

THE STATIONARY BANDIT MODEL OF INTELLECTUAL PROPERTY

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We propose a new model of intellectual property that presents a different view than the market failure/monopoly rent model advanced by Arrow (1962), in which governments protect inventors from private theft. Instead, using Olson (1993), we represent a *public theft* model of intellectual property arising when entrepreneurs acting in global markets seek protection from a stationary bandit (their home government) principally against the depredations of other governments (the roving bandits). This model explains why institutional quality matters to the global location of R&D intensive industries, such as biopharma, and why so much intellectual property is located in tax havens.

Government, Citizens, and Intellectual Property

The first duty of government is to protect its citizens. Put the other way, the value to a citizen of a strong government is to protect their life, liberty, and property from the depredations of others. In the political romantic view, this is the protection of the weak by the strong. But the real nature of the bargain is that the weak must then

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pay tribute to the strong. In his antisocial contract model of the origin of government, Mancur Olson (1993) argued that governments offering protection are essentially “roving bandits” who have settled down to establish a monopoly on theft as “stationary bandits” who protect their tributes—now called tax-paying citizens—from external threats. Stationary bandits still plunder their captives to the maximum extent, but they do so rationally, leaving them sufficient resources and furnishing peaceful order and public goods to maximize the future stream of taxes.

In using the stationary bandit model of government,¹ we argue that new ideas—of the sort that become patents, copyrights, and trademarks—emerge as economic rights,² born global into a world of roving bandits. The holders of those rights seek protection from a stationary bandit who extracts tribute in return. The key insight of our model, however, is a sharper distinction of who those bandits are. In the standard model of intellectual property, benevolent national governments grant a temporary monopoly privilege to protect the creative inventor citizen from the unscrupulous depredations of private competitors or even consumers. The argument goes that without a legislative prohibition on copying (institutionally defined as theft), a competitive market will provide only weak incentives to invest in creating new ideas—that is, there will be market failure (Arrow 1962), and society will suffer a suboptimal level of creative-inventive activity (Posner 2005). In the standard model, government protects holders of intellectual property from private theft, making the nation safe for private creativity.

Now private theft is certainly a problem, but we maintain that *public theft* is much worse. The main predators on intellectual property, we argue, are not private competitors (e.g., copying a technology) or individual consumers (e.g., illegal downloads), but other governments through their client services and cronies, who variously engage in outright theft or coercive measures to diminish and

¹Our approach also builds on Barzel’s (2002) Hobbesian model of the state as a violent third-party enforcement mechanism that citizens consent to when safeguards are in place to mitigate abuse.

²In the Allen and Alchian (1977: 114) sense of “economic rights” as the expectation of benefiting from the value of the assets created, requiring third-party enforcement. See also Haber (2016).

deplete the value of their intellectual property (Ezell, Nager, and Atkinson 2016). A common example is the treatment of biopharma, routinely subject to outright theft, compulsory licensing, and other practices that diminish its value (Wu and Ezell 2016). In our new model, vulnerable subjects seek protection for their private economic property from the banditry of other governments, by registering their property with a strong government whom they trust to be powerful enough to protect it as they peacefully engage in trade and commerce throughout the world. The origin of intellectual property is when one of these roving bandits finds it worthwhile to become a stationary bandit by protecting the idea (the entrepreneurial discovery and the economic asset) from organized theft by other governments and settling down as a monopoly exploiter.

This sort of public action on behalf of private citizens should not be confused with rent seeking or cronyism, where agents seek private benefit from insider markets to public power. This is important, because the standard model of intellectual property is in effect a benevolent form of rent creation—in which the private citizen is incentivized to produce novelty and make it public, in return for a government-granted monopoly—thus creating a mechanism to transfer resources from other agents in the economy to the target. But in our model of intellectual property, when private agents seek protection, they are not seeking to exploit insider political markets or to transfer resources from other groups of citizens (Olson 1965), but rather to have their economic property rights represented and protected as they venture through the world seeking to trade.³ In return, they grant that protector government an exclusive right to exploit them through perpetual taxation of the property. The other side of the intellectual property is not market failure and the creation of a monopoly form of intellectual property right, as Arrow (1962) claimed, but rather market making in return for a monopoly on taxation.

