, U.S. drug companies pay approximately one-half of the statutory U.S. corporate tax rate of 35%.[102] But drug

---

96. I.R.C. § 41 (2012).

97. *See, e.g.*, I.R.C. § 45C (2012) (giving credit of 50% of qualified clinical testing expenses for certain rare diseases or conditions; often called the "orphan drug credit"); *id.* § 48D (2012) (giving 50% credit for certain qualifying therapeutic discovery projects). Such credits were indeed used to develop Sovaldi. *See* INTERNAL REVENUE SERV., QUALIFYING THERAPEUTIC DISCOVERY PROJECT GRANTS 241 (2012), https://www.irs.gov/pub/irs-utl/qtdpgrants.pdf (listing grants to Pharmasset, Inc.). Gilead acquired Pharmasset in 2012. SENATE SOVALDI REPORT, *supra* note 40, at 1.

98. Graetz & Doud, *supra* note 4, at 402 ("No one really knows how much income-shifting costs the United States annually . . . .").

99. *Id.*; I.R.C. § 6103 (2012) (making all tax returns confidential, with robust protections).

100. Kimberly A. Clausing, *The Effect of Profit Shifting on the Corporate Tax Base*, 150 TAX NOTES 427, 427 (2016) (providing the most recent estimate using 2012 data); *see also* Graetz & Doud, *supra* note 4, at 402 (estimating $60 to $90 billion based on 2008 data). The primary mechanism that companies use to shift profits is low transfer prices, although another mechanism is creative loans between subsidiaries. Harry Grubert, *Intangible Income, Intercompany Transactions, Income Shifting, and the Choice of Location*, 56 NAT'L TAX J. 221 (2003).

101. *See, e.g.*, Martin A. Sullivan, *Pfizer's Tax Picture Dominated by U.S. Losses, Repatriation*, 140 TAX NOTES 103 (July 8, 2013) (noting that transfer-pricing abuse, likely primarily involving drug patents, has led Pfizer's non-U.S. profits to be disproportionately higher than its non-U.S. sales, effectively moving stripping profits out of the U.S.); Andrew Pollack, *Drug Patents Held Overseas Can Pare Makers' Tax Bills*, N.Y. TIMES, Sep. 30, 2014, at B1; Drew Armstrong, *Overseas Tax Savings for U.S. Drugmakers Under Threat*, BLOOMBERG (Mar. 10, 2013), http://www.bloomberg.com/news/articles/2013-03-11/overseas-tax-savings-for-u-s-drugmakers-under-threat (last visited Oct. 11, 2016) ("For years, multinationals such as Pfizer Inc., Merck & Co. and Johnson & Johnson have been moving ownership of patents and trademarks to subsidiaries in low- or no-tax countries. This has allowed drug companies, as well as businesses in several other industries, to skirt paying U.S. taxes on sales of those products unless the money is returned home."); Jonathan D. Rockoff, *A New Rx for Tax Bills: Shuffling Sales Abroad, Rates for Big Drug Firms Are Dropping*, WALL ST. J. (Feb. 6, 2013, 7:34 PM), http://www.wsj.com/articles/SB10001424127887324906004578288353281028598.

102. Armstrong, *supra* note 101 ("Last year, the six biggest drugmakers cut their effective rate by more than half . . . .").

companies are hardly alone in using IP transfers to avoid taxes. Technology companies like Microsoft, Apple, and Amazon.com aggressively use such strategies with their patents and copyrights to avoid taxes.[103] IP has become increasingly valuable in many different industries,[104] making it possible for ever more multinationals to use IP transfer-pricing abuse to avoid taxes.[105] For example, Starbucks avoids taxes by transferring IP like proprietary roasting methods to tax-haven subsidiaries.[106]

Attempts by Congress and the IRS to attack transfer-pricing abuse have failed.[107] Tax law is impotent at stopping IP transfer-pricing abuse for two reasons:

---

103. *Offshore Profit Shifting and the U.S. Tax Code—Part 1 (Microsoft and Hewlett-Packard): Hearing Before the S. Permanent Subcomm. on Investigations of the S. Comm. on Homeland Sec. & Gov't Affairs*, 112th Cong. (2012), http://www.hsgac.senate.gov/download/?id=7B9717AF-592F-48BE-815B-FD8D38A71663 (detailing tax-minimization strategies by Microsoft Corp. and Hewlett-Packard) [hereinafter MICROSOFT & H-P REPORT]; Memorandum from Senators Carl Levin, Chairman, and John McCain, ranking minority member, of the S. Permanent Subcomm. on Investigations to the Members of the Permanent Subcomm. on Investigations 8–9 (May 21, 2013), http://www.hsgac.senate.gov/download/?id=CDE3652B-DA4E-4EE1-B841-AEAD48177DC4 [hereinafter SENATE APPLE REPORT]; Duhigg & Kocieniewski, *supra* note 4; Petition for Redetermination, Amazon.com, Inc. v. Comm'r, No. 31197-12 (T.C. Dec. 28, 2012), 2012 WL 6967124.

104. *Intellectual Property: Protection and Enforcement*, WORLD TRADE ORG., http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm (last visited Oct. 5, 2016) ("Many products that used to be traded as low-technology goods or commodities now contain a higher proportion of [IP] in their value . . . .").

105. Lee A. Sheppard, *Is Transfer Pricing Worth Salvaging?*, 136 TAX NOTES 467, 470 (2012) ("[E]very multinational is stripping income out of market countries and into tax haven intangibles holding companies.").

106. Kleinbard, *supra* note 34, at 1522–27.

107. For example, Congress added the second sentence of I.R.C. § 482 to require that "income with respect to [any intangible] transfer or license shall be commensurate with the income attributable to the intangible." But this amendment has largely failed because the "arm's-length" international tax-law principle has rendered it largely toothless. Graetz & Doud, *supra* note 4, at 415–16; Lee A. Sheppard, *Xilinx and the Future of Transfer Pricing*, 123 TAX NOTES 1295, 1301 (2009) ("There have been several previous attempts to address valuation of intangibles transfers, including the commensurate with income clause, and none of them have worked."); *see also* Altera Corp. v. Comm'r, 145 T.C. 91 (2015) (striking down new IRS transfer-pricing regulations as not showing reasoned decision-making to comply with the arm's-length standard).

As another example, a proposal by the Obama Administration to immediately tax excess profits earned by tax-haven subsidiaries on transferred IP failed to get traction because it violated the arm's-length principle and because calculating the excess profits would be difficult. *Compare* DEP'T OF THE TREASURY, GENERAL EXPLANATIONS OF THE ADMINISTRATION'S FISCAL YEAR 2013 REVENUE PROPOSALS 88–89 (2012), https://www.treasury.gov/resource-center/tax-policy/Documents/General-Explanations-FY2013.pdf (providing proposed amendments to taxation of transfers of intangibles), *with* Barbara Angus et al., *New and Proposed International Tax Changes and U.S. Technology Industry*, 63 TAX NOTES INT'L 813 (Sept. 12, 2011) (stating that this proposal would "cause tremendous uncertainty" and "completely departs from the arm's-length standard").

international tax law principles, and the information asymmetry between multinationals and the IRS.

One problematic international tax law principle is that subsidiaries are respected as separate entities, even when they are merely tax-avoidance vehicles.[108] This separate-entity treatment explains why Gilead could transfer the Sovaldi patent to its own Irish subsidiary, which was then allowed to keep the profits from selling the Sovaldi pills to U.S. purchasers.[109] Another problematic international tax law principle is the "arm's-length" standard, which multinationals manipulate to choose artificially low transfer prices.[110]

The separate-entity and arm's-length principles are embedded in thousands of bilateral income tax treaties, in most countries' tax laws, and in U.S. Supreme Court case law.[111] One country's unilateral departure from these principles would put it in violation of its tax treaties,[112] and could potentially cause the prevailing international system to become "unglued."[113] This would cause the same legitimate cross-border income to be taxed in full by two (or more) countries, thus overtaxing and discouraging useful economic activity.[114] Recent attempts by the Organisation for Economic Co-operation and Development ("OECD") to coordinate tax-law changes tinkered around the edges—but failed to muster support for moving from the separate-entity and arm's-length principles.[115]

Information asymmetry is the second reason tax law fails to stop tax-avoidance strategies like Gilead's.[116] An IP owner has a huge informational advantage over tax authorities, because it has the best possible understanding of the IP's properties and potential, as well as an intimate knowledge of the relevant

---

108. Lee A. Sheppard, *BEPS: Appetite for Destruction*, 149 TAX NOTES 463 (2015) (calling the international tax system "unmanageable" because of its reliance on separate-company accounting).

109. *See supra* notes 79-80 and accompanying text.

110. Brauner, *supra* note 71, at 98, 108.

111. Moline Props., Inc. v. Comm'r, 319 U.S. 436, 438–39 (1943) (holding that a corporation is a separate taxpaying entity from its shareholder); *see also* Nat'l Carbide Corp. v. Comm'r, 336 U.S. 422, 433 (1949) (holding that separate-entity treatment applies to a corporation and its subsidiary).

112. Susan C. Morse, *The Transfer Pricing Regs Need a Good Edit*, 40 PEPP. L. REV. 1415, 1434 (2013).

113. Graetz & Doud, *supra* note 4, at 419.

114. David D. Stewart, *OECD and European Commission Leaders Discuss Fundamental Corporate Tax Reform*, WORLDWIDE TAX DAILY, June 12, 2013 (reporting testimony of Pascal Saint-Amans, director of the OECD Centre for Tax Policy and Administration).

115. *New Rules, Same Old Paradigm*, ECONOMIST, Oct. 10, 2015, at 71 ("The biggest disappointment is that, in opting to renovate the existing system, the OECD has stuck with its most deeply flawed pillar: the 'independent entity' principle. This rests on the fictitious assumption that the various parent and subsidiary companies in a corporate group act like separate legal persons that transact with each other at arm's length."); Sheppard, *supra* note 108 (describing the OECD's goal of "shoring up an unmanageable international tax system based on separate company accounting").

116. Brauner, *supra* note 71, at 110.

market.[117] As a result, tax authorities like the IRS have a very difficult time proving in court that the transfer price used by the multinational is lower than its actual value.[118] Significantly, the IRS has lost both high-profile IP transfer-pricing cases litigated in the past decade.[119]

Scholars agree that transfer-pricing abuse is detrimental in multiple ways.[120] First, it distorts worldwide economic activity and investment.[121] One type of distortion is the corporate "inversion," whereby a U.S.-domiciled corporation merges with a smaller foreign rival to change legal residence to outside the United States.[122] After inverting, profits diverted to tax havens by transfer pricing abuse can avoid U.S. taxation forever.[123] Drug companies have actively pursued inversions, with recent examples including Allergan, Endo, Valeant, Horizon Pharma, and Pfizer.[124] Second, even without investment distortions like inversions, transfer-pricing abuse reduces government tax revenues, resulting in higher deficits, lower spending, and higher taxes on individual citizens and smaller

117. *See* Hoffman, *supra* note 69.

118. JCT REPORT, *supra* note 72, at 110 ("Such information asymmetry favors the taxpayer in establishing transfer prices and resolving transfer pricing disputes."). An example of this advantage playing out in practice is the transfer-pricing case between the IRS and Medtronic Inc., where the IRS received "voluminous documentary discovery" yet still claimed it needed to depose former Medtronic managers to understand them. *See* Ajay Gupta, *Discovery Disputes Heat Up in Medtronic Transfer Pricing Case*, 144 TAX NOTES 913 (2014).

119. *See* Xilinx, Inc. v. Comm'r, 598 F.3d 1191 (9th Cir. 2010); Veritas Software Corp. v. Comm'r, 133 T.C. 297 (2009). The IRS recently lost a third high-profile transfer-pricing case for having regulations that did not provide reasoned support for departing from the arm's-length standard. Altera Corp. v. Comm'r, 145 T.C. No. 3 (2015).

120. Graetz & Doud, *supra* note 4, at 423; Sheppard, *supra* note 105, at 467 (2012) ("Transfer pricing is the leading edge of what is wrong with international taxation. It raises all of the other issues.").

121. Alexander Edwards et al., *Trapped Cash and the Profitability of Foreign Acquisitions*, 33 CONTEMP. ACCT. RES. 44 (2016).

122. Liz Hoffman, *The Tax Inversion Wave Keeps Rolling*, WALL ST. J., July 8, 2015, at C1 ("Pharmaceutical companies are a natural fit for inversions and the deals that follow, given the sector's global reach and reliance on patents, which are more easily transferred among subsidiaries than, say, factories or oil rigs."). Other incentives for inversions include creative intracompany loans. *See generally* Grubert, *supra* note 100.

123. The IRS has repeatedly attempted to specifically target this post-inversion bypassing of U.S. taxation. *See, e.g.*, I.R.S. Notice 2015-79, 2015-49 I.R.B. 775 (Dec. 7, 2015); I.R.S. Notice 2014-52, 2014-42 I.R.B. 712 (Sep. 24, 2014).

124. *See* Hoffman, *supra* note 122 (displaying the "Corporate Chameleons" graphic); Victor Fleischer, *How Tax Laws Distort the Pfizer Deal*, N.Y. TIMES: DEALB%K (April 29, 2014, 3:56 PM), http://dealbook.nytimes.com/2014/04/29/how-tax-laws-distort-the-pfizer-deal/ (discussing earlier attempt by Pfizer to invert; noting influence of aggressive transfer pricing as creating incentives); Sullivan, *supra* note 101 (showing how Pfizer uses transfer pricing to move profits out of the United States).

businesses. Finally, such high-profile tax avoidance by multinationals has a corrosive effect on overall tax compliance by the general public.[125]

Scholars have rightly viewed transfer-pricing abuse as socially detrimental.[126] Yet this Article's proposed solution, discussed below, demonstrates that such abuse can actually be harnessed for the socially beneficial purpose of minimizing deadweight losses—while simultaneously reining in the transfer-pricing abuse.

II. THE SOLUTION: EMINENT DOMAIN WITH JUST COMPENSATION EQUAL TO THE TAX TRANSFER PRICE

Part I above described the two serious problems created by IP: deadweight losses and tax avoidance. Part II sets out a straightforward solution. When a multinational transfers IP to a tax haven subsidiary,[127] the U.S. government should promptly decide whether to use its eminent domain power to take the IP.[128] If the government takes the IP, it should pay "just compensation" equal to the transfer price paid by the tax-haven subsidiary. Immediately after taking the IP, the government should put it into the public domain, which would eliminate the deadweight loss.[129]

This Part discusses three issues. First, this Part demonstrates the solution's legal feasibility by explaining how it complies with the requirements of

---

125. Floyd Norris, *The Corrosive Effect of Apple's Tax Avoidance*, N.Y. TIMES (May 24, 2013), http://www.nytimes.com/2013/05/24/business/making-companies-pay-taxes-the-mccain-way.html.

