Schumpeterian Law: Rethinking the Role of Law in Fostering Entrepreneurship

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Entrepreneurship is seen as a central driver of economic growth. Lawmakers around the world have ventured to use law to foster such entrepreneurship. Yet, frequently law is described as the enemy of entrepreneurs. This paper argues that this is not only a fundamental misconception, but that law may perform a central part in the entrepreneurial process itself. In part I of the paper I suggest three distinct roles — leveling, protecting, and enabling — that law can play to foster entrepreneurship. Part II develops a comprehensive framework for crafting laws that facilitate entrepreneurship based on the theory of risk. Utilizing expected utility theory I explain why lawmakers may want to focus less on direct financial losses or gains for entrepreneurs (like subsidies or tax breaks), and more on the predictability of legal processes. Behavioral economics takes this one step further by suggesting lawmakers need to be careful how they frame laws intended to facilitate entrepreneurship. However, such a risk-based framework rests on important assumptions: the linearity of the innovation process and the central importance of the individual entrepreneur. Part III of the paper shows how through more nuanced understanding of innovation a novel and much more central role for law emerges: not be reactive (however well thought out), but entrepreneurial – actively creating market tensions that entrepreneurs then successfully exploit. I conclude that contrary to conventional wisdom lawmakers perform a much more central and important role in shaping entrepreneurial activity in our nation than has been ascribed to them.

Entrepreneurs are in high demand around the globe. The United States sees itself as the epicenter of entrepreneurial activity.¹ The European Union, in its Lisbon Agenda,² pins its

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¹ This sentiment is captured by President Bush, whose recent statements include “America is the most innovative nation in the world because our free enterprise system unleashes the talent and creativity of our people,” President Participates in Swearing-In Ceremony for Treasury Secretary Paulson, US FED NEWS, July 10, 2006, and “the entrepreneurial spirit is strong in America,” Statement by President Bush on Job Growth and the Economy, PR NEWSWIRE, Oct. 6, 2006; “entrepreneurship” is also a very popular theme on Capitol Hill: the 110th Congress used the term more than 175 times in proposed legislation, http://thomas.loc.gov. See also Kauffman Foundation, On the Road to an Entrepreneurial Economy: A Research and Policy Guide (Feb. 26, 2007).

² Associate Professor of Public Policy, The John F. Kennedy School of Government, Harvard University. I gratefully acknowledge the research help of Malte Ziewitz, Ben Roberts and Shakti Majumdar.

hopes for renewed economic growth on the entrepreneurial spirit of its citizens. Even Japan, despite having had an economy long dominated by large corporations and life-long employment, has seen successful entrepreneurs gain pop icon status.\(^3\)

It is easy to see why. More than sixty years ago, Joseph A. Schumpeter famously saw entrepreneurs as the ones that successfully bring to market an invention.\(^4\) As globalization has forced many national economies to compete on knowledge, rather than natural resources or cheap labor, the ability to operationalize that knowledge has become key to economic survival.\(^5\) This is the task of Schumpeter’s entrepreneur.\(^6\)

Schumpeter saw the entrepreneur as somebody who disdains equilibrium and breaks the rules of the establishment.\(^7\) His entrepreneurs disrupt existing market balances by introducing new products, new methods of production, devising new business models, or opening new markets.\(^8\) These innovative entrepreneurs dislike the law. The legal system constrains activity and sets rules. Entrepreneurs disdain rules, and do not hesitate to break them. Law promises certainty. Entrepreneurs thrive on risk.

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\(^2\) See Presidency Conclusions, Lisbon European Council (Mar. 23 and 24, 2000), at para. 14 (stating that “The competitiveness and dynamism of businesses are directly dependent on a regulatory climate conducive to investment, innovation, and entrepreneurship.”).

\(^3\) A popular, almost-idolized Japanese entrepreneur is the former chairman of Sony Corp, Akio Morita. See Ronald E. Yates, Sony’s Innovative Founder Giving up the Controls, CHICAGO TRIBUNE, Nov. 26, 1994.