A better model of this exchange is gunboat diplomacy. Governments have long used force to open markets when acting as agents on behalf of their merchant citizens seeking to extend their

³Because of fixed costs associated in setting up intellectual property protection, larger jurisdictions are predicted to offer greater protection than smaller jurisdictions (Mulligan and Shleifer 2005).

property rights and opportunities for exchange and commerce into new territories.⁴ Widely misrepresented as imperialist venturing, implying a political empire-building motive, these actions are better understood as venturesome tax policy, because the public displays of force—through the posturing of naval assets, say—are on behalf of those over whom the government has monopoly tax rights and therefore a vested interest in their market success. The origin and nature of intellectual property rights can be similarly construed.

The Market Failure Model of Intellectual Property

In the standard account, the economics of intellectual property is a two-sided ledger, balancing the benefit of an investment incentive against the cost of a monopoly. When economists argue for or against, or for stronger or weaker intellectual property, they are arguing about the relative size of the entries in this ledger. The prime argument that the benefit exceeds the cost is that of market failure in the production of information owing to a fixed cost (e.g., R&D) that is unrecoverable under perfect competition (Arrow 1962). The opposite argument is that there is no such market failure and that innovation is possible under perfect competition, and so the benefit can be obtained without paying the monopoly cost (Boldrin and Levine 2008, 2013). Dourado and Tabarrok (2015) show how the rent-seeking costs of the monopoly at some margins will be greater than the public benefit. The existence of such a tradeoff implies an optimal size and duration of that government-created rent (Nordhaus 1969, Gilbert and Shapiro 1990, Romer 2002, Landes and Posner 2003), including the prospect that private or informal institutions may be more efficient (Hall et al. 2014), or that more efficient mechanisms might be designed (Wright 1983, Kremer 1998) or could evolve (Ostrom and Hess 2006, Benkler 2006).

In the market failure model of intellectual property, economic efficiency requires government support for private creative and

⁴Examples include the arrival of the U.S. Commodore Perry fleet in Tokyo Bay in 1853 to open Japan to trade with the West; or the British Naval fleet ending the Opium Wars with China in 1839–42, resulting in the Treaty of Nanking that opened Hong Kong to foreign trade; or the U.S. defeat of the Barbary States, ending tribute to the pirates under protection of the Ottoman empire, enabling U.S. and European merchants to trade without harassment along the North African coast.

innovative activity (Arrow 1962, Scotchmer 2004). Two premises are baked into this argument. The first is that intellectual property—patents, copyrights, trademarks, as well as industrial design rights, trade dress, plant varieties, and trade secrets—is a government-granted monopoly. This can certainly be read in the history of intellectual property, which grew out of royal grants and privileges, with patents from the *Statute of Monopolies* (1624) and copyright from the *Statute of Anne* (1710). The property right exists because the government grants a temporary monopoly to create an incentive for the private production of new ideas, information, and technology. The second premise is that the natural domain of the artificially created property right, as a monopoly on trade, is therefore identical to the domain of the government that granted it. The market failure model of intellectual property is told from the perspective of a large nation state. While rarely stated in this way, this is a *social contract* view of intellectual property in which governments act on behalf of the collective will of the people, who benefit overall from having such an incentive within their civil jurisdiction and are willing to grant special privileges to those among them who furnish what will eventually become public goods (Nordhaus 1969).⁵ This is a model of intellectual property in which government is a benevolent agent acting to maximize social value for its citizens by dispensing temporary rents. Overall, most thinking about intellectual property is grounded in the idea that it is a legal property right granted by a nation-state rather than an economic right with global expression.

The Stationary Bandit Model of Intellectual Property

The stationary bandit model of government (Olson 1993, 1995; McGuire and Olson 1996) is an anti-social-contract⁶ theory approach. A stationary bandit is a roving bandit who settles down to monopolize theft over his subjects at a given rate of tax, which is preferable to roving bandits who steal everything. The model arises from the combination of a domain of “encompassing interest”

⁵This model then extends to international agreements (e.g. TRIPS) to replicate this logic through harmonized intellectual property provisions in trade treaties.