126. Graetz & Doud, *supra* note 4, at 423.

127. As pointed out in note 72 above, multinationals also transfer IP through mechanisms such as cost-sharing arrangements. In such instances, the buy-in payment for the IP rights must be arm's-length, Treas. Reg. § 1.482-7(a) (2013), and hence would be the measure of "just compensation." Also as pointed out in note 72 above, multinationals sometimes transfer IP by embedding it in service contracts. That is a form of price obfuscation, which is discussed in Section III.C below, and which can be addressed head-on by requiring contracts transferring IP to state the precise consideration for the IP.

128. As discussed in note 72 above, due to quirks in U.S. tax law, the U.S. patent rights transferred are often a license that is economically equivalent to a sale. Thus, the U.S. government is actually using eminent domain on two pieces of property: (1) the license on the U.S. patent held by the tax-haven subsidiary; and (2) the residual, *de minimis* rights in the patent that remain with the U.S. multinational. These latter residual rights will be worth very little. Of course, multinationals may attempt to subvert this Article's proposal by licensing rights that are not fully equivalent to a sale, for example by transferring to their Irish subsidiary seven years of the remaining ten years on a patent's term. In response to such a strategy, the solution is simple: the government should take the seven years' worth of patent rights for its transfer price and dedicate it to the public domain, allowing generic competition during that time. After the seven years of generic availability, the patent-holder would regain protection for the remaining three years, after which the patent would expire, again allowing generic availability.

129. If the IP is in the public domain, then competition will reduce the cost of the patented product to its marginal cost (or close thereto), thereby destroying the deadweight loss shown in Figure 1 above.

the Takings Clause.[130] Second, this Part constructs and applies an economic model to demonstrate the solution's feasibility. Finally, this Part notes that foreign governments could also adopt this Article's approach and explains why the U.S. government would benefit from foreign governments adopting it.

A. Legal Feasibility: Fifth Amendment

The Fifth Amendment's Takings Clause provides "nor shall private property be taken for public use, without just compensation."[131] The Supreme Court has expressly held that this just-compensation requirement applies when the government uses eminent domain to take a patent,[132] and the same reasoning would also apply to taking a copyright.

---

130. Adopting this Article's proposals would require authorizing legislation from Congress. An interesting question is whether this Article's proposals would require small modifications to the multilateral Trade-Related Aspects of Intellectual Property Rights (TRIPS) treaty, to which the United States and approximately 160 other countries are party. *See* Agreement on Trade-Related Aspects of Intellectual Property Rights, 33 I.L.M. 81 (1994) [hereinafter TRIPS]; Uruguay Round Agreements Act, Pub. L. No. 103-465, §§101-103, 108 Stat. 4809, 4814–19 (1994) (U.S. law adopting TRIPS). TRIPS Article 31 imposes limitations on "use of the subject matter of a patent without the authorization of the right holder, including use by the government or third parties authorized by the government." As an initial matter, it is ambiguous whether government using eminent domain to take an entire patent, thus changing the "right holder" to the public, falls within article 31. Dedicating a patent to free public use by anyone, without the user requiring government authorization, almost certainly is not "use by the government or third parties authorized by the government." Assuming arguendo that article 31 applies, this Article's proposals easily meet many of its requirements, such as that the patent holder be paid "adequate remuneration." TRIPS, *supra*, art. 31(h). Commentary indicates that "adequate" can be determined by what the patent-holder "would have obtained in a voluntary arm's-length transaction." CARLOS M. CORREA, TRADE RELATED ASPECTS OF INTELLECTUAL PROPERTY RIGHTS: A COMMENTARY ON THE TRIPS AGREEMENT 322 (2007) [hereinafter CORREA, TRIPS COMMENTARY]. This standard lines up perfectly with the tax-law "arm's-length" requirement. Article 31 also specifies that government-authorized use be "non-assignable" and "non-exclusive." TRIPS, *supra*, art. 31(d), (e). Dedicating a patent to the public domain, by definition, makes it non-assignable and non-exclusive. Article 31 requires that each use "be considered on its individual merits," *id.* art. 31(a), which can be met if transferring patent rights properly invites consideration. Article 31 also requires, as a prerequisite, an attempt to negotiate voluntary authorization from the patent holder on "reasonable commercial terms and conditions." *Id.* art. 31(b). That prerequisite is nearly identical to the tax-law requirement of arm's-length. As a final note, TRIPS Article 8.2 provides indirect support for implementing this Article's proposals without any need to amend TRIPS, recognizing that governments may take "appropriate measures . . . to prevent the abuse of intellectual property rights by right holders." *Id.* art. 8.2.

131. U.S. CONST. amend. V.

132. Horne v. U.S. Dep't of Agric., 135 S. Ct. 2419, 2427 (2015) (citing James v. Campbell, 104 U.S. 356, 358 (1882)); *see* Gregory Dolin & Irina D. Manta, *Taking Patents*, 73 WASH. & LEE L. REV. 719, 770–80 (2016) (discussing the substantial extent to which patents are "property" for Fifth Amendment purposes).

The prices used to transfer IP to tax-haven subsidiaries provide an excellent guide for "just compensation," because tax and Takings Clause standards are virtually identical in this regard. Specifically, tax law's "arm's-length" standard for transfer prices closely corresponds to case law requirements for "just compensation." [133] This Section first addresses two threshold legal issues—jurisdiction and the "public use" requirement—before detailing the correspondence between the transfer pricing standard and the Takings Clause standard.

1. Jurisdiction to Take from a Tax-Haven Subsidiary

This proposal, that the U.S. government take IP rights held by a tax-haven subsidiary, raises a threshold question about jurisdiction. Does the U.S. government have jurisdiction to take U.S. patent rights from a foreign company, such as Gilead Science's Irish subsidiary?

U.S. patents are created by federal statute.[134] U.S. patents are issued by a federal agency, the Patent and Trademark Office ("PTO").[135] Moreover, the PTO keeps records of who owns which U.S. patents, which is equivalent to a land registry recording who owns what land.[136] U.S. patents generally extend protection against infringement only within the United States.[137] In sum, U.S. patents are created by U.S. statute, are issued by a U.S. federal agency, give protection only within the United States, and, most importantly, have their ownership records kept by a U.S. federal agency. The U.S. government has the sovereign right and the practical ability (via the PTO's ownership registry) to use eminent domain to take U.S. patent rights, even if held by a foreign corporation.[138]

International law and the United States' various investment and commerce treaties do nothing to limit the United States' right to use eminent domain to take U.S. patent rights held by foreign corporations. Indeed, the United States' bilateral treaties, such as the commerce treaty between the United States and Ireland, expressly contemplate that an Irish corporation's U.S. property can be

---

133. See *infra* Section II.A.3.

134. *See* 35 U.S.C. § 101 (2012). Similarly, U.S. copyrights are created by U.S. statute, 17 U.S.C. § 102 (2012), although a common-law version of copyright was once created by U.S. state law, 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 2.02 (rev. ed. 2013).

135. 35 U.S.C. § 131 (2012).

136. 35 U.S.C. § 261 (2012) ("The Patent and Trademark Office shall maintain a register of interests in patents and applications for patents and shall record any document related thereto upon request"). The U.S. Copyright Office plays a somewhat similar role with U.S. copyrights. *See* 17 U.S.C. § 701 (2012).

137. 35 U.S.C. § 271(a) (2012) ("[W]hoever without authority makes, uses, offers to sell, or sells any patented invention, *within the United States* or *imports into* the United States any patented invention during the term of the patent therefor, infringes the patent.") (emphases added). The same geographical limitation also generally applies to copyright. 5 NIMMER & NIMMER, *supra* note 134, § 17.02 ("For the most part, acts of infringement that occur outside of the jurisdiction of the United States are not actionable under the United States Copyright Act.").

138. *See* 1-1 NICHOLS ON EMINENT DOMAIN § 1.13 (3d ed. 2015).

taken, provided that "just compensation" is paid.[139] When no bilateral commerce or investment treaty applies, international law similarly allows takings, provided that "just compensation"[140] is paid and the taking is for a "public purpose."[141] In short, international law and U.S. treaties reiterate the protections provided by the Fifth Amendment's Takings Clause.[142]

2. "Public Use"

A second threshold issue relates to the Fifth Amendment's Takings Clause's requirement that any eminent domain be "for public use." This requirement is unquestionably met when eminent domain is used to take property that will be publicly held, such as with land taken for a road, a park, or a military base.[143] Taking IP and putting it into the public domain, as this Article proposes, is directly analogous.[144]

One could argue that taking a drug patent and putting it into the public domain is not for "public use," because doing so benefits generic drug manufacturers. But longstanding Supreme Court precedent allows the government to take private property and actually give it to a *single* for-profit company, provided that this for-profit owner makes the property available for the public's use at reasonable rates.[145] Quintessential examples of such "public use" include

---

139. *See, e.g.*, Treaty of Friendship, Commerce and Navigation, Ir.-U.S., Art. VIII(2), Dec. 15, 1950, T.I.A.S. No. 2155, 1 U.S.T. 785 ("Such property shall not be taken without the prompt payment of just and effective compensation. Nationals and companies of either Party shall be permitted to withdraw from the territories of the other Party the whole or any portion of such compensation . . . "); *accord* Treaty of Friendship, Commerce and Navigation, Neth.-U.S., Art. VI(4), Dec. 5, 1957, T.I.A.S. No. 3942, 8 U.S.T. 2043; United States-Singapore Free Trade Agreement, May 6, 2003, Sing.-U.S., art. 15.6, http://www.ustr.gov/new/fta/Singapore/final/2004-10-15-final.pdf, implemented by United States-Singapore Free Trade Agreement Implementation Act, Pub. L. 108-78, 117 Stat. 948 (May 6, 2003). Subsidiaries in Ireland, the Netherlands, and Singapore are common destinations for transferred IP. *See, e.g.*, MICROSOFT & H-P REPORT, *supra* note 103, at 19 (describing how Microsoft uses all three).

140. RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW § 712(1)(c) (1987); *see id.* cmts. c, d.

141. *Id.* § 712(1)(a).

142. *See id.* § 712 cmt. c (expressly drawing the comparison between international law's compensation standard and the Takings Clause); *id.* reporter's notes 3 (same).

143. Kelo v. City of New London, 545 U.S. 469, 497–98 (2005) (O'Connor, J., dissenting) (citing Old Dominion Land Co. v. United States, 269 U.S. 55 (1925); Rindge Co. v. County of Los Angeles, 262 U.S. 700 (1923)) (calling taking property for public ownership "straightforward and uncontroversial"); NICHOLS ON EMINENT DOMAIN, *supra* note 138, §§ 7.01 through 7.03, 7.06.

144. *See* Aaron S. Kesselheim & Jerry Avorn, *Biomedical Patents and the Public's Health: Is There a Role for Eminent Domain?*, 25 JAMA 434, 435 (2006) ("In the face of growing concern over excesses in pharmaceutical patent protection, another legal instrument exists that can protect the public health: eminent domain.").

145. *Kelo*, 545 U.S. at 497–98 (O'Connor, J., with whom three other Justices join, dissenting) (stating, "[T]he sovereign may transfer private property to private parties, often common carriers, who make the property available for the public's use—such as with a

taking private land to be used for railroads, utilities, or sports stadiums.[146] Certainly the five majority Justices in the controversial[147] *Kelo v. City of New London*[148] case would allow such public use, since that case upheld taking private property and giving it to a for-profit owner who did not make it available to the public at all.[149] Even the four dissenting Justices in *Kelo* expressly agreed that such takings—giving taken property to a single for-profit company that makes the property available to the public—are constitutional.[150] This Article's proposal is even more clearly constitutional, proposing taking a patent and making it free for *all* drug manufacturers to use, particularly given that generic drugs are available to the public at reasonable rates.[151]

3. "Just Compensation" Standards and Transfer-Pricing Standards

Multinationals must choose an "arm's-length" transfer price for transferring their IP to a tax-haven subsidiary.[152] This tax-law "arm's-length" standard means that the transfer price must be "consistent with the results that would have been realized if uncontrolled taxpayers had engaged in the same transaction."[153]

Takings Clause jurisprudence for "just compensation" relies on a virtually identical standard: "fair market value," which the Supreme Court has long defined

---

railroad, a public utility, or a stadium," and calling such cases "straightforward and uncontroversial"); *accord id.* at 512 (Thomas, J., dissenting) (citations omitted) (noting that the proper understanding of "public use" at the Framers' time included using eminent domain for the benefit of grist mills, which "were regulated by law and compelled to serve the public for a stipulated toll and in regular order, and therefore were actually used by the public").

146. *See id.* at 497–98 (O'Connor, J., dissenting).

147. *See supra* note 28.

148. 545 U.S. 469 (2005)

149. *Id.* at 478 ("[T]his is not a case in which the City is planning to open the condemned land . . . to use by the general public. Nor will the private lessees of the land in any sense be required to operate like common carriers, making their services available to all comers.") (Stevens, J., for the majority). The majority opinion also clearly agrees that takings for use by for-profit railroads would be for "public use." *Id.* at 477 ("[I]t is equally clear that a State may transfer property from one private party to another if future 'use by the public' is the purpose of the taking; the condemnation of land for a railroad with common-carrier duties is a familiar example . . . .").

150. *See supra* note 145.

151. For a discussion of "public use," see *supra* notes 145–150 and accompanying text. The reasoning of even the dissenters in *Kelo* would allow the government to use eminent domain to take drug patents and dedicate them to public use. *See* 545 U.S. 497–98, 512; *supra* note 145. It goes without saying that the *Kelo* majority's reasoning would also find the "public use" requirement met. The *Kelo* majority held that the "public use" requirement was met merely whenever the eminent domain served a "public *purpose*," on which courts gave great deference to political decisions. 545 U.S. at 480 (emphasis added) (citations omitted). Eliminating deadweight loss serves a public purpose.

152. Treas. Reg §1.482-1(b)(1) (2015).

153. *Id.*

as "what a willing buyer would pay in cash to a willing seller."[154] Thus, the "arm's-length" standard for transfer prices and "fair market value" standard for just compensation are essentially identical.[155] Indeed, many courts have expressly made this connection.[156]

Transfer prices for IP are, therefore, the best possible evidence of the "just compensation" the government would have to pay to take the IP. These transfer prices are supported by rigorous[157] documentation by expert appraisers.[158] Moreover, multinationals attest—under penalties of perjury—that they believe their transfer prices are, indeed, arm's-length.[159]

Although there are no reported cases using tax transfer prices to determine just compensation, there are several analogous cases involving the taxation of real property. Most notably, in *Kansas City Mall Associates, Inc. v.*

---

154. Almota Farmers Elevator & Warehouse Co. v. United States, 409 U.S. 470, 474 (1973) (quoting United States v. Miller, 317 U.S. 369, 374 (1943)).

155. Indeed, both standards involve purely *hypothetical* transactions, both between unrelated willing sellers and willing buyers, because the actual transaction is not between unrelated willing participants. In eminent domain, the seller is very much compelled to sell to the government. In transfer pricing, the buyer and seller are just two components of the same corporate group.