\(^4\) JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY (5th ed. 1976).

\(^5\) For two recent empirical works linking entrepreneurship with growths, see ZOLTAN ACS & CATHERINE ARMMINGTON, ENTREPRENEURSHIP, GEOGRAPHY, AND AMERICAN ECONOMIC GROWTH (2006); DAVID B. AUDRETSCH, MAX C. KEHLBACH & ERIK E. LEHMANN, ENTREPRENEURSHIP AND ECONOMIC GROWTH (2006).

\(^6\) In this paper I focus on entrepreneurs in the Schumpeterian sense, not on those that found businesses without offering something new (more correctly called self-employment), and not on activities in the non-profit sector, and not on activities within a large organization (often called “intrapreneurship”) (Karina S. Christensen, Enabling Intrapreneurship: The Case of a Knowledge-Intensive Industrial Company, 8 EUR. J. INNOVATION MGMT. 305 (2005)).

\(^7\) SCHUMPETER, supra note 4, at 74.

This article focuses on the apparent tension between entrepreneurship and the law, and examines the relationship more generally before suggesting an alternative conceptualization of how law stimulates rather than stifles entrepreneurial activities. Part I questions the popular view of law choking entrepreneurship and suggests three ways the legal system facilitates entrepreneurial activity. Part II develops a more complete framework of entrepreneurial activity based on risk that offers a conceptual link between entrepreneurship and the law. Such frameworks portraying the legal system as performing a purely supportive role are vulnerable to fundamental criticism, as I explain in the following part, and suggest that the interaction between entrepreneurship and law must be rethought. Part III not only offers an alternative approach by suggesting that elements of entrepreneurship be injected into law, thus creating “Schumpeterian law”, but also analyzes two successful cases that highlight important elements of Schumpeterian law.

**Part I – Analyzing an Uneasy Relationship**

Given the desire of the modern state to regulate many areas of human activity, it is easy to understand entrepreneurs’ disdain for law:

* Labor laws may restrict the ability of start-ups to hire and fire as their business situation demands.  

Rules regarding notice and severance payments may increase the cost of human

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10 Hiring practices are particularly impacted by antidiscrimination laws. Key federal antidiscrimination statutes include Title VII of the Civil Rights Act of 1964 (42 U.S.C. 1981, 2000e-2000e-17 (2007)), the Age Discrimination in Employment Act (ADEA) (29 U.S.C. 621-634 (2007)), and the Americans with Disabilities Act of 1990 (42 U.S.C. 12101-12213 (2007)). Many states have also passed anti-discrimination provisions specifically applicable to small businesses. (See FRED S. STEINGOLD, *THE EMPLOYERS LEGAL HANDBOOK* (7th ed. 2005).) Although the “employment-at-will” doctrine that governs termination of employment relationships affords considerable freedom in firing decisions, many statutory and common law protections curtail this freedom. The statutory protections stem broadly from the federal antidiscrimination statutes as well as more narrow provisions, such as restrictions on termination due to filing of workers’ compensation or other claims. (See Elletta S. Callahan, *Employment at Will: The Relationship Between Societal Expectations and the Law*, 28 AM. BUS. L.J. 455, 457-58 (1990).) Common law protections include imposing a duty of good faith and fair dealing, public policy exceptions and implied-in-fact contract terms. (Lindsay B. Jackson, *A Lesson From Germany on*
resources at precipitous moments in a fledging company’s life. Legal restrictions on stock option grants may limit entrepreneurs’ ability to attract top talent without incurring significant cost.

* Health and safety regulations make product development more cumbersome and time-consuming, especially in the life sciences. Moreover, specific privacy laws for health and financial services, for example, may prevent entrepreneurs from reusing and linking personal data for targeted marketing or resale to other corporations, thus reducing the value of data the entrepreneur has collected at significant cost. Consumer protection laws may limit what business transactions entrepreneurs can engage in when the other party is a consumer. Product liability laws may force entrepreneurs to take out expensive insurance policies to protect themselves from costly tort claims.