⁶“Government for groups larger than tribes normally arises, not because of social contracts or voluntary transactions of any kind, but rather because of rational self-interest among those who can organize the greatest capacity for violence” (Olson 1993: 568).

(Olson 1982) interacting with the private value of peace, order and public goods, including protection (Olson 1993).

In our alternative model, it is not the government that grants the monopoly right to the inventor, now recognized as a public benefactor, from the many grateful citizens, who consent to that transfer. Rather, in our Olson-inspired model,⁷ intellectual property arises when a citizen *who already has property* in an anarchic environment that is vulnerable to theft seeks protection from a strong government in exchange for an exclusive *monopoly right to tax*. This is not a one-sided gift from government. Rather, there is a mutual exchange of monopoly rights, in which the inventive and venturesome citizen creates an encompassing interest—as a monopoly right to tax—in return for enforcing the economic property rights in the idea as they seek to create and grow market opportunities throughout the world. A strong government does this by opening an area for trade and protecting the property right over a potentially global context from the depredations of roving bandits. This is not market failure and rent creation, but market making through negotiation backed with threats of force (a.k.a., “gunboat diplomacy”). This is not an internal transfer from citizen to citizen within a nation-state, but the government protection of one citizen to freely go about their peaceable business with their new idea in a disordered and potentially hostile world, in return for exclusive license to tax that flow of new trade.

In the old view of the economics of intellectual property, the role of government is that of a benevolent agent enforcing a social contract in which a collective agrees to grant special privilege (intellectual property, as a monopoly right) in order to incentivize private investment in new knowledge creation and to mandate free revealing. The government is simply an agent to facilitate an internal transfer between the citizens of a nation-state, who have collectively consented to an artificial monopoly, in order to create the monopoly rent incentive to spur its inventive citizens to action. But in our new view of the economics of intellectual property, the role

⁷This is closely related to Barzel’s (2000, 2002) theory of the state as a violent monopoly enforcement mechanism of economic rights (as distinct from legal rights) to facilitate third-party agreements about economic rights that are otherwise difficult to enforce. Barzel argues that citizens will only consent when further agreements are in place to prevent abuse of the citizen by the state (what Barzel calls dictatorship), which in our model is equivalent to self-predation.

of government is one side of a mutually rewarding strategic alliance, in which inventive and venturesome citizens (including corporate citizens) seek government protection as they engage in trade and seek to expand their markets, in exchange for a share of surplus created, taken as tax. And what they need protection from is other powerful bandits, who for the most part are other governments or the cronies they enable (Olson 1993).

It is misleading to think of the origin of new ideas and new technologies as a consequence of “investment” that is incentivized within a political jurisdiction. New ideas with economic value are born into markets, not into nation-states. New ideas that make valuable information property arise in the process of economic activity, or in the expectation of economic activity, as a by-product of entrepreneurial discovery and venturing. This is why the information property that is of value—the intellectual property—is often much more than the technical invention, extending through the ways in which value is created and extracted. In this sense, intellectual property is, in practice, a much larger part of commercial and market activity than the accounting value of the parts that can be registered and protected. The role of government from this perspective is not a benevolent grant of an artificial form of property within the borders of the nation-state; rather, it is to protect property that already exists in consequence of economic activity and to extend that protection as far as possible. Moreover, a strong government will do so from its own self-interest in order to maximize its share of the gains from trade.