156. *E.g.*, E. I. du Pont de Nemours & Co. v. United States, 42 A.F.T.R.2d 78-5081 (Ct. Cl. 1978) ("An arm's-length price is simply a different label for the fair market value of the goods or services to which the price relates."); BTR Dunlop Holdings Inc. v. Comm'r, 78 T.C.M. (CCH) 797 (1999) (citing Treas. Reg. § 1.482-1A(b)(1)(1993)) ("The applicable standard for making these allocations with respect to fair market value is arm's-length dealing between taxpayers unrelated by ownership or control."); Medieval Attractions N.V. v. Comm'r, 72 T.C.M. (CCH) 924 (1996) ("Respondent's main contention is that the transactions that were the basis for the deductions were not bona fide arm's-length transactions at fair market value . . . ."); *see also* Pikeville Coal Co. v. United States, 37 Fed. Cl. 304, 310 (1997) (not charging "fair market value" to related corporation means that taxpayer "did not conduct its affairs with its parent in an arm's length manner. Therefore, section 482 is available to the I.R.S."); U.S. Tobacco Sales & Mktg. Co., v. Wash. State Dep't of Revenue, 982 P.2d 652, 658 (Wash. App. 1999) ("[T]he Department failed to identify in what respect the federal arm's-length-price standard differs from fair market value."); *accord Fair Market Value*, BLACK'S LAW DICTIONARY (10th ed. 2014) (defining "fair market value" as "the price that a seller is willing to accept and a buyer is willing to pay on the open market and in an *arm's-length* transaction") (emphasis added).

157. KRISTOPHER A. BOUSHIE ET AL., CALCULATING AND PROVING DAMAGES § 6.06[1][b] (2011) (stating that tax-motivated transfer pricing studies are "perceived to be rigorous analyses of value").

158. *Supra* note 86.

159. I.R.C. § 6065 (2012) (requiring returns to be signed under penalty of perjury); *see also* IRS, FORM 1120, at 1 (2015) (requiring the following signed declaration by a corporate officer: "Under penalties of *perjury*, I declare that I have examined this return, *including accompanying schedules and statements*, and to the best of my knowledge and belief, it is *true, correct, and complete.*" (emphases added)), https://www.irs.gov/pub/irs-pdf/f1120.pdf.

Wyandotte County,[160] the owner of real property had wanted to reduce its property-tax bill and had argued, for property-tax purposes, that the fair market value of the property was $2.7 million. Two years later, the county initiated eminent domain proceedings to take that same property, plus some adjacent real estate.[161] The property owner argued for just compensation of at least $30 million.[162] The Kansas Supreme Court held that the earlier assertions of fair market value for property tax purposes were fully admissible as substantive evidence for just compensation, even though the owner was not an expert in real estate valuation.[163] Tax transfer prices provide even better evidence of just compensation, since they *are* determined by expert appraisers.[164]

Multinationals might argue that "just compensation" should also include the value of the business opportunities that the IP would have created, such as cross-marketing of patented drugs with other drugs. But Takings Clause jurisprudence is clear that just compensation does not include loss of business opportunities.[165] Just compensation includes only the value of the taken property itself.[166]

Promptness is essential. If the government lets too much time pass between the multinational's transfer of the IP and the government's use of eminent domain to take the IP, then the multinational can argue that the IP's fair market value has increased between the time of the transfer and the time of the taking, thus requiring "just compensation" higher than the transfer price.

Prompt action by the government is feasible by piggybacking on existing tax-law requirements. Multinationals are already required[167] to prepare detailed contemporaneous appraisal documentation justifying the transfer price, including the valuation method used,[168] why other valuation methods were rejected,[169] all

---

160. 272 P.3d 600, 600 (Kan. 2012) (citing City of Wichita v. Sealpak Co., 112 P.3d 125 (Kan. 2005)).

161. *Id.* at 606 (noting that tax appeal was limited to fewer pieces of property than the eminent domain).

162. *Id.* at 603 ("[H]e testified that he believed the value of the property was $30 million to $35 million.").

163. *Id.* at 606–09.

164. *See supra* notes 84–88.

165. Mitchell v. United States, 267 U.S. 341, 345 (1925) (stating that just compensation does not include consequential damages to business as a result of eminent domain taking of land used by business); *accord, e.g.*, United States v. Gen. Motors Corp., 323 U.S. 373, 385 (1945); Leesona Corp. v. United States, 599 F.2d 958, 972 (Ct. Cl. 1979) (specifically applying this doctrine to patent); Decca Ltd. v. United States, 640 F.2d 1156, 1176 (Ct. Cl. 1980) (same); *see also* Bell & Parchomovsky, *supra* note 6, at 886 (stating that the constitutional requirement of "just compensation" need not include lost goodwill).

166. *See supra* note 165.

167. *See supra* note 86 (discussing stiff penalties for failing to comply with documentation requirements).

168. Treas. Reg. § 1.6662-6(d)(2)(iii)(B)(4) (2011).

169. *Id.* § 1.6662-6(d)(2)(iii)(B)(5).

data used in or relevant to the valuation,[170] and the economic analysis.[171] This documentation must be in existence at the time the multinational files its tax return,[172] although in practical terms the transfer prices and their justification need to be prepared much earlier.[173] Potentially, the government could rely on this timeframe and make the decision whether to take the IP promptly after the multinational files its tax return. But the multinational may argue that the IP's value increased between the time of the transfer and the time of filing the tax return, thus requiring "just compensation" higher than the transfer price. Such an argument would seem far-fetched. But a court might accept this argument if, conveniently, the FDA approved the patented drug in the intervening time. To prevent such mischief, the government could simply require that the already-required contemporaneous appraisal documentation be delivered to the government contemporaneous with the transfer of the IP. Given that a multinational must already know the transfer price and know that it can be justified at the time of the transfer,[174] this moving up of existing requirements should impose little additional burden on the multinational. Receiving this documentation at the time of the transfer would provide the government with timely notification of the transfer, the transfer price, and the justification for the price, thereby allowing the government to decide quickly whether to use eminent domain to take the IP.

The next Section describes several government strategies that enable quick—even same-day—decisions on whether to take transferred IP.

B. Economic Feasibility: Addressing Both Problems at Once

As discussed in Part I, IP currently causes two problems: deadweight losses and tax avoidance. At first glance, one might think that taking IP with compensation equal to transfer prices could address only tax avoidance, by deterring transfer-pricing abuse, while leaving deadweight losses unaddressed. But this Section develops an economic model that demonstrates how the government can address both problems simultaneously.

1. Status Quo: Low Transfer Prices

First, consider the status quo of transfer pricing under current law. This Section models the incentives that multinationals currently have in choosing a transfer price for their IP.

---

170. *Id.* § 1.6662-6(d)(2)(iii)(B)(6), (7).

171. *Id.* § 1.6662-6(d)(2)(iii)(B)(8).

172. I.R.C. § 6662(e)(3)(B)(i)(II) (2012). The multinational must turn over this documentation to the IRS within 30 days of a request. *Id.* § 6662(e)(3)(B)(i)(III).

173. William G. Dodge et al., *T.M. Portfolio 891 – Transfer Pricing: Audits, Appeals, and Penalties* ¶ 1:I.C.3 (2d ed. 2016 rev.) ("Well-prepared taxpayers will plan their transfer prices during the taxable year, prepare thorough documentation when the tax return is filed, and organize supporting documents to be provided to the IRS.").

174. *Id.* ("Well-prepared taxpayers will plan their transfer prices during the taxable year . . . .").

Multinationals currently have strong tax incentives to transfer IP for a price much lower than its actual value. For convenience's sake, let us define $\$a$ as the IP's actual value, which equals the present value of all the profits that the multinational expects the IP to generate. The tax savings from using a low transfer price are proportional to the corporate tax rate, which is currently 35%.[175] For example, if a multinational chooses a transfer price that is $100 million below the IP's actual value $\$a$, then the multinational will save $35 million in taxes by having the profits from the IP flow to the tax-haven subsidiary.

But why not transfer the IP for a transfer price of just $1? At first glance, that would save taxes equal to 35% of the full value of the IP (minus the $1). But the further the transfer price is below the actual value $\$a$, the greater the likelihood that the IRS will catch the abuse and require the multinational to pay not only the underpaid taxes, but also penalties.[176] The further the transfer price is below the actual value $\$a$, the greater the tax underpayment that will be due and the more severe the penalties will be.[177] As a result, a transfer price just slightly below $\$a$ allows the multinational to save some taxes, with very little downside risk from IRS audits and penalties. A moderately lower transfer price allows saving even more taxes, but brings downside risks from IRS audits and penalties that noticeably offset the tax savings. Seriously low transfer prices save still more on taxes, but bring such severe risk of IRS audit and stiff penalties that the expected payoff becomes negative.

The following figure illustrates these trade-offs in choosing a transfer price.[178] The horizontal axis is the transfer price that the company chooses. The vertical axis is the average payoff that the company can expect from its transfer-pricing strategy (i.e., not from its underlying business). The dashed line shows what the payoff would be to the company if the IRS never audited transfer prices: the payoff is a straight line. For transfer prices below the actual value $\$a$, the payoff equals the tax rate of 35%, multiplied by the amount by which the transfer price goes below $\$a$. If the company were irrational and chose a transfer price above the actual value $\$a$, then the payoff is negative (reflecting overpaying taxes), equal to the 35% tax, multiplied by the amount by which the transfer price is above $\$a$. Of course, the IRS does sometimes audit transfer prices, and the solid line shows the payoff without any IRS audit, *minus* the expected IRS penalties, which are more severe the further the transfer price is below $\$a$.

---

175. I.R.C. § 11(b) (2012).

176. *See* Chander Kant, *Endogenous Transfer Pricing and the Effects of Uncertain Regulation*, 24 J. INT'L ECON. 147, 148–52 (1988).

177. *See* I.R.C. § 6662(a), (b)(3), (e) (2012) (imposing a 20% penalty on tax underpayments due to "substantial valuation misstatements," in which the price is 50% or less of the accurate price); *id.* § 6662(h) (assessing 40% penalty for "gross valuation misstatements," in which the price is 25% or less of the accurate price).

178. The payoff to the company under current law is modeled in the Appendix as the function Y_{cur}. *See* Appendix, *infra* p. 1133.

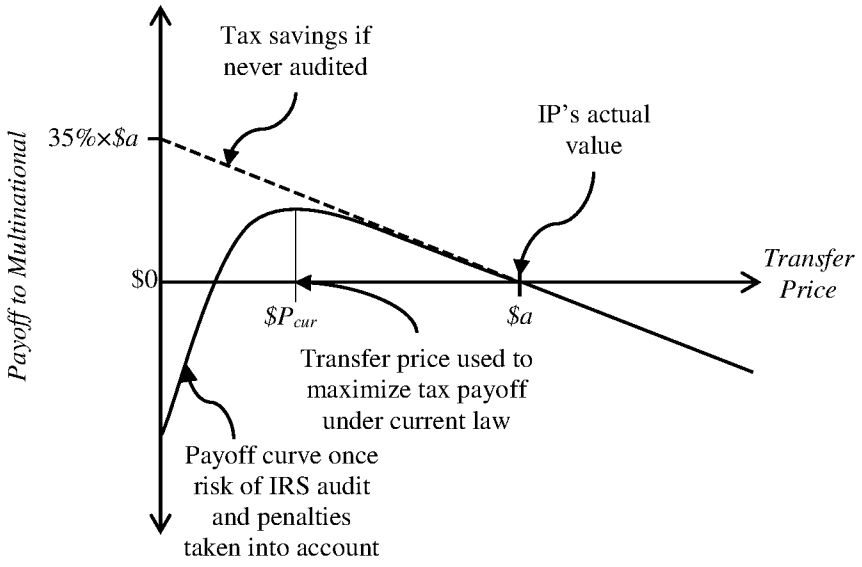

Figure 3: Payoffs from Transfer Pricing Abuse under Current Law

Companies naturally aim to maximize payoff, so they choose the transfer price that results in the highest payoff, which is the highest value reached by the solid line. The transfer price that maximizes the companies' payoff is $\$P_{cur}$, as shown in Figure 3.[179] This model explains why companies choose transfer prices that are well below the IP's actual value $\$a$, but still above zero.[180]

Recall that the government cannot ever determine the actual value $\$a$ with certainty, because of the information asymmetry between the multinational and the government.[181] The company has the best possible knowledge about the relevant market, the IP, and the IP's potential within the market. The IRS's informational disadvantage explains why the solid line in Figure 3 above is only slightly below the dashed line for transfer prices not too far below the IP's actual value $\$a$. Only when the transfer price becomes egregiously below the IP's actual value does it become likely that the IRS will catch and penalize the abuse, resulting in the solid line going well below the dashed line—and eventually becoming negative as the transfer price approaches zero.

2. The Simplest Solution: Randomized Takings

For a moment, let us leave aside both tax savings and IRS penalties, and consider only the payoff to the multinational if the government takes the

179. For the derivation of P_{cur} under this model, see Appendix, *infra* p. 1133.

180. *Cf.* Kant, *supra* note 176, at 148, 152 (noting that a multinational's optimal transfer price may not be at an extreme of the plausible values).

181. For a discussion of information asymmetry and the IRS's information disadvantage regarding multinationals' IP, see *supra* notes 116–119 and accompanying text.

multinational's IP with just compensation equal to the transfer price. Recall that $\$a$ is the actual value of the IP, which equals the present value of the profits the multinational expects the IP to generate.

If the company transferred the IP for its actual value $\$a$ and the government took it for $\$a$, then the payoff to the company would be zero: the $\$a$ in cash just compensation received from the government for the IP would equal the $\$a$ in profits expected if the company had continued to hold the IP. It would be a complete wash from the company's perspective to have the government take the IP with just compensation equal to the IP's actual value.

But if the company transferred the IP for less than its actual value, then the company's payoff from the government taking the IP is negative: the compensation received for the IP would be less than the actual value of the IP. Ultimately, this negative payoff to a company for its IP being taken for a transfer price below its actual value is this Article's central deterrent against choosing too-low of a transfer price.[182] Below is the simple graph showing the company's payoff—ignoring tax savings and IRS penalties—when the government takes IP for the transfer price:

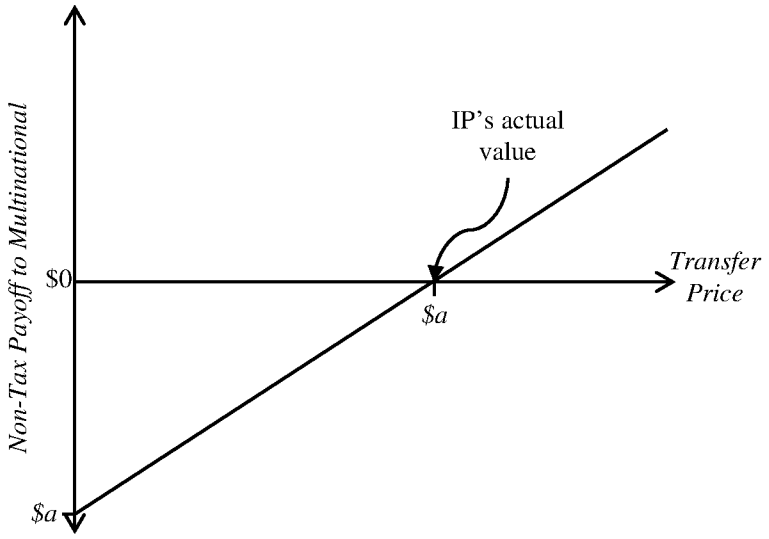

Figure 4: Payoff (Ignoring Tax Payoffs) When Government Takes IP with Compensation Equal to the Transfer Price

182. This negative payoff has the merit of being directly proportional to the amount by which the company has understated its transfer price. *See* Andrew Blair-Stanek, *Tax in the Cathedral: Property Rules, Liability Rules, and Tax*, 99 VA. L. REV. 1169, 1195–1217 (2013) (arguing that downsides to taxpayers from violating tax laws should ideally be proportional to the extent of the violation).