11 In the US, severance and notice provisions are of particular significance in many standard form contract provisions and collective bargaining agreements. However, current reform proposals such as the Model Employment Termination Act (META) would incorporate much more stringent severance and notice provisions. (Daniel J. Libenson, Leasing Human Capital: Toward a New Foundation for Employment Termination Law, 27 BERKELEY J. EMP. & LAB. L. 111 (2006).)


13 The bulk of general U.S. health and safety regulation is found in the Food and Drug Act (FDA) (21 U.S.C.S. (2007)). These regulations are particularly onerous for life sciences companies such as pharmaceuticals, where the average cost of clinical testing per drug is about $0.5 billion and only one of five drugs submitted to such testing are approved by the FDA. (ADAM B. JAFFE & JOSH LERNER, INNOVATION AND ITS DISCONTENTS: HOW OUR BROKEN PATENT SYSTEM IS ENDANGERING INNOVATION AND PROGRESS, AND WHAT TO DO ABOUT IT (2004).)


* Intellectual property laws reduce what new products and services entrepreneurs can offer. Incumbent producers may use their patents, copyrights, and trademarks to prevent or hinder new products and services that threaten their market position. Even a sufficiently novel service may run into severe legal troubles if courts see it as encouraging others to impede on existing intellectual property rights.

* Entrepreneurs may violate criminal statutes by offering certain information or services in jurisdictions where these are prohibited. This goes far beyond questionable business areas such as porn and gambling. Even mainline entrepreneurial stalwarts like AOL have at times been threatened with criminal prosecution.


16 For example, Apple’s Ipod fell victim to Creative Technology’s “Zen Patent” (see Christopher Breen, $100 million payment ends all pending litigation: Apple settles Creative lawsuits, MACWORLD, Nov. 1, 2006, at 20). Similarly, Research in Motion (RIM) faced a high-profile patent infringement suit by over the Blackberry (NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282 (Fed. Cir. 2005)).


18 Compuserve, an AOL subsidiary, was prosecuted in Germany for disseminating on-line pornography. See Silvia Ascarelli & Kimberley A. Strassel, Two German Cases Show How Europe Still Is Struggling to Regulate Internet, WALL ST. J., Apr. 21, 1997, at B9; “Sex on the Internet,” The Economist, January 6, 1996, p. 18, where the author inquires, “[w]hen Bavaria wrinkles its nose, must the whole world catch a cold?” See generally Ulrich Sieber, Strafrechtliche Verantwortlichkeit für den Datenverkehr in internationalen Computernetzen, JZ 429 (1996).
and reporting requirements, like those included in the Sarbanes-Oxley Act\(^\text{19}\), are said to cost companies an average of one percent of revenue.\(^\text{20}\)

Not surprisingly, many entrepreneurs view the legal system as their enemy. Nothing summarizes this better than a line from Apple Computer’s famous advertisement “Think Different.” The ad features a number of short clips depicting famous artists, Nobel laureates, scientists, societal leaders, and successful entrepreneurs. In the background, a somber narrating voice characterizes them all as people who see things differently, change society and push “the human race forward.”\(^\text{21}\) The narrator emphasizes that these trailblazers “are not fond of rules, and they have no respect for the status quo.”\(^\text{22}\) Yet, the ad concludes they are all geniuses, because “the people who are crazy enough to change the world are the ones who do.”\(^\text{23}\) Conceived this way, entrepreneurs, like their colleagues in the arts and sciences, cannot help but break the rules and violate the codes of the status quo. That is their defining quality. The law is seen as holding them back and thereby preventing them – and society – from reaching their full potential.