The stationary bandit model of intellectual property expresses the evolutionary conception of market capitalism advanced by Schumpeter (1912, 1942), Baumol (2002), and Phelps (2013). In their view, firms compete through innovation, and the role of government is to supply the institutional conditions for such competition to flourish. However, most innovation policy, including much in the Schumpeterian tradition (Nelson 1959, 1993; Mowery and Rosenberg 1989; Mowery 1995), sees a more active role for government premised on the market failure model of science and technology (Arrow 1962, Romer 2002, Steinmueller 2010). The very notion of a market failure diagnosis in the aggregate social welfare model sets up a government solution. Those arguing against this “solution” have variously argued that there is no market failure under perfectly competitive innovation (Boldrin and Levine 2008), or that government failures loom as large as market failures (Davidson and Potts

2016a, 2016b). But the argument here is neither a market failure (neoclassical microeconomics) nor a government failure (public choice economics) approach, but rather a Schumpeterian political economy model set in a global entrepreneurial and institutional context. The key insight is that firms compete on innovation, not on price, which implies there are private rents to be captured, and that the value of the property right is limited by the extent of the market. Governments do not create rents in this model; rather, they expropriate them.⁸ How do they do that?

Governments as Bandits: Public Theft Is Worse Than Private Theft

In the standard model of intellectual property, government is benevolent, making gifts and protecting the good (inventors) from the bad (pirates and thieves). The malevolent forces are the corporations that can only compete through conspiracy and theft (Lessig 2004) and the consumers who seek products for free (Goodenough and Decker 2009). In this view, governments are very much on the side of intellectual property (Posner 2005). Yet this view is fundamentally misleading because it represents government as largely being on the supply side—that is, as part of the infrastructure that creates intellectual property, which is, of course, technically correct, but ignores government’s larger role on the demand side of intellectual property—for example, in public health services—where its incentives are those of a purchaser, albeit one with military and naval assets at its disposal.

Government, in this view, is far from a friend of intellectual property, but its biggest and most devastating predator. Public theft by *governments*, as a simple matter of scale, is a far worse problem than private theft by corporations and citizens. Yet this tends to be opaque, because governments rarely steal outright, but systematically use a complement of tactics to devalue and extract rents from

⁸A corollary of our theory is that governments should be systematically hostile to alternative incentive systems for innovation—such as rewards, bounties, and contracts for research—that economists have long favored (e.g., Wright 1983, Shavell and Ypersele 2001). From a social contract view of innovation, incentives, prizes, and output rewards should be preferred. But from a stationary bandit perspective, these are not viable because there are no monopoly rents for government to capture.

intellectual property in areas where they are on the demand side. So they can appear to be protectors in the courts while a different branch of government (the health ministry, for instance, or department of agriculture) engages in activities that devalue intellectual property through the rest of the world (Wu and Ezell 2016).

Our argument is both that public theft is a bigger problem than conventionally realized and that private theft is a smaller problem. First, private theft concerns are often about the economics of enforcement costs of existing property rights and the rents accruing to particular business models. Music and movie piracy, for instance, has seen an evolutionary response through innovation in business models (e.g., streaming, or product placement), while companies seeking government protection are often effectively seeking protection from competition to their extant business models. Second, corporate theft of ideas is often constrained by the tacitness of technical knowledge, particularly where knowledge is carried in groups, as is typical in manufacturing (Kogut and Zander 1992). Technical piracy as a commercial strategy is often simply not that effective. However, governments can also predate on intellectual property and, often, very effectively. They can seek to devalue intellectual property in order to reduce the prices they pay, or the scope over which they pay, or to increase their range of control over the commercial product, and therefore to improve their bargaining position (Davidson 2015). In biopharma, for instance, governments can act as a single desk-purchaser of a drug, particularly through a schedule of subsidized drugs that allows a government to blockade entry or force sales below cost as a condition of entry for other products. Governments can also demand offsets, such as domestic production, or location of research facilities, regardless of the commercial merit of such decisions. They can also enforce “social license” conditions, demanding free supply of particular products to politically favored or particular needy groups, thus off-loading government responsibility to provide such health care services (Stiglitz 2008: 1694). Governments can also work to maximize the taxation of intellectual property within a jurisdiction by making market entry conditional upon profits being also domiciled, as well as extracting rents from intellectual property through bargaining over regulations (Holcombe and Boudreaux 2015). And of course governments can just outright steal through protection of cronies (who presumably reward governments through side payments) who directly engage in intellectual property theft.