Figure 4 above suggests a devious strategy that companies could use if they think the government will likely take their IP for its transfer price: use a transfer price *above* the actual value $\$a$. Such overpricing is the opposite of the tax-motivated underpricing that companies currently practice. If the company chooses a transfer price above $\$a$ and the government is foolish enough to take the IP for that "highball" transfer price, the result would be a windfall to the company.

Thankfully, the government can both easily ensure that companies never "highball" transfer prices, and create strong incentives for companies to choose more-accurate transfer prices. The government can do so by taking transferred IP with a probability that is less than the corporate tax rate.[183] For example, suppose that the government randomly took 25% of all transferred drug patents for the transfer price. For every dollar above the actual value $\$a$ that the drug company used for the transfer price, it would gain 25 cents (25% of $1) of expected gain from the taking. But each dollar above $\$a$ would also come with a downside: the certainty of paying the 35% corporate tax rate on that additional dollar, meaning a downside of 35 cents. With the expected upside per dollar above $\$a$ being 25 cents and the downside being 35 cents, the company would not choose a transfer price above $\$a$.[184] Highballing the transfer price would be a clear losing strategy when the government randomly takes 25% of transferred patents.

The following figure shows the change in the company's payoffs from the transfer price. The function with the solid line is the same function shown in Figure 3, showing the company's tax payoff under current law, once the risk of IRS audits and penalties reduces the payoff from choosing a low price. To maximize expected payoff under current law, companies transfer IP for the low transfer price $\$P_{cur}$. The second function, using the dashed line, is the expected average payoff taking into account the 25% probability that the IP will be taken by the government for the transfer price.[185] In other words, the dashed line represents the sum of the current-law tax payoff (which is the solid line), plus 25% times the

183. This probability of eminent domain is referred to as e in the formal model in the Appendix. *See infra* p. 1134.

184. There is one tax provision that, in some rare circumstances, could change these incentives and encourage drug companies to "highball" their prices: I.R.C. § 172 allows companies that lose money in a year to claim a "net operating loss" or "NOL" that they can carry back two years or forwards up to 20 years. NOLs are valuable deferred tax assets that can reduce taxes over a 23-year period and are rarely a cause for taking actions to create taxable income when none would have existed. *See generally* BORIS I. BITTKER & LAWRENCE LOKKEN, FEDERAL TAXATION OF INCOME, ESTATES, AND GIFTS ¶ 25.10 (1999 & Supp. 2015) (discussing NOLs). But in the very unusual situation where a drug company sees little prospect of taxable income over the next 20 years, the company may highball the price, with the NOL eliminating the tax downside, and with the upside of the government taking the patent at the highball price. Out of an abundance of caution, the government has two easy options to prevent NOLs from incentivizing highballing prices. First, the government can simply not take the patents of drug companies with unused NOLs. Or second, section 172 can be amended to prevent using NOLs to offset income from the transfer of patents.

185. The multinational's payoff is called Y_{rand} in the formal model in the Appendix, *infra* p. 1134.

payoff function shown in Figure 4 (showing the non-tax payoff when the government takes the IP with compensation equal to the transfer price).

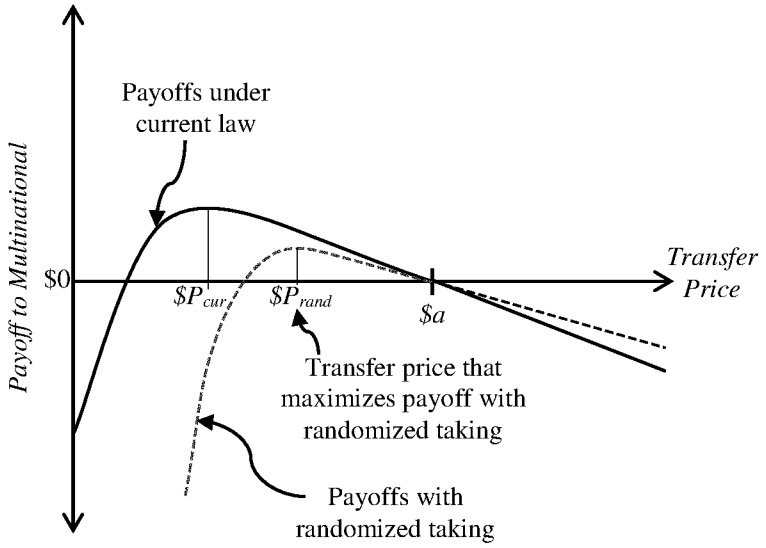

Figure 5: Expected Payoff with 25% Probability of Taking

With the new expected payoff to the company represented by the dashed line, the company maximizes its expected return by transferring the IP at transfer price $\$P_{rand}$, which is higher than $\$P_{cur}$, the seriously low price that currently maximizes the company's payoff.

The Appendix mathematically demonstrates three key points about this strategy. First, the company will still have an incentive to transfer the IP to a tax-haven subsidiary.[186] Second, the maximum payoff to companies with randomized eminent domain will be less than the maximum payoff under current law.[187] Third and most importantly, the new transfer price $\$P_{rand}$ will be higher than the transfer price $\$P_{cur}$ chosen under current law.[188] In other words, this government strategy will reduce transfer-pricing tax avoidance.

This approach fights both problems with IP. For the percentage (e.g., 25%) of IP randomly selected to be taken by the government and put into the public domain, society gets rid of the deadweight loss. With patents on drugs, patients who would have been priced out of receiving a drug will be treated. Moreover, the randomized taking forces companies to be more accurate in self-assessing transfer prices on *all* their IP, knowing that the government may take the IP for the transfer price.

---

186. This is proved in the Appendix as Proposition 1, *infra* page 1134.
187. This is proved in the Appendix as Proposition 3, *infra* page 1135.
188. This is proved in the Appendix as Proposition 2, *infra* page 1135.

This approach of randomized taking requires neither expertise nor discretion on the part of the government. All it requires is that the probability of the taking of a particular piece of transferred IP be less than the corporate tax rate. For example, to achieve a 25% probability of taking, a government employee could flip a coin twice for each piece of IP that is transferred, and would take the IP if (and only if) the coin came up "heads" both times. To achieve a probability other than 25%, the government employee could use one of many random-number-generating algorithms.[189] Even a strident skeptic of government employees' competence would concede that officials could handle such a task. Moreover, once IP is taken and put into the public domain, the government need not do anything to manage it. The private sector and non-profit sector can use it however they see fit.[190] With drug patents, the primary use will be manufacturers producing generic versions of the drugs.

This randomized takings approach can be phased in as slowly or quickly as policymakers would like. For example, the government could initially commit to randomly taking just 2% of all drug patents. That would guarantee more accurate transfer prices for all drug patents (i.e., less tax avoidance) while also eliminating the deadweight loss from those 2% of patents taken.

Of course, the probability of taking IP must be nontrivial to have any substantial impact on companies' tax avoidance. Despite the substantial scholarly interest in self-assessment-valuation systems for real property, only five jurisdictions have ever used them: Ancient Athens; New Amsterdam in 1658; New Zealand from 1891 to 1896; Colombia in 1954 and 1963; and Taiwan from 1954 to 1977.[191] Of these five, data on only Taiwan's experience are available.[192] The Taiwanese data showed widespread undervaluation by property owners, which makes sense because all property owners paid property taxes, while an average of only 0.04% of total private land was taken by the government each year.[193] The Taiwanese experience confirms the obvious: the rate of randomized IP taking cannot be a trivially small number like 0.04% if the goal is to noticeably curtail companies' tax avoidance.

Randomized taking comfortably passes constitutional scrutiny under Due Process and Equal Protection.[194] As an economic regulation, such randomization

---

189. *E.g. True Random Number Service*, RANDOM.ORG, https://www.random.org/ (last visited Oct. 6, 2016).

190. *See* Duffy, *supra* note 65, at 53 (noting that government need have no further involvement with IP taken and put in the public domain).

191. Yun-Chien Chang, *Self-Assessment of Takings Compensation: An Empirical Study*, 28 J. L. ECON. & ORG. 265, 267 n.14 (2012).

192. *Id.*

193. *Id.* at 275.

194. U.S. CONST. amend. V ("No person shall . . . be deprived of life, liberty, or *property*, without due process of law" (emphasis added)); Bolling v. Sharpe, 347 U.S. 497 (1954) (holding that Equal Protection guarantees apply to the federal government via the Fifth Amendment's Due Process guarantee); *cf.* Michael Abramowicz et al., *Randomizing Law*, 159 U. PA. L. REV. 929, 968–74 (2011) (discussing acceptability of randomization in law for determining the best legal approaches).

would be subject to the lowest level of constitutional scrutiny, "rational basis review," under which government action will be upheld if it is "rationally related" to a "legitimate" government interest.[195] Randomized takings serve not just one but two clearly legitimate government interests: fighting transfer-pricing abuse, and reducing deadweight losses.[196] Moreover, randomization is a rational way to address these concerns. If a multinational knew that a patent would be taken for its transfer price, the multinational would "highball" the transfer price and thus receive a windfall at the government's expense.[197] Conversely, if a multinational knows that a patent will not be taken for its transfer price (as is currently the case), the multinational will engage in transfer pricing abuse, and society will suffer from deadweight losses. Randomization prevents either of these outcomes and thereby advances the government's legitimate interests in reducing transfer-pricing abuse and deadweight losses, thus easily passing rational basis review.

3.Targeted Randomized Takings

Pure randomization is arguably too indiscriminate. Instead, the government can tailor the probability that a piece of IP will be taken to account for the desirability of having that IP taken and dedicated to the public domain. Desirability of taking particular IP could be measured in different ways.

One possible metric is the size of the deadweight loss typically created by that class of IP. For example, economists have shown that patents on cardiac drugs create much higher deadweight losses than patents on certain classes of antibiotics.[198] Thus, the government could randomly take 30% of transferred patents on cardiac drugs, while randomly taking only 10% of patents on antibiotics that cause much lower deadweight losses. The only restriction would be—as discussed in the previous section—that the probability of taking must always be

---

195. Williamson v. Lee Optical of Okla., Inc., 348 U.S. 483, 491 (1955); FCC v. Beach Commc'ns, 508 U.S. 307, 313–314 (1993); Armour v. City of Indianapolis, 132 S.Ct. 2073, 2079 (2012); *see also* Regan v. Taxation with Representation of Wash., 461 U.S. 540, 547 (1983) ("Legislatures have especially broad latitude in creating classifications and distinctions in tax statutes.").

196. *Lee Optical*, 348 U.S. at 489–90 (promoting and protecting the public's health is a legitimate government interest); Colangelo v. United States, 575 F.2d 994, 998 (1st Cir. 1978) (stating that "orderly assessment and collection of taxes" is a legitimate government interest).

197. *See supra* notes 183–184 and accompanying text.

198. Guell & Fischbaum, *Estimating Allocative Inefficiency*, *supra* note 15, at 422. The class of antibiotics that created the lowest deadweight losses were erythromycins, while contraceptives created the highest deadweight losses. *Id.* Note that Guell and Fischbaum worked from publicly available data. *Id.* at 419. But the government has access to much more detailed data. For example, the government already gathers extensive nonpublic data on patented drug usage through publicly financed programs, such as Medicare, and can use its powers to collect even more data. This extensive data can be mined by the government using Guell and Fischbaum's methodology, thus allowing even greater precision in determining which classes of drugs are likely to create greater deadweight losses and thus should have higher probabilities of being subject to a taking.

less than the corporate tax rate. By targeting the randomized takings in this way, the government can further reduce the deadweight losses.

Another possible metric is the proportion of the cost of a class of IP that will ultimately be borne by the government anyhow. For example, Hepatitis C disproportionately affects persons who receive government-funded healthcare, such as that from Medicaid, Medicare, the Veterans Administration, and prisons.[199] As a result, the government foots a disproportionate part of the cost of drugs that treat Hepatitis C. By contrast, the government pays little of the cost of drugs to treat erectile dysfunction.[200] Thus, the government could randomly take 30% of transferred patents on Hepatitis C drugs, while randomly taking only 4% of patents on erectile dysfunction drugs. Taking a patent promptly allows much cheaper generic competition. By targeting the randomized takings in this way, the government can minimize its own spending on drugs, thus offsetting (in whole or in part) the cost of paying "just compensation."[201]

Any number of other metrics could be used to tailor the probability of taking a particular piece of IP. A sensible metric might combine both the deadweight losses and the government costs, so that the probability of taking balances both social benefits and fiscal benefits. An entirely different metric could be used, such as a drug's potential to add quality-adjusted life years for patients taking it.[202] The only restriction is that the probability of taking must always be less than the corporate tax rate.

4. Refined Takings: Improving on Randomized Takings

Although the randomized takings described in the previous sections minimize both deadweight loss and tax avoidance, the government can do even better if it can determine roughly whether the transfer price is in the same ballpark as the IP's actual value $\$a$. If the transfer price is in the same ballpark as $\$a$, then the probability of taking has to be less than the corporate tax rate. If the transfer price is substantially below $\$a$ (meaning that the transfer price is egregiously low and hence a real bargain), then the probability of taking can be even higher than the corporate tax rate.

---

199. SENATE SOVALDI REPORT, *supra* note 40, at 1 ("The virus is disproportionally concentrated among Americans who are likely to receive health coverage from public payers") (citing Eric Chak et al., *Hepatitis C Virus Infection in USA: An Estimate of True Prevalence*, 31 LIVER INT'L 1090, 1096 tbl.6 (2011), http://www.ncbi.nlm.nih.gov/pubmed/21745274); *accord* Loftus & Fields, *supra* note 2 (discussing the disproportionate Heptatis C infection rates among prisoners and the intense pressure that expensive Hepatitis C drugs put on prison budgets).

200. *See* 42 U.S.C. § 1395w-102(e)(2)(A) (barring Medicare's prescription drug program from paying for drugs "used for the treatment of sexual or erectile dysfunction").

201. For further discussion of how this Article's proposals would result in tax-revenue increases and healthcare-expenditure decreases, and whether those might fully offset the cost of paying "just compensation," see *infra* Section III.D.