While this perspective contains some truth, describing the relationship between entrepreneurs and the law in entirely antagonistic terms obscures the complex relationship between the two. In at least three ways, the legal system can facilitate entrepreneurial activity.\(^\text{24}\) Law can be a leveler, a protector and an enforcer.\(^\text{25}\)

\begin{itemize}
  \item \textbf{a. Law as Leveler}
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\(^\text{22}\) Id.

\(^\text{23}\) Id.


Not every new regulation limits what entrepreneurs can do.26 On the contrary, regulations can create windows of opportunity for entrepreneurs to enter existing markets or create new ones.

Since at least the 1970s, many entrepreneurs have first advocated for and then welcomed the “liberalization” of specific economic sectors. In particular, this liberalization has swept through network industries. Airlines were deregulated in the United States in the late 1970’s.27 New airlines were started, competition heated up and ticket prices came down.28 Just a few years later, AT&T’s telecommunications monopoly was broken, mostly through legal and regulatory measures.29 The energy sector and postal services have seen deregulation on both sides of the Atlantic over the past few decades, and so, in Europe, has rail transport.30 The financial services sector and, to a lesser extent, the professional services industry have experienced similar changes.31 By and large, the results have been impressive.

26 Commentators haven often argued that regulations are detrimental to markets; cf Harold W. Furchtgott-Roth, Commissioner, Federal Communication Commission, Before the National Association of Broadcasters, Radio Show Financial Breakfast, October 15, 1998, http://www.fcc.gov/Speeches/Furchtgott_Roth/sphfr815.html (“regulation is an impediment to markets. And excessive regulation, frankly, destroys markets.”). It is important to note, however, that even if a regulation is a market impediment under classical economic theory, it may facilitate entrepreneurial activity and thus be beneficial in a Schumpeterian (and Hayekian) view of the market; see footnotes 69-70 and accompanying text.


31 See Henry N. Pontell & Kitty Calavita, The Savings and Loan Industry, 18 CRIME AND JUSTICE 203, 205-210 (1993) (discussing deregulation in the U.S. savings and loan industry); Randall S. Kroszner & Philip E. Strahan,
Successful old-fashioned monopolies and cozy oligopolies have often been replaced with vibrant markets that offer higher quality goods and services at lower prices.\(^{32}\)

For entrepreneurs, the story may look simple: once burdensome regulations that fostered and facilitated non-competitive market conditions were abolished, entrepreneurial spirit and Adam Smith’s invisible hand took over. Little surprise then that the process is often termed “liberalization” or “deregulation”, as if markets needed to be liberated from stifling regulatory measures.

Such a view, however, overlooks that competitiveness is not necessarily a natural condition to which markets automatically revert once a stifling regulatory framework has been lifted. Some markets tend to favor first movers, large players and incumbents, making it hard for entrepreneurs to take root. Abolishing the existing regulatory framework in such markets would likely strengthen the incumbents’ grip, not bring more competition.

Berkeley professor Stephen Vogel and others have demonstrated eloquently that markets often require not a legal void to be successfully “liberalized”, but rather a skillfully crafted and carefully implemented legal framework that offers new entrants a chance to enter and stay competitive.\(^ {33}\) What is necessary is not deregulation but re-regulation – replacing the existing regulatory framework that permitted uncompetitive market conditions to prevail with a regulatory setup that facilitates the introduction of competitive forces.

At first glance, this may sound counterintuitive. But where a sector is dominated by powerful monopolies or oligopolies, merely abolishing the existing regulatory framework may leave new entrants vulnerable to be squashed by powerful incumbents. This is particularly true for

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\(^ {32}\) See C. Eldering, *Impact and Results of Telecommunications Deregulation*, 37 IEEE COMMUNICATION MAGAZINE 98 (1999); cf. Sharon Reier, “Businesses Likely to Save Most: Who Stand to Win Deregulation Payoff”, INTERNATIONAL HERALD TRIBUNE, March 13, 1997 (reporting that in France long distance rates had been increased by 25 and 40 percent in subsequent years); for Latin America see “Telephone Calls”, THE ECONOMIST, January 31, 2002.