From a perspective of new ideas born global, in which governments are mostly on the demand side of intellectual property, and private appropriation is rarely an effective market strategy, the main predator on intellectual property is public theft by governments. Following Olson (1993), we call these roving bandits. To protect yourself from that magnitude of threat, you grant monopoly rights to taxation in perpetuity to a now stationary bandit. You both benefit from this exchange. We now consider why.

The Stationary Bandit's Offer

The stationary bandit model predicts maximum predation, as a rational monopolist. As Olson (1993: 569) argues, "Exactly the same rational self-interest that makes a roving bandit settle down and provide government for his subjects also makes him extract the maximum possible amount from the society for himself." In this case, the taxes and tributes the government will extract at each point in time from that agent seeking intellectual property protection will be consistent with maximizing the flow of future tax revenues. The holders of intellectual property are allowed to make enough profit that they survive to be taxed again (McGuire and Olson 1996), but are still safe from appropriation by another bandit through tax competition.

Yet from the perspective of the agent seeking protection "the rational monopolization of theft also leaves the bandits' subjects in better shape" (McGuire and Olson 1996: 38). Even though the bandits' subjects are maximally exploited, a situation of uncoordinated competitive theft from all other governments is even worse because it exposes them to total theft, whereas under a monopoly model of theft, in which the stationary bandit preys on the intellectual property producer but as a *monopoly predator*, the subject experiences only partial theft. Of course, "there is little or no production in the absence of a peaceful order" (Olson 1993: 567), and with the protection of a strong bandit, the subject also receives security to invest and to engage in long-term contracting.

The measure and value of this security and service offered to the subject is proportional to the credible threat the stationary bandit can make against the roving bandits. Which is to say that some stationary bandits are better than others. This appears on both sides of the exchange. A strong bandit that can make a credible threat against other bandits (perhaps it has the most powerful naval assets) and

offer maximum protection can also extract a larger rent from the subject, because if they choose some lesser bandit for protection, then the stronger bandit is now a potential predator. So we would expect to see intellectual property gravitate to the protection of the strongest bandit (e.g., the United Kingdom in the 18th and 19th centuries, and the United States in the 20th century to the present). Yet a sufficiently strong bandit will be powerful enough to steal from its own subjects, creating a dynamic inconsistency problem. A strong bandit will therefore also need *a good reputation for self-control* (Barzel 2000: 34), which is why intellectual property industries tend to concentrate in nations such as the United States, Switzerland, Singapore, and other constitutionally secure and well-governed states (sometimes known as tax havens). Furthermore, patents are more highly valued in institutionally stronger jurisdictions where the local government is not a predator (Hall, Thoma, and Torrisi 2007).

Our theory connects the global distribution of intellectual property with the global distribution of tax havens. It is well known that intellectual property is mobile and can be relocated to minimize tax liability. Yet it is also a robust finding that intellectual property tends to locate in relatively high tax jurisdictions (Griffith, Miller, and O’Connell 2011, 2014). This seeming paradox is resolved in our model: it predicts both maximum predation by the host government (i.e., high taxes) in return for extremely strong institutions, particularly self-control. Tax havens, then, are jurisdictions with extremely strong institutions that can effectively protect against the predation of other governments, as well as to credibly promise minimal risk of self-predation (Desai, Foley, and Hines 2006; Dharmapala and Hines 2009). Thus tax havens will also tend to be intellectual property hubs.

Not all countries are bandits all of the time, but most are some of the time. Wu and Ezell (2016) examined price controls on biopharmaceutical products, ranking 56 countries low, moderate, or high in terms of forced price reductions. Only nine countries scored a low rating—Switzerland, Israel, and the United States among them. A broader study by Ezell, Nager, and Atkinson (2016) looked at the extent of free riding on overall innovation policy finding substantial evidence of what they call “innovation mercantilism” through failing to protect intellectual property through weak enforcement, compulsory licensing or outright theft, or through balkanized producer and consumer markets. Indeed it is widely observed that governments

can insist on compulsory licensing to force intellectual property rights holders to reveal information to the government's cronies or through the lobbying efforts of NGOs as a condition of entering a market (Sell and Prakash 2004). Multinational firms can often find themselves targeted for theft by firms in other countries, with their own governments unwilling or unable to help, and so needing to seek private enforcement that may pit them against the foreign government (Yang, Sonmez, and Bosworth 2004).