202. *Cf.* Luis Prieto & José A Sacristán, *Problems and Solutions in Calculating Quality-Adjusted Life Years (QALYs)*, 1 HEALTH & QUALITY LIFE OUTCOMES 80 (2003) (describing quality-adjusted life years and considering variations in measurement).

The following figure illustrates how this refined approach works. As in Figures 3, 4, and 5, the horizontal axis is the transfer price chosen by the multinational. Unlike in those figures, the vertical axis is the probability that the government will take the IP given the transfer price.[203] If the multinational chooses a price well below the actual value $\$a$, the probability of taking is close to 100%. But if the multinational chooses a price in (or above) the same ballpark as $\$a$, the probability of taking is below the corporate tax rate of 35%.

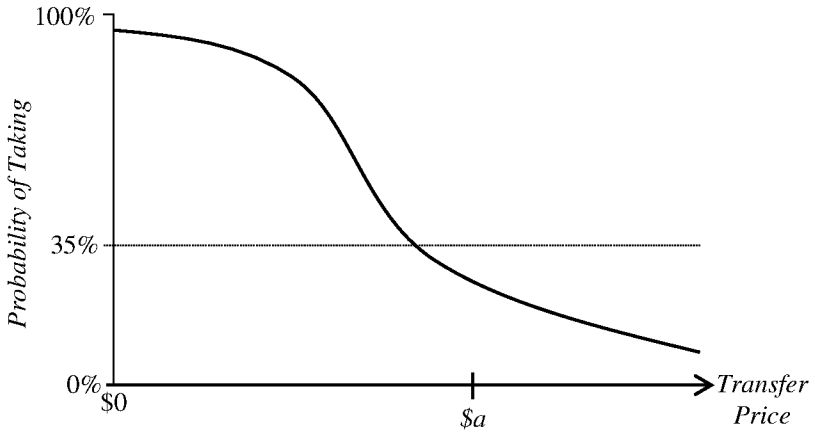

Figure 6: Probability Distribution that Improves on the Government Randomly Taking 25%

The probability distribution above shows that if the company chooses a transfer price near $0, the probability of the government deciding to take the IP is close to 100%, which makes sense: the company has chosen a transfer price clearly below the actual value $\$a$, thus making the government's purchase a bargain. As the price gets a bit higher than $0, the government remains confident that the transfer price is far below the accurate price, and the government thus remains very likely to take the IP. Then, as the transfer price gets closer to the IP's actual value $\$a$, the government becomes less confident that the company's transfer price is below the accurate price, so the probability of the government taking the IP becomes lower.

There are many probability distributions that would be refinements on the purely randomized takings discussed above in Sections II.B.2 and II.B.3. The probability distribution illustrated above in Figure 6 is merely one example. There are three easily met requirements for a probability distribution to produce even better results than randomized takings.[204] First, if the company chooses a transfer price of $\$a$ or higher, then the probability of the government taking the IP must be below the corporate tax rate (currently 35%). Second, the probability of taking must decrease (or merely be flat) as the transfer price increases. Third, for any

203. In the Appendix, *infra* p. 1135, this function is called $E(p)$.

204. These three conditions are formalized in the Appendix, *infra* pp. 1135–36.

transfer price less than the actual value $\$a$, the probability of taking must be non-zero, although just 0.01% suffices to meet this condition. Let us call these three requirements the "Probability Conditions."

The government need not be highly competent to meet these Probability Conditions. The government can get access to virtually all information the multinational has about the IP and the relevant market, through receiving the contemporaneous documentation justifying the transfer price, as well as through various other mechanisms, including the IRS summons power, FDA filings, and agency-issued subpoenas.

As a matter of mathematical certainty,[205] as long as the Probability Conditions are met, then the company will choose a transfer price that is not only higher than $\$P_{cur}$ (the price chosen under current law), but also higher than the transfer price $\$P_{rand}$ (the price chosen under the purely randomized taking discussed above in Section II.B.2).[206] In other words, this refined approach results in even less tax avoidance.

Figure 7 below illustrates how this refined approach improves on both current law and purely randomized takings. As always, the horizontal axis is the transfer price chosen by the multinational. The vertical axis is the payoff to the multinational from the transfer-pricing abuse. Two of the payoff curves are the same as in Figure 5. The solid black line is still the payoff under current law, where the payoff is determined entirely by tax savings and the possibility of being audited and penalized by the IRS. The dashed line is still the payoff where the government randomly takes with a 25% probability. The new line is in gray, showing the company's payoff where the government takes with the probability function shown above in Figure 6.

205. This is proved in the Appendix, *infra* p. 1136, as Proposition 4.
206. This is proved in the Appendix, *infra* p. 1137, as Proposition 5.

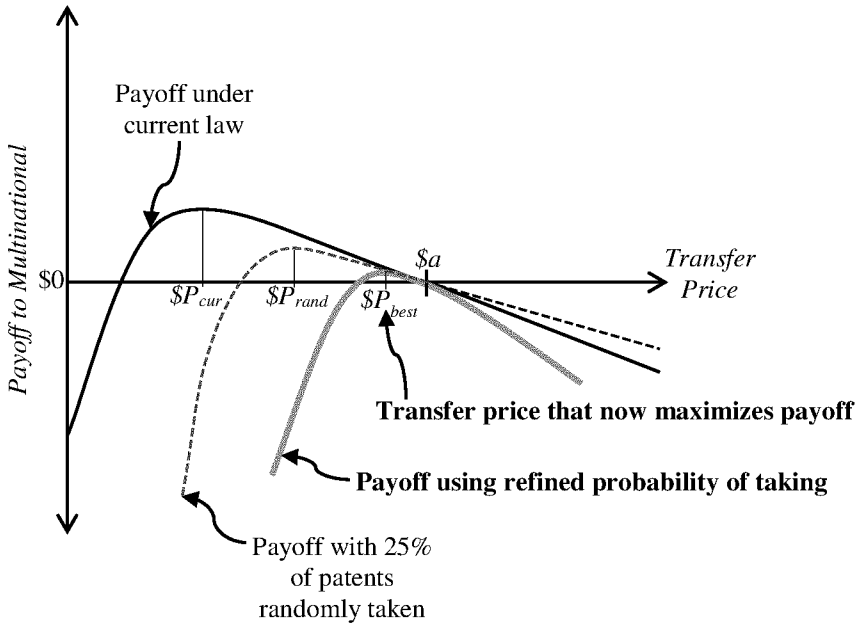

Figure 7: Payoff with Refined Probability of Taking

The refined takings approach results in the company choosing a transfer price labeled above as $\$P_{best}$. This price is higher than the low transfer price $\$P_{cur}$ chosen under current law. This price is also higher than the transfer price $\$P_{rand}$ chosen when there is a flat 25% probability of eminent domain. In short, this refined takings approach does even more to fight tax avoidance.

C. Use by Other Countries

The two problems created by IP discussed in Part I of this Article are not unique to the United States. They plague other countries as well.[207] As one prominent commentator observes, "every multinational is stripping income out of market countries and into tax-haven intangibles holding companies."[208] While multinationals' transfer-pricing abuse has generated front-page articles in the United States,[209] it has resulted in vehement public protests in Europe.[210] Most other countries have concepts similar to the U.S. Fifth Amendment's Takings

---

207. Sheppard, *supra* note 105, at 470; *see, e.g.*, Sam Schechner, *Google's Tax Setup Faces French Challenge*, WALL ST. J., Oct. 9, 2014, at A1.

208. Sheppard, *supra* note 105, at 467–68.

209. *See* sources cited *supra* note 2; *see also* Janet Hook & Danny Yadron, *Apple CEO Tim Cook, Lawmakers Square Off over Taxes*, WALL ST. J., May 22, 2013, at A1.

210. *See, e.g.*, Vanessa Barford & Gerry Holt, *Google, Amazon, Starbucks: The Rise of 'Tax Shaming'*, BBC NEWS: MAGAZINE (May 21, 2013), http://www.bbc.com/news/magazine-20560359.

Clause, requiring compensation.[211] These countries can also use tax transfer prices to take IP rights and dedicate them to the public domain, thus eliminating their deadweight losses.

The U.S. government could actually benefit if other countries use eminent domain to take IP developed in the United States. For example, Gilead Sciences almost certainly transferred the Japanese patent on Sovaldi (i.e., the patent issued by the Japan Patent Office giving exclusive rights to sell Sovaldi in Japan) to a tax-haven subsidiary for a low transfer price.[212] Gilead thus avoided both Japanese taxes and U.S. taxes.[213] Suppose Japan adopted this Article's proposal to take some Japanese patents that are transferred by U.S. companies to tax-haven subsidiaries. Japan would obviously eliminate deadweight losses in Japan and reduce avoidance of Japanese taxes. But Japan would also reduce U.S. companies' avoidance of U.S. taxes.

III. OBJECTIONS AND RESPONSES

Part II showed how the government could use eminent domain to take IP, with just compensation determined by the transfer price, thus fighting two problems: deadweight losses and use of IP to avoid taxes. Part III considers objections.[214]

---

211. *See, e.g.*, *Australian Constitution* s 51(xxxi) (requiring "just terms" for the acquisition of property); GRUNDGESETZ FÜR DIE BUNDESREPUBLIK DEUTSCHLAND (Basic Law of the Federal Republic of Germany), art. 14(3), *translation at* http://www.gesetze-im-internet.de/englisch_gg/englisch_gg.html#p0079 ("Expropriation shall only be permissible for the public good . . . . [C]ompensation shall be determined by establishing an equitable balance between the public interest and the interests of those affected.").

212. *See* SENATE APPLE REPORT, *supra* note 103, at 34 (describing how Apple Inc. used its Irish subsidiary to avoid taxes on sales to Japanese consumers).

213. Gilead Sciences, Inc., a U.S. company, owned the Japanese patent, and thus the transfer price upon transferring the Japanese patent to a tax-haven subsidiary will be immediately recognized as gross income in the U.S. for Gilead. I.R.C. § 61(a)(3), (6) (2012). To the extent the transfer price is contingent upon the productivity, use, or disposition of the Japanese patent, then the transfer price—while still being immediately recognized as gross income—will be treated as sourced "without the United States," increasing the available credit for foreign taxes. *Id.* § 865(a)(1), (d); *id.* § 862(a)(4); *see also id.* § 904 (allowing foreign tax credit to extent of income from sources "without the United States").

214. There are two potential objections not worthy of being addressed in the main text. First, one can object that the possibility of the government taking a drug patent and dedicating it to the public domain can distort investment by third parties away from preventing the illness that the drug will treat. *See* Duffy, *supra* note 65, at 42–44 (building on arguments made by Ronald Coase in *The Marginal Cost Controversy*, 13 ECONOMICA 169, 174 (1946)). But third parties have no control over the transfer price that a multinational will choose for the drug patent, whether the government chooses to take the patent, or whether they will get the treated illness. Second, one can object that drug patent-holders will invest in lobbying to increase their payout, arguing that their payout is particularly meritorious. *See* Duffy, *supra* note 65, at 49–51 (raising this objection to the proposal in Abramowicz, *supra* note 70). But the payout to a patent-holder from this

A. Reduced Incentives for Innovation

Drug companies' innovations have greatly advanced human well-being, by developing new cures.[215] The primary incentive driving this innovation has been obtaining patent rights and the pricing power that comes with the patents.[216] Developing a drug and getting FDA approval is extraordinarily expensive, typically requiring over a billion dollars.[217] One can certainly object that taking patents for transfer prices, which are less than the patents' actual value, will reduce the payoffs to drug companies for their investments.

This objection is valid insofar as this Article's proposal will reduce payoffs to drug companies. But it reduces only the payoffs from tax avoidance—not from the patent itself. Figure 8 below illustrates the flaw in this objection. The figure below has the same two curves as Figure 5 above. The solid curve shows the status quo, where the company's payoff from lowballing the transfer price consists of taxes avoided, minus some risk of audit and penalties if the transfer price is too low. Under current law, the company chooses the transfer price $\$P_{cur}$. The dashed curve shows the expected payoffs to the company when one adds in the 25% possibility that the patent will be taken, with just compensation determined by the transfer price. In this situation, the company chooses the higher, more accurate transfer price $\$P_{rand}$.

Article's proposal is strictly limited to either $0 or the transfer price chosen for tax purposes.

215. *See* Frank R. Lichtenberg, *Sources of U.S. Longevity Increase, 1960–1997*, 44 Q.R. ECON. & FIN. 369 (2004) (finding strong empirical evidence that pharmaceutical innovation has contributed to the increase in longevity).

216. Giaccotto et al., *supra* note 59.

217. *See Tufts Study*, *supra* note 93.

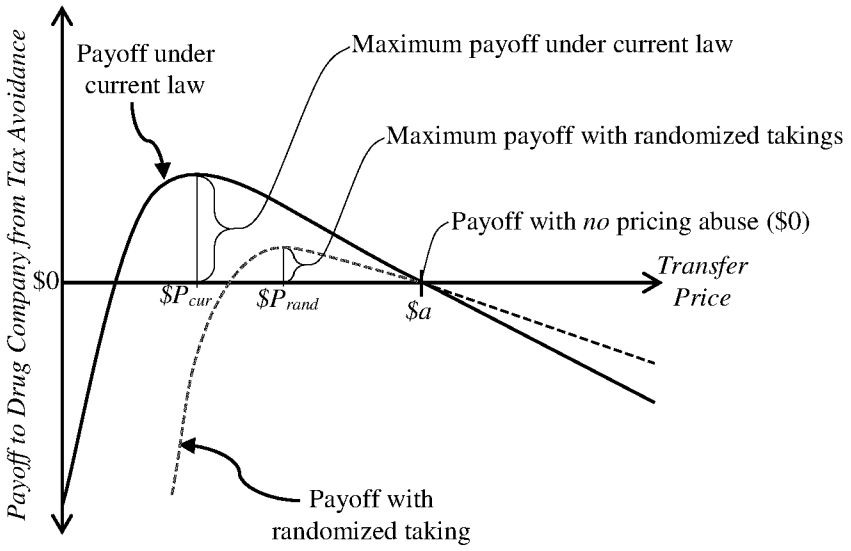

Figure 8: Payoffs from Tax Avoidance under Current Law and with Randomized Taking

This figure illustrates that the tax payoff under current law is indeed larger than the tax payoff that would result under this Article's proposal.[218] But if the drug company did not engage in transfer-pricing tax avoidance at all, the tax payoff would be $0—meaning that the drug company's profits would come entirely from selling the patented drug to customers at the high patented price, which is what patent law contemplates as the incentive for innovation.[219] In other words, the objection that this Article's proposal reduces incentives for innovation boils down to objecting that it reduces the expected payoff from drug companies' tax avoidance.[220] This proposal would not cut into drug companies' profits from their core business of developing and selling patented life-saving cures.

---

218. The Appendix contains a proof that the transfer-pricing payoff to the multinational under randomized taking will be less than the payoff under current law. *See* Appendix, Proposition 3, *infra* p. 1135.

219. *See* Sichelman, *supra* note 38.