network industries – like telecommunications, energy and transport – which require new entrants to build up a network infrastructure that incumbents have already put in place and paid for through (quasi)monopoly rents.\footnote{Deregulation of Network Industries: What’s Next? (Sam Peltzman & Clifford Winston eds., 2000).}

Left to the market, incumbents could engage in a price war with new entrants that they – with greater resources and an already existing network – would likely win. Moreover, in many markets, such as telecommunications, new entrants generally need to connect to the networks of incumbents at a reasonable price. Without regulations to force incumbents to allow such linkages, potential challengers can be stopped before they even begin.Successful re-regulation takes into account these power imbalances by restricting what incumbents can do to head off competition.

At the same time, new entrants must not receive preferential treatment above and beyond the re-balancing necessitated by the previous monopolistic market power of incumbents. If they did, they would have less incentive to innovate and be efficient, and to create an entrepreneurial alternative on the market.\footnote{This points towards a debate among economists about the role of monopolistic rights for entrepreneurs. Schumpeter favored giving entrepreneurs monopolies over their ideas, for example in the form of patent rights, for a limited period of time as a societal incentive for entrepreneurs to innovate; Schumpeter, supra note 4, at 81-106; this has been disputed by Kenneth Arrow, Economic Welfare and the Allocation of Resources for Invention, in Richard Nelson (ed), The Rate and Direction of Inventive Activity (1962), at 609; for a re-conceptualization of the debate see Jonathan B. Baker, Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation, http://ssrn.com/abstract=962261.} The challenge of re-regulation is to find the appropriate balance that offers incentives for all market players, incumbents and new entrants.

Consequently, a re-regulatory framework must fulfill two tasks. First, it must replace the old noncompetitive setup by opening a sector to entrepreneurial entrants. Second, it must set out a framework that ensures continuing competition, even when the new entrants have become powerful players themselves. Thus Stephen Vogel entitled his book Freer Markets, More Rules.\footnote{Vogel, supra note 33; I have amplified Vogel’s point repeatedly in my writings - see David Lazer and Viktor Mayer-Schönberger, Telecommunications Developments in the European Union: Governing Networks: Telecommunication}
Many entrepreneurs have benefited from new regulatory frameworks. America West was able to enter the airline market and grow into one of the United States’ largest airlines after the re-regulation of the airline industry.\(^{37}\) Nextel was able to seize a sizeable portion of the mobile communication market thanks to re-regulation.\(^{38}\) New Internet access providers and network operators exist because of the re-regulation of the telecommunications sector, whereas resellers of excess energy are enabled by similar developments in the energy markets. The re-regulation of financial services in the United States made it possible for e-commerce companies to offer bundles of services not based on artificial regulatory categories but on their customers’ comprehensive financial needs.\(^{39}\) In many European nations, the former incumbent phone companies have been overtaken by new entrants, especially in the digital and mobile telephony sector.

To be sure, re-regulation does not guarantee success. Used correctly, however, the law can act as a powerful enabler of entrepreneurial activity.

b. Law as Protector

Markets, as Judge Easterbrook reminds us, require property rights to function as efficient allocation mechanisms for scarce resources.\(^{40}\) The term property rights signifies that it is not enough to have actual physical control over a particular good if there is no prohibition that others use force to obtain one’s belonging. Instead, what is needed is the acceptance by the

\(^{37}\) For a summary of America West Airlines successful business history see http://en.wikipedia.org/wiki/America_West_Airlines#History (last visited Apr. 15, 2007).

\(^{38}\) For a summary of Nextel’s successful business history see http://www.sprint.com/companyinfo/history/ (last visited Apr. 15, 2007).


\(^{40}\) Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 196 U. CHI. LEGAL F. 207 (1996); see also Peter J. Boettke & Christopher J. Coyne, *Entrepreneurship and Development: Cause or Consequence*, 6 ADVANCES IN AUSTRIAN ECON. 67 (2003) (suggesting that “well-defined property rights” are one of two most important institutions for encouraging entrepreneurship).
people that property rights can only be transferred voluntarily from one person to another, and that a societal institution – the legal system – will use force to help those who have legitimate property rights regain physical possession if necessary.