Intellectual Property as Policy

In the standard economic model, the institution of intellectual property rights solves a market failure problem in the private production of new knowledge, connecting innovation policy to economic growth policy to incentivize socially efficient levels of private domestic investment in new idea creation (Nelson 1959, 1993; Arrow 1962; Romer 1990; Scotchmer 2004). The core economic argument is that the government creation of these monopoly rents is an effective and efficient institutional mechanism and, evaluated from a social welfare perspective, is a good public investment (Gallini and Scotchmer 2002, Romer 2002, Aghion et al. 2005). This argument that an effective intellectual property rights regime is part of a nation's innovation system is a self-contained logic at the level of the nation-state. Because new knowledge is treated as a positive externality, this logic then generalizes to all nations, and indeed offers a model of a global innovation policy based around harmonized and strong intellectual property in order to drive global economic growth and development (Deardorff 1992, Gould and Gruben 1996, Maskus 2000, McCalman 2001). The global context, therefore, merely complicates a nation-state model in which intellectual property rights are economically justified to resolve a market failure problem, into a system of interconnected intellectual property rights systems. This logic then underscores the importance of global governance organizations, such as the World Intellectual Property Organization, to coordinate this complexity.

Yet according to the stationary bandit model, this notion that the global context of intellectual property is an additional complication to what is essentially a national story is a post hoc rationalization invented in the mid-20th century to justify government actions that had already been occurring for many centuries. Rather, the inherent

context of intellectual property rights and protection is, and has always been, global vulnerability to expropriation. From this perspective, the subject's stationary bandit is pitted in conflict in an arena of roving bandits. What is being fought for is the spoils of plunder of the roving bandits and monopoly tax rights for the stationary bandit. Intellectual property is not a form of innovation policy in this view, but rather a species of foreign policy in the proximate instance but ultimately as tax policy for the stationary bandit and retail politics for the roving bandit.

There are several institutional pathways through this potential global Hobbesian jungle. One way is to minimize the importance of intellectual property by developing and promoting commons-based and open-access institutions that broadly seek to weaken intellectual property and push back against closed-access regimes. This can be observed in the mounting intellectual critique of intellectual property. Some economists argue against the costs of monopoly and point to the weakness of the incentives subsequently created (e.g., Boldrin and Levine 2008), emphasizing the rent-seeking aspects, particularly around extensions to existing intellectual property regimes. Legal scholars have sought to create alternative institutions based around common property, led by the work of Richard Stallman (2010), Larry Lessig (2004), and Yochai Benkler (2006). Other law and economic scholars have simply argued the ineffectiveness of the current regimes from the comparative perspective of parts of economic production flourishing under weak or nonexistent intellectual property (Kinsella 2001, Raustilia and Sprigman 2012). This institutional model of open access intellectual property seeks to disarm the roving bandits by, in effect, making everyone a bandit, eliminating the ability of stationary bandits to seek monopoly exploitation.

An alternative approach harnesses the costs and benefits of global reputation. Nations are expected to self-moderate because of the broader costs of a poor reputation, or to cooperate in order to benefit from a reputation as a good global citizen (for instance, via preferential access to trade or security treaties). Ezell, Nager, and Atkinson (2016) have developed a measure to identify countries as contributors or detractors. There are strong moral or natural rights arguments in favor of intellectual property that are particularly effective on the supply or incentive side. However, these tend to substantially weaken in the case when monopoly gets in the way of public goods provision, such as health care (De George 2005), revealing intellectual property

rights to be a political institution that can be changed by political expediency (Sened 1997).⁹

Conclusion

The standard *economic model* of intellectual property is market failure, corrected with a monopoly rent; the standard *legal model* of intellectual property is a property right bound up with a moral right, issued and enforced by government, and in which most theft is private; and the standard *political economy model* of intellectual property is the expression of a social contract within a nation-state. We have proposed an alternative view of intellectual property that makes none of these claims. Instead, we have an *anti-social-contract model* (Olson 1993) in which governments are bandits; a legal model based around taxation, and in which most theft is public; and an economic model in which intellectual property is a product of entrepreneurial discovery in a global context, and is thus a story of trade.