220. In a sense, international tax law has granted drug companies an "unintended subsidy." But the government has much more effective ways to further pharmaceutical innovation than tolerating transfer-pricing tax avoidance. For example, the government can increase direct funding for research, can offer prizes, and can subsidize private R&D through tax credits. *See* Daniel J. Hemel & Lisa Larrimore Ouellette, *Beyond the Patents-Prizes Debate*, 92 TEX. L. REV. 303 (2013) (excellent taxonomy and analysis of innovation incentives); *see also* Blair-Stanek, *supra* note 12, at 57–59 (discussing better ways of subsidizing inventions and creativity than allowing IP-based tax avoidance).

B. Abandoned Clinical Trials

As discussed previously, drug companies typically transfer the patent rights on a new drug to a tax-haven subsidiary just before receiving FDA approval. [221] But what happens if the patent rights are taken (with just compensation equal to transfer prices) before the drug company has fully completed the clinical trials to verify the drug's efficacy, effectiveness, and safety?

The answer is simple: the government can fund the completion of the clinical trials. Increasingly, drug companies outsource clinical testing of prospective drugs to contract research organizations ("CROs").[222] For drugs being tested by CROs, the government could simply pay the CROs for the remainder of the clinical trials. If the drug company ran the clinical trials itself, then the government could simply pay the drug company to complete the trials under a typical government cost-plus contractual arrangement.[223]

Public financing of the last bit of clinical testing can have additional benefits, beyond just ensuring efficacy, effectiveness, and safety of the drug.[224] Drug companies' paying for clinical testing creates an inherent conflict of interest, giving the drug companies an incentive to conceal evidence of a drug's harmful side effects and to exaggerate evidence of a drug's effectiveness.[225] Moreover, only about half of all clinical trials' results are published, and companies obviously prefer to publish only the results of favorable trials.[226] This lack of transparency and conflict of interest have real-world consequences. For example, the painkiller Vioxx was approved by the FDA despite questionable clinical trials.[227] After being on the market for five years, Vioxx was withdrawn after patients started dying of heart attacks.[228] Government funding of the last portion of clinical testing would remove such conflicts of interest and potentially save lives.

---

221. *See supra* note 75 (quoting Gilead Chief Financial Officer) and accompanying text.

222. Sapna Rani, *An Overview of Top Clinical CROs*, CLINICAL LEADER (Aug. 14, 2015), http://www.clinicalleader.com/doc/an-overview-of-top-clinical-cros-0001.

223. Rationally, the drug company would want to cooperate with such an arrangement, since it would ensure an additional profit (i.e., the "plus" in cost-plus), as well as covering the cost of funding the drug company's contractual requirements to employees and third parties without any breach of contract.

224. *See generally* DEAN BAKER, CTR. FOR ECON. & POL'Y RES., THE BENEFITS AND SAVINGS FROM PUBLICLY-FUNDED CLINICAL TRIALS OF PRESCRIPTION DRUGS (2008), http://cepr.net/documents/publications/clinicaltrials_2008_03.pdf (discussing the many economic and health benefits from publicly funding clinical trials, rather than having drug companies fund them).

225. *Id.* at 2–3.

226. *Trials and Errors*, ECONOMIST, July 25, 2015, at 8.

227. *See* Bruce M. Psaty & Richard A. Kronmal, *Reporting Mortality Findings in Trials of Rofecoxib for Alzheimer Disease or Cognitive Impairment*, 299 JAMA 1813 (Apr. 16, 2008). Note that Rofecoxib is the name for the drug marketed as Vioxx.

228. *Big Trouble for Merck*, ECONOMIST, Nov. 6, 2004, at 61.

C. Obfuscation of Transfer Prices

A practical objection to this Article's proposal is that multinational companies may respond by obfuscating their transfer-pricing arrangements. For example, a drug company could transfer the patents on multiple drugs to its tax-haven subsidiary in consideration for a lump sum, with no indication of the transfer price for each individual patent. Another possibility is that a drug company could transfer a patent to its tax-haven subsidiary, with consideration based on a complex formula contingent on future events.[229] Additionally, if multiple patents are required to make a single drug work,[230] the drug company may transfer some (but not all) of the required patents to its tax-haven subsidiary.

This objection is valid, but the solution is simple: require that any transfer of IP to a tax-haven subsidiary specify precise consideration for each piece of IP, as a single dollar figure. Moreover, if multiple pieces of IP are required to make a drug or other product workable, then the government can require that if any of that IP is transferred, then all of that IP must be transferred.[231]

Precedent exists for requiring clearly stated valuations for transferring property. As discussed earlier, tax law already requires extensive appraisal documentation justifying IP transfer prices.[232] Moreover, IP is often analogized to real property.[233] When a plot of real property is transferred from a seller to a buyer, state laws generally require a dollar figure to be reported to the government as the consideration paid. This dollar figure is used to calculate deed-transfer taxes[234] and is presumptively used as the new base for calculating the property tax paid

---

229. Drug companies might be allowed to choose consideration based on whatever formula they like, provided that the total consideration is capped at a specific dollar figure. That dollar figure would become the maximum "just compensation."

230. *Cf.* Kremer, *supra* note 31, at 1157 & n.14 (discussing such problems in the auction-based patent-buyout context).

231. Many biologic drugs are protected not only by patents, but also by trade secrets (another type of IP) that cover the manufacturing of the drug. W. Nicholson Price II & Arti K. Rai, *Are Trade Secrets Delaying Biosimilars?* 348 SCIENCE 188 (Apr. 9, 2015). In such circumstances, if the drug maker transferred the patent(s) to its tax-haven subsidiary, then the drug maker would also be required to transfer to its tax-haven subsidiary the manufacturing trade secrets, which are already written up and confidentially submitted to the FDA for regulatory purposes. *Id.* at 189. Another similar type of IP that might also be required to be transferred to a tax-haven subsidiary along with the underlying patent(s) is the clinical trial data.

232. *See supra* notes 84-86 and accompanying text. Indeed, still other precedent exists, such as customs laws requiring breakdowns of single components into different stated amounts. *E.g.*, 19 C.F.R. § 152.103 (2016).

233. Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502, 510 (1917); *In re* Papesch, 315 F.2d 381, 391 (C.C.P.A. 1963) (comparing the claims in a patent to the "metes and bounds of a deed identif[ying] a plot of land").

234. *See, e.g.*, CAL. REV. & TAX. CODE § 11911 (West 2016); FLA. STAT. § 201.02(1)(a) (2016) (providing for valuing property even "[w]hen the full amount of the consideration for the execution, assignment, transfer, or conveyance is not shown in the face of such deed").

annually on that plot.[235] State laws prevent price obfuscation through taxpayer gambits such as transferring multiple plots for a single consideration, [236] transferring plots through conduit entities,[237] or using mixes of consideration.[238]

Requiring contracts to take a particular form—"this patent is hereby transferred in consideration for $x"—does impinge on complete freedom of contract. But the primary economic justification for freedom of contract is to allow *un*related parties to contract to maximize social welfare.[239] A contract between a company and its wholly owned tax-haven subsidiary simply reallocates resources within the single corporate group.[240] To the extent that freedom of contract has a non-economic justification in maximizing humans' freedom,[241] allowing complete freedom of contract between corporations and their own subsidiaries does not further that goal.[242]

Furthermore, requiring companies to specify the exact consideration for each piece of IP transferred to a tax-haven subsidiary would not violate international law. The international tax-law requirement of "arm's-length" pricing between related corporations, embodied in countless bilateral tax treaties, would require that the amount of the consideration be "arm's-length." But this requirement affects only prices and does not keep governments from requiring IP-transfer contracts to take a particular form.[243] Similarly, while a multilateral IP

---

235. *See, e.g.*, CAL. REV. & TAX. CODE § 110(b) (West 2016); FLA. STAT. § 193.011(5), (8) (2016); *id.* §§ 193.1555(5), 193.1556.

236. *See, e.g.*, CAL. REV. & TAX. CODE § 110(b) ("If a single transaction results in a change in ownership of more than one parcel of real property, the purchase price *shall be allocated* among those parcels and other assets, if any, transferred based on the relative fair market value of each." (emphasis added)).

237. *See, e.g.*, FLA. STAT. § 201.02(1)(b) (2016); N.Y. TAX LAW § 1401(d)(iii) (McKinney 2016).

238. *See, e.g.*, CAL. REV. & TAX. CODE § 110(b) (requiring determining "total consideration . . . valued in money, whether paid in money *or otherwise*" (emphasis added)); N.Y. TAX LAW § 1401(d) (McKinney 2016).

239. *See* RICHARD POSNER, ECONOMIC ANALYSIS OF LAW 41, 95 (9th ed. 2014).

240. Although the tax-avoiding firm gains, government and the rest of society have corresponding losses.

241. *See generally* Mark Pettit, Jr., *Freedom, Freedom of Contract, and the 'Rise and Fall'*, 79 B.U. L. REV. 263 (1999) (reviewing the philosophical underpinnings of freedom of contract).

242. *See id.* at 354 ("If there is a direct conflict between freedom of contract and some other clearly articulated value, even some that might not seem particularly significant, freedom of contract often loses. This is true today, and it was true in the 'Golden Age' of contract."). Limiting tax avoidance and minimizing deadweight loss are both clearly articulated—and significant—values.

243. *See* Morse, *supra* note 112, at 1419 (working from the implicit assumption that nothing in international tax law prevents nations from interfering with multinational corporations' freedom of contract); Richard J. Vann, *Taxing International Business Income: Hard-Boiled Wonderland and the End of the World*, 2 WORLD TAX J. 291, 324–39 (2010) (same). Indeed, current U.S. tax law actually allows the IRS to impute a contract between related corporations, even where the corporations never entered into a contract. *E.g.*, Treas. Reg. § 1.482-1(d)(3)(ii)(B)(2) (2015); *see also* Treas. Dec. 9278, *Treatment of Services*

treaty guarantees the right to transfer IP and to conclude licensing agreements,[244] commentators agree that "this provision does not exclude the possibility of prescribing certain conditions under which such contracts may be established, both with regard to formalities and substance."[245] In short, international law allows governments to prevent companies from obfuscating their transfer prices.

D. Cost of Paying Just Compensation

This Article's proposal requires the government to pay just compensation for IP taken. One can naturally object that paying this just compensation will require either raising tax rates or increasing the deficit.[246] Increasing tax rates or the deficit can themselves distort economic activity, generating their own deadweight losses.[247]

But for two reasons, this Article's proposal would likely not require raising tax rates or deficit spending. First, incentivizing more-accurate transfer prices would reduce the taxes lost to transfer-pricing abuse, bringing in substantial new revenue currently lost to companies' tax avoidance.[248] Second, taking IP and dedicating it to the public domain can substantially reduce government expenditures—most notably on prescription drugs.[249]

1. Reduction in Tax Avoidance

Transfer-pricing abuse by multinationals costs the government as much as $111 billion in lost tax revenues each year.[250] This Article's proposal would incentivize higher transfer prices, thus recouping some of these lost taxes for the government.

For example, suppose that the government adopted the randomized takings discussed above in Section II.B.2, using a probability of taking IP that is

---

Under Section 482; Allocation of Income and Deductions from Intangibles, 71 Fed. Reg. 44,466, 44,477–78 (Aug. 4, 2006) (brushing aside commentators' objections to such imputed contracts, without even bothering to mention international tax-law constraints). Imputing contracts where none exist is a far greater curtailment of freedom of contract than requiring that contracts not obfuscate pricing.

244. TRIPS, *supra* note 130, art. 28.8 ("Patent owners shall also have the right to assign, or transfer by succession, the patent and to conclude licensing contracts."). As discussed in note 130, *supra*, the United States and approximately 160 other countries have ratified TRIPS.

245. CORREA, TRIPS COMMENTARY, *supra* note 130, at 300.

246. Additional government spending can be financed by current tax increases or by deficits, which require tax increases in the future.

247. *See* Duffy, *supra* note 65, at 42 (building on the arguments presented in Ronald Coase, *The Marginal Cost Controversy*, 13 ECONOMICA 169, 179 (1946)).

248. *See infra* Section III.D.1.

249. *See infra* Section III.D.2; *see also infra* Section III.D.3 (discussing other possible reductions in government spending involving IP other than drug patents).

250. *See supra* notes 98–103 and accompanying text.

one-half of the corporate tax rate.[251] The cost of just compensation would be fully covered if this threat of the government taking IP caused multinationals to double the transfer prices they use.[252]

Is a doubling of transfer prices likely? It is impossible to say for sure, because tax returns and all related information are confidential.[253] Even if a transfer pricing dispute reaches trial, the Tax Court closes most aspects of transfer-pricing trials to the public.[254]

But the little information that is available suggests that a doubling of transfer prices is entirely plausible. For example, Amazon.com, Inc. and the IRS are currently litigating the proper transfer price over various transferred IP, primarily copyrights.[255] Amazon used a transfer price of $217 million, whereas the IRS asserts the proper transfer price was $2.4 billion, which is an 11-fold difference.[256] Given the severe lowballing of transfer prices that seems to be commonplace, a real threat of IP being taken for its transfer price could plausibly lead transfer prices to increase two-fold (or more).

The refined takings strategy discussed above in Section II.B.4 would make it even easier for the government to fully fund the just compensation solely from the increased tax revenues that would result. Recall that this refined strategy has the probability of government using eminent domain decreasing as the transfer price gets closer to the accurate transfer price. This strategy increases transfer prices even more than the randomized strategy, thus further increasing tax revenues.[257] Meanwhile, the cost of paying just compensation will be lower, because the government is more likely to use eminent domain on IP that has lower transfer prices. The lower the transfer price is below the IP's actual value, the greater the probability the government will take the IP. In short, the refined strategy discussed above in Section II.B.4 creates the greatest reduction in tax avoidance, while reducing the cost of paying just compensation, making it even more likely that this approach will fully pay for itself.

---

251. The corporate tax rate is 35%. I.R.C. § 11(b) (2012). One-half of the corporate tax rate is 17.5%.

252. This is proved in the Appendix as Proposition 6, *infra* p. 1138.

253. I.R.C. § 6103 (2012); Amazon.com, Inc. v. Comm'r, No. 31197-12 (T.C. Oct. 20, 2014) (order regarding confidential information), https://www.ustaxcourt.gov/InternetOrders/DocumentViewer.aspx?IndexSearchableOrdersID=148916&Todays=Y.

254. *See generally* Ajay Gupta, *U.S. Tax Court Continues with Secret Transfer Pricing Trials*, 146 TAX NOTES 923 (2015) (harshly criticizing this trend).

255. *See, e.g.*, Trial Memorandum, Amazon.com, Inc. v. Comm'r, No. 31197-12 (T.C. Dec. 15, 2014), https://www.scribd.com/document/312581420/IRS-Trial-Memorandum-Amazon; David D. Stewart, *Amazon U.S. Tax Court Trial Gets Underway*, 2014 TAX NOTES TODAY 212-9 (Nov. 3, 2014).

256. Stewart, *supra* note 255. Even more strikingly, an expert report found that the proper transfer price was actually even higher: $3.6 billion, a 17-fold difference. *Id.* (recounting expert report of appraiser Horst Frisch Inc.).

257. This is proved in the Appendix as Proposition 5, *infra* p. 1137.

2. Reduction in Government Spending: Pharmaceuticals

What if this Article's proposals reduce tax avoidance by less than the cost of paying just compensation? For example, suppose that adopting this Article's proposal covered only two-thirds of the cost of paying just compensation. This Section explains how taking certain IP and putting it into the public domain can reduce government expenditures.

The government funds approximately 60% of all healthcare spending in the United States,[258] including prescription drug spending.[259] This government funding is mostly direct, primarily through Medicare, Medicaid, government workers' healthcare benefits, and veterans' benefits.[260] But the government also provides exorbitant subsidies to private insurance through the tax system, most notably the tax exclusion for employer-provided healthcare.[261]

Taking a drug patent and thereby promptly allowing generic competition will cause the drug's cost to fall substantially, often by 80 to 90% or more.[262]

---

258. CNTRS. FOR MEDICARE & MEDICAID SERVS., NATIONAL HEALTH EXPENDITURE ACCOUNTS: METHODOLOGY PAPER 2014, at 3 exh. 1 (2014), https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/DSM-14.pdf [hereinafter CMS]. This computation includes both federal and state spending, but the vast majority is federal spending.

259. *Id.* Of $297,698 million in retail prescription drug sales, Medicare, Medicaid, CHIP, Department of Defense, and Veterans Affairs covers $123,648 million. Private health insurance covers $127,288 million, of which the government finances approximately 18% through the tax exclusion on employer-provided healthcare coverage and ACA subsidies, for another approximately $22 billion. *Id.* (total private health insurance expenditures of $990,988 million); JOINT COMM. ON TAX'N, JCX-141R-15, ESTIMATES OF FEDERAL TAX EXPENDITURES FOR FISCAL YEARS 2015–2019 38 (2015), https://www.jct.gov/publications.html?func=fileinfo&id=4857 [hereinafter JCT TAX EXPENDITURES] (subsidy for employer-provided insurance is $145.5 billion and ACA subsidies $29.6 billion). The government (through Medicare, Medicaid, and other programs) also spends money on prescription drugs purchased through hospital pharmacies—as opposed to retail prescription drug sales—but in-hospital prescription drug purchases, despite likely being large, are not broken out separately in hospital expenditure data. CMS, *supra* note 258, at 12, 17.

260. CNTRS. FOR MEDICARE & MEDICAID SERVS., NATION'S HEALTH DOLLAR – WHERE IT CAME FROM, WHERE IT WENT 2 (2014), https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/PieChartSourcesExpenditures2014.pdf.

261. I.R.C. § 106 (2012). This tax exclusion for employer-provided healthcare cost the federal government $145.5 billion in 2015. JCT TAX EXPENDITURES, *supra* note 259. There are a number of other tax expenditures that subsidize private insurance and other private funding of healthcare, including $29.6 billion for subsidies for insurance purchased through Affordable Care Act (ACA) health benefit exchanges. *Id.* at 39.

262. *See supra* note 39. Note that even once generic options become available, some price-insensitive consumers and physicians may continue to use the brand-name drug produced by the original patent-holder for the highly questionable reason that it is of higher quality. Costa-Font et al., *supra* note 61, at 1 (citing A. Coscelli, *The Importance of Doctors' and Patients' Preferences in the Prescription Decision*, 48 J. INDUS. ECON. 349–

These lower costs will save the government money on its prescription drug costs,[263] further offsetting the cost of paying just compensation.

Counterintuitively, this Article's proposals would also likely reduce government expenditures on the 90% of health expenditures that are *not* for prescription drugs. High drug costs often cause patients not to take drugs prescribed to them, [264] causing expensive complications. The nonpartisan Congressional Budget Office has estimated that increasing the number of prescriptions filled by 1% results in a one-fifth of 1% *decrease* in nondrug expenditures.[265] For example, a patient who is deterred from taking a prescribed antibiotic by its cost may have a severe infection that results in an expensive hospitalization.[266] Or, a person infected with Hepatitis C who is priced out of the breakthrough cure Sovaldi will continue to be a heavy user of doctors' services to control the infection.[267] Using eminent domain to take a drug patent, thus making cheaper generic versions available, would substantially increase the likelihood that patients could afford the drugs their doctors prescribed. This increased access to

---

369 (2000)). Such behavior drives up health expenditures. But if a drug patent is taken when transferred (just prior to FDA approval), thus opening up generic competition from the outset, there will be little or no opportunity for this "brand-name" effect to establish itself. As a legal matter, the value of taking away the possibility of generating brand recognition need not be included in "just compensation." *See supra* note 165.

263. For patients with drugs directly funded by the government, as with Medicare, the government savings will be immediate. For patients who get health insurance through their (or a family member's) employer, if the employer uses an insurance company solely to administer expenses, but the expenses are actually paid by the employer (i.e., the employer self-insures), as often happens, then the government savings will happen within the same tax year, as either the employers' deductions for drugs go down, I.R.C. § 162(a)(1) (2012), or the value of the employees' tax exclusion under I.R.C. § 106(a) goes down. For those who have private health insurance not through a self-insuring employer, the savings will initially go to the insurers. But health insurance is a very low-margin business. Ezra Klein, *Profit and the Insurance Industry*, WASH. POST (Sept. 9, 2009), http://voices.washingtonpost.com/ezra-klein/2009/09/profit_and_the_insurance_indus.html. This suggests that the savings will eventually be passed through in lower premiums, thus decreasing the relevant tax exclusions, deductions, or credits. I.R.C. §§ 106(a), 162(a)(1), 36B.

264. *See generally* Dana P. Goldman et al., *Prescription Drug Cost Sharing: Associations with Medication and Medical Utilizations and Spending and Health*, 298 JAMA 61 (2007) (reviewing relevant literature).

265. CONG. BUDGET OFFICE, OFFSETTING EFFECTS OF PRESCRIPTION DRUG USE ON MEDICARE'S SPENDING FOR MEDICAL SERVICES 1 (2012), https://www.cbo.gov/publication/43741 [hereinafter CBO]. This CBO analysis was focused on Medicare spending. But the analysis was based on a literature review that included studies of prescriptions' effects on other healthcare expenditures in other, younger patient populations, so this insight likely applies to other government programs and private insurance as well. *Id.* at 3; Martin Gaynor et al., *Substitution, Spending Offsets, and Prescription Drug Benefit Design*, 10 FORUM HEALTH ECON & POL'Y 1 (2007).

266. CBO, *supra* note 265, at 2.

267. SENATE SOVALDI REPORT, *supra* note 40, at 108–09 (discussing the continued cost of care for those who subject to access restrictions).

drugs would reduce expenditures such as hospitalizations and doctors' services,[268] of which the government currently pays (directly or indirectly) for about 60%.[269]

In short, this Article's proposal would reduce government outlays for both prescription drugs and other healthcare. Combining these savings with the additional tax revenue from reducing tax avoidance[270] would likely cover the full cost of paying just compensation for those drug patents taken. Quantifying the healthcare savings from using eminent domain on drug patents is a fertile area for future research, particularly by healthcare economists.[271]

3. Other Reductions in Government Spending

This Article's approach could be both effective and fiscally responsible for many types of IP other than drug patents.[272] For example, copyrights on textbooks for K-12 students create the same two problems as drug patents: deadweight losses and tax avoidance.

Copyrights on textbooks allow publishers to charge prices well above the cost of manufacture,[273] just as patents allow selling drugs well above the generic price. Copyrights on textbooks thus price out many schools (often poorer schools) from having sufficient numbers of textbooks.[274] This sad state of affairs is a

---

268. One implication of the CBO analysis, *supra* note 265, is that some of the deadweight loss eliminated by lowering the cost of drugs is recaptured by the government in the form of savings on nondrug healthcare expenditures such as hospitalization and doctors' services. Shockingly, the deadweight loss from a drug patent is often greater than the entire revenue received by the patent-holder. Guell & Fischbaum, *Toward Allocative Efficiency*, *supra* note 15, at 420 (estimating that the benzodiazepine Ativan generates $5.33 in deadweight loss for every $1 in revenue actually received by its manufacturer). Thus, even if the government captures only a percentage of the eliminated deadweight loss in the form of nondrug healthcare savings, these savings alone may well be greater than the full just compensation owed for taking the patent. This might well be the case for the Hepatitis C drug Sovaldi.

269. *See* CMS, *supra* note 258.

270. *See supra* Section III.D.1.

271. *Cf.* CBO, *supra* note 265, at 6 (noting the various other uncertain variables about the relationship between prescriptions and cost savings, and recommending future research).

272. *See* Kleinbard, *supra* note 34 (showing how even bricks-and-mortar multinational Starbucks manages to use IP-transfers to minimize its taxes); Edward D. Kleinbard, *Stateless Income's Challenge to Tax Policy*, 132 TAX NOTES 1021 (Sept. 5, 2011) (discussing widespread use of transfer-pricing by all varieties of multinationals to avoid taxes); Edward D. Kleinbard, *Stateless Income's Challenge to Tax Policy, Part 2*, 136 TAX NOTES 1431 (Sept. 17, 2012) (same).

273. *See* McGraw-Hill Educ. Inc., Amendment No. 3 (Form S-1), at F-2 (Jan. 30, 2016), http://www.sec.gov/Archives/edgar/data/1651444/000119312516429143/d163477ds1a.htm (showing large gross profit margin of 75% for nine months ended Sept. 30, 2015).

274. *See, e.g.*, Jeffrey S. Solochek, *Land O'Lakes History Teacher: 'We Simply, Desperately Need Books'*, Sept. 22, 2012, TAMPA BAY TIMES,

deadweight loss. Meanwhile, textbook publishers avoid taxes by transferring their copyrights to tax-haven subsidiaries.[275]

Applying this Article's approach and taking some percentage of transferred textbook copyrights into the public domain would allow schools to purchase far less expensive versions of the same textbooks legally manufactured by others—textbooks' equivalent of generic drugs.[276] These "generic" textbooks would eliminate the deadweight loss, while the risk of eminent domain at the transfer price would constrain publishers' tax abuse.

Taking textbook copyrights in this way could pay for itself. Governments spend several billion dollars annually buying textbooks for K-12 students.[277] For those textbook copyrights taken for their transfer prices, the government would be able to purchase the "generic" versions of the textbooks for much less, reducing direct government expenditures. Moreover, the threat of eminent domain for transfer prices would decrease tax avoidance, thereby increasing tax revenues. This increased tax revenue and decreased government spending on textbooks could fully offset the cost of paying "just compensation" for the percentage of textbook copyrights taken.

The government spends money on many other types of IP. For example, the government spends plentifully on software from companies like Microsoft that engage in substantial transfer-pricing abuse with their software copyrights and patents. [278] Many government contractors have tax-haven subsidiaries and apparently engage in transfer-pricing abuse.[279] Eminent domain on such IP could potentially save the government money that, when combined with decreased tax avoidance, could cover the cost of just compensation. This topic is worth further exploration by economists.

---

http://www.tampabay.com/news/education/k12/land-olakes-history-teacher-we-simply-desperately-need-books/1252917.

275. For example, McGraw-Hill Education is a top supplier of K-12 textbooks. McGraw-Hill, *supra* note 273, at 1. It maintains an Irish subsidiary and lowers its tax rate just like many other IP-dependent businesses. *Corporate Tax Explorer: McGraw-Hill*, CITIZENS FOR TAX JUST., http://ctj.org/corporatetaxdodgers/tax-dodgers.php?id=172 (last visited Oct. 8, 2016) (reporting several tax-haven subsidiaries and a tax rate 5% below the statutory rate). Copyrights are crucial to the business of textbook publishers. *See, e.g.*, McGraw-Hill, *supra* note 273, at 31 (noting the importance of "intellectual property rights [to] our competitive position").

276. Of course, these cost savings would flow directly the state and local governments that buy textbooks, but the federal government could recoup much of these cost savings by reducing federal K-12 funding. *The Federal Role in Education*, U.S. DEP'T OF EDUC. (July 21, 2016), http://www2.ed.gov/about/overview/fed/role.html (federal funding accounts for about 8% of elementary and secondary education).

277. *See* McGraw-Hill, *supra* note 273, at 38 ("K-12 market in the United States was approximately $5.6 billion for the 2015-2016 school year . . . .").

278. *See* MICROSOFT & H-P REPORT, *supra* note 103.

279. *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-09-157, INTERNATIONAL TAXATION: LARGE U.S. CORPORATIONS AND FEDERAL CONTRACTORS WITH SUBSIDIARIES IN JURISDICTIONS LISTED AS TAX HAVENS OR FINANCIAL PRIVACY JURISDICTIONS 2 (2008), http://www.gao.gov/products/GAO-09-157.

4. Roadmap to Fiscally Responsible Implementation

The data do not yet exist to determine whether this Article's proposal would pay for itself entirely by reducing transfer-pricing abuse and thus increasing tax revenues. Out of fiscal prudence, this Article's proposals should be introduced in stages. This Article's proposal should first be implemented by taking drug patents, which likely offer the greatest government savings by promptly allowing generic versions.[280] The percentage of drug patents taken can start out at a number (e.g., 2%) that is low enough to involve minimal government expenditures but still high enough to seriously enter drug companies' decision-making on transfer prices.[281] Assuming that the reduced tax avoidance and lower drug expenditures indeed cover the cost of just compensation, the percentages taken can then be increased.[282] And assuming that applying this approach with drug patents indeed pays for itself, then the government can start taking other types of IP (e.g., copyrights on textbooks) that also offer potential reductions in government spending.[283] Experience with this wider range of IP will generate sufficient data on the impact on transfer prices, making it possible to determine whether the reduction in tax avoidance alone suffices to cover the cost of paying just compensation. If so, then this Article's proposal can be extended to all IP transferred to tax havens.

CONCLUSION

Using eminent domain to take multinationals' intellectual property with just compensation equal to the transfer prices would fight two serious problems, deadweight losses and tax avoidance, both of which have immense political salience. The deadweight losses from drug patents correspond to patients who cannot afford potentially life-saving cures. Multinationals' use of IP to avoid taxes contributes to the deficit and to the widespread perception that the tax system favors companies over average citizens.[284]

This Article's proposals are not only timely but also politically viable. They can be implemented in a way that requires no trust in the competence of government administrators.[285] They do not reduce patent and copyright laws' incentives for future innovation and creativity, but rather only reduce the

---

280. *See supra* Section III.D.2.

281. *Cf. supra* notes 191–193 and accompanying text (discussing Taiwan's experience with land self-assessment, which demonstrated that taking just 0.04% of self-assessed property every year was insufficient to lead to more accurate self-assessments of land values).

282. The limit on taking is the corporate tax rate (currently 35%) for the approaches discussed above in Sections II.B.2 (pure randomized takings) and II.B.3 (targeted randomized takings). Higher percentages of patents could be taken under the approach discussed in Section II.B.4, provided that the three Probability Conditions are met. *See supra* notes 204–205 and accompanying text.

283. *See supra* Section III.D.3.