Intellectual property, in our new approach, is not some quirky institution only optimized in the late 20th century, once governments got serious about growth policy, and moreover that might be replaced by more efficient mechanisms of discovery, such as public science or prizes. Rather, intellectual property, we argue, is an inevitable evolutionary product of a global trading economy in a world of powerful predators. It is the result of a grand bargain struck between a citizen, seeking to maximize the value of the ideas associated with their property, and a powerful state, maximizing the value of their share—formalized as a monopoly tax right—by extending protection as they trade near and far. Intellectual property thus arises in the normal course of entrepreneurial activity in pursuit of the creation of ideas with value. These are vulnerable on a global scale, and the main predators are governments or their cronies, which we call roving bandits following Olson (1993). Intellectual property emerges when a roving bandit finds it worthwhile to become a stationary bandit by protecting the idea from competitive theft from other governments and, in the process, becoming a monopoly exploiter. This monopoly exploitation

⁹A related instance occurred in Australia, when the antitobacco lobby successfully blocked the use of company trademarks, forcing “plain packaging” and devaluing the tobacco company’s intellectual property by justifying the legislative change as a public health issue (Davidson 2015).

aspect is widely overlooked in the standard model of a benevolent government, but the implication, also following from the theory (McGuire and Olson 1996), is that the stationary bandit will tax their subjects to extract the maximum rent they will bear.

We have only sketched the underlying idea and are currently developing this into a testable formal (Hotelling type) model. We can nevertheless immediately see several basic predictions that we hope to test using historical data. Specifically, our model predicts a relationship between ability of a stationary bandit to project power (and willingness to use this to open markets) and the growth of the intellectual property sector, which in turn implies a non-Ricardian theory of the global pattern of trade; that a nation's innovation system is more significantly shaped by tax policy than science and technology policy; and that the stationary bandit will have a strong incentive to have a noncorrupt and globally competitive tax system. Our future research program aims to test our theory (and its particular predictions about institutional quality, trade patterns, and relative government priorities) against the alternative hypothesis that intellectual property rights emerged in order to solve the market failure problem in private investment in innovation.

Rather, the key starting insight here is that governments predate on intellectual property. Where they protect it, and seek to do so globally—as the United States does when tying intellectual property agreements into trade treaties or other foreign policy sanctions—they do so not out of moral respect for the creative rights of its citizens, but because the offer of protection maximizes the government's future tax stream (the corollary is that U.S. citizens are taxed by the U.S. government wherever they are domiciled). But where they predate directly, through theft or various mechanisms to minimize its value, they do so because governments are most everywhere the predominant consumers of intellectual property—examples are in socialized health care, infrastructure, media and communications, and defense, all of which are technology intensive. The global distribution of intellectual property, and of firms and industries that are heavily reliant on it, seems to conform to our model's predictions. Intellectual property intensive industries predominantly locate in institutionally robust tax havens, such as the United States, Switzerland, and more recently Singapore and Ireland.

Finally, our approach argues that the societal benefits of intellectual property are not the product of some far-thinking design by a

benevolent government, which is the entire focus of the standard model; rather, it is a corollary of the “hidden hand theorem,” in which the stationary bandit, who is “a rational self-interested actor with unquestioned coercive power and has an encompassing and stable interest in the domain over which the power is exercised, . . . is led to act in ways that are, to a surprising degree, consistent with the interests of society and of those subject to power” (McGuire and Olson 1996: 73). Innovation policy in the form of intellectual property institutions is a self-organizing product of the invisible hand and does not actually require any more than government self-interest in maximizing its tax revenue through the creation of high quality property rights protection institutions (Cooter 2005). What does need protection, in our new view, are intellectual property producing firms and individuals predated on by governments. These actions constrain the profitability of these firms, and therefore their ability to reinvest and grow, which of course includes the discovery of further intellectual property.

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