284. Norris, *supra* note 125; *see also supra* note 4; *supra* Section I.B.

285. *See supra* Section II.B.2 (randomized takings); *see also supra* Section II.B.3 (randomized takings optimized by targeting drugs meeting specific criteria).

incentives for tax avoidance.[286] And they may pay for themselves in full through decreased tax avoidance and decreased government spending.[287]

This Article also opens up new avenues for future legal and economic scholarship. While the extensive self-assessment literature has focused almost solely on real property, self-assessment can be quite useful for IP—and potentially for other types of property as well. Meanwhile, scholars can develop mechanisms to help governments best decide whether to take a particular piece of transferred IP and with what probability, so as to further minimize both deadweight loss and tax avoidance. [288] Finally, there may well be other approaches to harnessing multinational corporations' transfer-pricing strategies that will yield socially useful information.

---

286. *See supra* Section III.A.

287. *See supra* Section III.D.

288. For example, further scholarship can refine the analysis of which IP likely creates the largest deadweight loss, allowing calibrating the targeted randomized takings described above in Section II.B.3 and note 198. As another example, future scholars can develop methodologies for refining the probability of government taking based on the transfer price, making the most of the refined takings strategy described above in Section II.B.4.

APPENDIX

This Appendix serves two purposes that support the main text. First, it formalizes the model discussed in the main text. Second, it mathematically proves several properties of this Article's proposed solutions, including proving that these solutions would result in higher transfer prices than current law, thus reducing tax avoidance.

Model of Current Law (Section II.B.1)

Let the variable p be the transfer price (in dollars) chosen by the multinational. As in the main text, a is the actual value of the IP. Thus, the multinational is not avoiding tax when it chooses $p = a$. Let t be the prevailing corporate tax rate, which we can accurately assume under current law to be a constant.[289]

Define the function $I(p)$ to be the expected detriment from IRS-imposed penalties for a transfer price p. With transfers of IP to tax havens, the IRS imposes penalties only for undervaluation, so $I(p) < 0$ for all p < a, and $I(p) = 0$ for all $p \geq a$. Because the probability of audit and probability of penalties being assessed continuously increases as the transfer price p gets lower, we can reasonably assume that $I(p)$ and its first derivative are both continuous.

We can make four observations—all reflected in Figure 3 in the main text—about the characteristics of $I(p)$. First, since the additional tax due and penalties are all at least proportional to the amount by which p goes below a, we can make the following observation about its first derivative:

$$I'(p) < 0 \text{ for all } p < a$$

Second, $I(p)$ is roughly the product of the additional tax and penalties (which is at least linear in the amount by which p goes below a) multiplied by the probability of detection (which goes up the further p goes below a). We can make the following observation about the second derivative:

$$I''(p) < 0 \text{ for all } p < a$$

Third, since $I(p) = 0$ for all $p \geq a$, and because it and its first derivative are both continuous:

$$I'(\mathrm{p}) = 0 \text{ for all } p \geq a$$

$$I''(\mathrm{p}) = 0 \text{ for all } p \geq a$$

Define the payoff of the multinational under current law of transferring for price p as $Y_{cur}(p)$. The payoff will be the tax rate t times the amount that p is below a, plus the expected downside $I(p)$ from IRS auditing and penalties. (Recall that $I(p)$ is negative for all $p < a$).

$$Y_{cur}(p) = t \times (a - p) + I(p).$$

---

289. I.R.C. § 11(b)(1)(C)–(D) (2012) (flat rate of 35% for corporations with all but the smallest taxable income).

To find the transfer price p that maximizes the multinational's payoff, we take the first derivative and set it equal to zero:

$$Y_{cur}'(p) = -t + I'(p) = 0$$

Rearranging this equation, we see that Y_{cur} will be maximized when $I'(p) = t$. Define P_{cur} as the transfer price for which this is true: $I'(P_{cur}) = t$. Both the main text and the figures use P_{cur}. Because the corporate tax rate t is positive, and because $I'(p) < 0$ for all $p < a$ but $I'(p) = 0$ for all $p \geq a$, it follows that $P_{cur} < a$. In plain English, the transfer price that multinationals choose under current law is less than the actual value of the IP. This result is consistent with the observations of the numerous commentators cited in the main text. This completes the model explaining current law.

Model with Randomized Taking (Section II.B.2)

If the government does indeed take the IP for the transfer price, the resulting change in payoff to the multinational is the IP's actual value a, minus the transfer price p used, so $(a - p)$.

Let us define e as the probability of the government randomly using eminent domain to take the IP. We know that $e > 0$, since $e = 0$ is merely current law, where there is no probability of taking. We know from the main text that the probability of eminent domain must be less than the corporate tax rate, so $e < t$.

Define the function representing the expected payoff to the multinational of transferring for price p with randomized eminent domain with probability e as $Y_{rand}(p)$. This function will equal the tax payoff $t \times (a - p)$, plus the expected downside from IRS audits and penalties $I(p)$, plus the probability of eminent domain e times the payoff $(p - a)$ if eminent domain does happen. Thus:

$$Y_{rand}(p) = t \times (a - p) + I(p) + e \times (\mathrm{p} - \mathrm{a})$$

Note that the tax payoff is not affected by the probability of eminent domain, for two reasons. First, the multinational pays the tax on the transfer regardless of whether the IP is ultimately seized. That is current law and would not change. Second, any just compensation upon a taking will be paid to the tax-haven subsidiary to which the IP was transferred, so the taking will generate neither additional tax liability nor any tax losses. This is also current law and would not change.

Proposition 1: *With randomized taking, multinationals will continue to maximize their payoff by transferring their IP for a transfer price less than its actual value.*

Proof: To find the transfer price that now maximizes the multinational's payoff, we take the first derivative of Y_{rand} and set it equal to zero:

$$Y'_{rand}(p) = -t + I'(p) + e = 0$$

Rearranging, we see that the multinational maximizes its payoff when:

$$I'(p) = t - e$$

Because e is less than t, we know that $t - e$ will be positive. Thus a transfer price p that meets this condition will exist and will be less than the

accurate price a, since we know that $I'(p) > 0$ for all $p < a$, whereas $I'(p) = 0$ for all $p > a$. This completes the proof of Proposition 1.

Let us define P_{rand} as the transfer price that maximizes the multinational's payoff, so that $I'(P_{rand}) = t - e$. The main text and figures refer to P_{rand}.

Note that this model assumes implicitly that the multinational is risk-neutral, seeking solely to maximize expected payoff. Adding risk aversion would actually result in P_{rand} being even closer to the actual value a of the IP, since risk is minimized by setting the transfer price p as close as possible to the actual value a. Serious risk aversion would actually deter multinationals from transferring IP at all under either current law or under this Article's proposals. But multinationals already take on the risk of IRS audits and penalties by choosing low transfer prices under current law.

***Proposition 2**: Multinationals will choose a higher transfer price when there is randomized taking than under current law.*

Proof: We can determine the relationship between P_{rand} and the payoff-maximizing transfer price under current law P_{cur} by observing the following:

$$I'(P_{cur}) = t > t - e = I'(P_{rand})$$

Recall that $I''(p) < 0$ for all $p < a$. In other words, $I'(p)$ is constantly decreasing over the relevant range. The relationship above shows that $I'(P_{cur}) > I'(P_{rand})$, which means that $P_{cur} < P_{rand}$. This completes the proof of Proposition 2.

***Proposition 3**: The maximum payoff to the multinational from transfer-pricing abuse is lower with the randomized eminent domain than under current law.*

Proof: We can derive the relationship between the maximum payoff the multinational gets under current law $Y_{cur}(P_{cur})$ and the maximum payoff the multinational gets with randomized eminent domain $Y_{rand}(P_{rand})$ by looking at the underlying functions' relationship:

$$\begin{aligned} Y_{rand}(p) &= t \times (a - p) + I(p) + e \times (p - a) \\ &= Y_{cur}(p) + e \times (p - a) \end{aligned}$$

Over the entire range $p < a$, the term $e \times (p - a)$ will be negative. Hence, the equation above means that $Y_{rand}(p) < Y_{cur}(p)$ for every $p < a$. Both P_{cur} and P_{rand} are less than a. Since P_{cur} is the price that maximizes the function $Y_{cur}(p)$, and since P_{rand} is the transfer price that maximizes $Y_{rand}(p)$, we know that $Y_{cur}(P_{cur}) > Y_{rand}(P_{rand})$. This completes the proof of Proposition 3.

Model with Refined Takings (Section II.B.4)

Define $E(p)$ to be the probability that the government will take the IP using eminent domain, given the company's chosen transfer price p. The three Probability Conditions defined in the main text simply translate into the following conditions about $E(p)$:

$$E(p) < t \text{ for all } p \geq a$$

$$E'(p) \leq 0$$

$$E(p) > 0 \text{ for all } p < a$$

Let us define $Y_{best}(p)$ to be the expected payoff to the multinational for a transfer price p when a taking's probability is $E(p)$. An example of $E(p)$ is illustrated in Figure 6 in the main text. There are three components to this payoff. The first is the now-familiar tax payoff from transferring, $t \times (a - p)$. As with purely randomized taking, if the government does take the IP, then the resulting loss results in no redeeming tax upside, since the loss is incurred by a tax-haven subsidiary, subject to a tax rate of zero. The second component to the payoff is the also-familiar downside risk of IRS audit and penalties, $I(p)$. The third is new, equal to the probability of the government taking the IP times the loss from the government offering just compensation equal to the transfer price p. Thus:

$$Y_{best}(p) = t \times (a - p) + I(p) + E(p) \times (p - a)$$

Rearranging terms we see:

$$Y_{best}(p) = I(p) + (E(p) - t) \times (p - a)$$

As an initial observation, we can prove that the multinational's payoff-maximizing transfer price will not be a or greater. $I(p) = 0$ for all $p \geq a$. Moreover, the requirement that $E(p) < t$ for all $p \geq a$ means that the term $(E(p) - t)$ will always be negative when $p \geq a$. By definition, for all $p \geq a$, the term $(p - a)$ will be non-negative. Thus, for all $p \geq a$:

$$Y_{best}(p) = 0 + (\text{negative}) \times (\text{non-negative}) \leq 0$$

In plain English, the payoff will never be positive to the multinational from transferring IP for the actual value or greater. As long as there is a positive value to $Y_{best}(p)$ when $p < a$, the payoff can never be maximized by transferring for the actual value a or above it.

Proposition 4: *Multinationals will choose a higher transfer price when there is refined taking than under current law.*

Proof: To find the transfer price p that maximizes the multinational's payoff $Y_{best}(p)$, we take its first derivative and set it equal to zero:

$$Y_{best}'(p) = I'(p) - t + E'(p) \times p + E(p) - E'(p) \times a = 0$$

Rearranging, we see that this condition will be met when:

$$I'(p) = t - E'(p) \times (p - a) - E(p)$$

Let P_{best} be the value of p that satisfies the equation above and thus maximizes the multinational's payoff under this refined taking regime. The term P_{best} is also used in the main text and the Figures therein. By definition the following is true:

$$I'(P_{best}) = t - E'(P_{best}) \times (P_{best} - a) - E(P_{best})$$

We know that $E'(p) \leq 0$, so $E'(P_{best}) \leq 0$. We know that $P_{best} < a$, so $(P_{best} - a) < 0$. Since $E(p) > 0$ for all $p < a$, we know that $E(P_{best}) > 0$. Therefore we can derive the relationship of $I'(P_{best})$ and $I'(P_{cur})$:

$$I'(P_{best}) = t - E'(P_{best}) \times (P_{best} - a) - E(P_{best}) < t = I'(P_{cur})$$

In short, $I'(P_{best}) < I'(P_{cur})$. Because $I''(p) < 0$ for all $p < a$, and since both P_{best} and P_{cur} are less than a, it follows that $P_{best} > P_{cur}$. This completes the proof of Proposition 4.

Proposition 5: *The refined taking strategy will always cause the multinational to choose a higher transfer price than a randomized taking strategy, provided that the refined taking strategy has the same probability of taking at the actual value of the IP as the randomized taking strategy, and that the refined taking strategy has a higher probability of taking than the randomized taking strategy for all transfer prices below the actual value.*

Proof: Stating that the refined taking strategy has the same probability of taking at the actual value of the IP as the randomized taking strategy means:

$$E(a) = e$$

Stating that the refined taking strategy has a higher probability of taking than the randomized taking strategy for all transfer prices below the actual value means:

$$E(p) > e \text{ for all } p < a$$

Now recall that, by definition of P_{best}:

$$I'(P_{best}) = t - E'(P_{best}) \times (P_{best} - a) - E(P_{best})$$

We know that $P_{best} < a$, so $(P_{best} - a) < 0$. We also know that $E'(P_{best}) \leq 0$. Therefore, we know that $E'(P_{best}) \times (P_{best} - a) \geq 0$. Thus:

$$I'(P_{best}) = t - E'(P_{best}) \times (P_{best} - a) - E(P_{best})$$

$$\leq t - E(P_{best})$$

Since $E(P_{best}) > e$, we can conclude that:

$$I'(P_{best}) \leq t - E(P_{best}) < t - e = I'(P_{rand}).$$

Therefore, $I'(P_{best}) \leq I'(P_{rand})$. Since $I''(p) < 0$, it follows that $P_{best} > P_{rand}$. This completes the proof of Proposition 5.

Ability of Reduced Tax Avoidance to Cover Cost of Just Compensation (Section III.D.1)

Let us analyze the expected cost of paying just compensation using the randomized takings proposal in Section II.B.2, where each piece of IP has a probability e of being taken by eminent domain. The randomized takings proposal will cause a company to choose a transfer price of P_{rand}, so the expected cost of paying just compensation per piece of transferred IP will be:

$$e \times P_{rand}$$

Meanwhile, the expected increase in tax revenue will equal the tax rate t multiplied by the increase in transfer price from current law caused by the threat of randomized taking. The transfer price under current law is P_{cur}, while the higher transfer price with the threat of randomized taking is P_{rand}. Thus, the increased tax revenue is:

$$t \times (P_{rand} - P_{cur}).$$

Proposition 6: *The tax savings from randomized taking with probability equal to one-half of the corporate tax rate would fully cover the cost of paying just compensation if the threat of taking doubled transfer prices.*

Proof: If transfer prices double due to the threat of randomization, that means $P_{rand} = 2 \times P_{cur}$. Using e equal to one-half of the corporate tax rate means that $e = 0.5 \times t$. Thus, on average for each piece of IP that a multinational transfers to a tax haven, the government's cost of paying just compensation would be:

$$\begin{aligned} & e \times P_{rand} \\ = & 0.5 \times t \times P_{rand} \\ = & 0.5 \times t \times (2 \times P_{cur}) \\ = & t \times P_{cur} \end{aligned}$$

Meanwhile, the increased tax revenue would be:

$$\begin{aligned} t \times (P_{rand} - P_{cur}) &= t \times ((2 \times P_{cur}) - P_{cur}) \\ &= t \times P_{cur} \end{aligned}$$

Thus the cost of paying just compensation equals the increased tax revenue. This completes the proof of proposition 6.