The advent of patent laws as part of industrialization in the nineteenth century extended the idea of property from physical goods to intellectual ones - to the realm of ideas. Through patents, knowledge could be turned into quasi-property, affording the originator of an idea exclusive, monopolistic rights to it for a limited period of time.\(^{41}\) The societal reason for granting patents was utilitarian: lawmakers hoped that it would provide a powerful incentive for entrepreneurs to come up with great new products and production processes. In granting exclusive rights over such ideas, lawmakers hoped to ensure that inventors would take their ideas and market them, thereby furthering overall economic growth and development.\(^{42}\) Because of this utilitarian intention, patent rights only protected applied knowledge that led directly to a novel product or production process. In contrast, basic scientific knowledge remained un-patentable, and thus available for everybody to use.\(^{43}\) Today, patent rights have been joined by copyright and related intellectual property rights that grant the creator a temporary exclusive right.\(^{44}\)

These intellectual property rights have become a major driver of entrepreneurial activity.\(^{45}\) Stock market valuations of chip designers and software companies, for example, are premised upon their patent and copyright claims, much like pharmaceutical and biotech

\(^{41}\) JAFFE & LERNER, supra note 13, at 7-8.

\(^{42}\) See Ove Granstrand, Innovation and Intellectual Property Rights in THE OXFORD HANDBOOK OF INNOVATION, supra note 12 at 278-84 (discussing the role of IPRs in innovation systems); JAFFE & LERNER, supra note 13, at 52-55 (discussing how the patent system is “supposed to work”).


\(^{44}\) See Ove Granstrand, Innovation and Intellectual Property Rights in THE OXFORD HANDBOOK OF INNOVATION, supra note 12 at 266-78 (discussing the historical developments in intellectual property rights). See also LANDES & POSNER, supra note 43 at 294-97 (discussing the relationship between patents and copyrights).

companies’ values are largely based on their holdings of drug patents. Supposedly low-tech consumer companies are built on brand, which in no small part rests on trademark law. The ability to effectively protect one’s intellectual creations through the legal system and not through one’s sheer power in the market provides entrepreneurs an important incentive to innovate, as Kenneth Arrow argued many years ago.

Some have suggested that intellectual property rights are primarily used by large corporations to keep others, especially new entrants out of lucrative markets. To be sure, there is evidence that the current patent system in the United States has made possible the filing of so-called “defensive patents” that insulate established players in the market from competitive forces. These and related developments in patent law may be in need of correction. Yet, overall the system seems to have tilted in favor of startups and entrepreneurs rather than against them. Kevin Rivette and David Kline have shown that while in 1972 entrepreneurs only accounted for five percent of all patent applications, by 1992 their share had grown to 23 percent, more than quadrupling their portion in the overall pool of new patent applications. Numerous cases attest that these entrepreneurial Davids have successfully

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47 Trademark law thus has taken on a quasi-property role, despite the fact that it originally has a consumer protection bend.

48 Kenneth Arrow, supra note 35; see also LANDES & POSNER, supra note 43.

49 See JAFFE, INNOVATION AND ITS DISCONTENTS, supra 13.

50 For example, a patent attorney for Hewlett Packard was quoted as saying “We get patents not to protect our own products, but because it gives us power to exclude in areas where others might want to participate.” Pui-Wing Tam, More Patents Please! Tech Companies Urge Staffers to Submit Innovative Ideas; Cash Awards, Plaques at H-P, WALL ST. J., Oct. 3, 2002, B1. LANDES & POSNER, supra note 43, 320-22 (reviewing recent literature on “defensive patents”).


52 KEVIN G. RIVETTE & DAVID KLINE, REMBRANDTS IN THE ATTIC (2000).
employed the law to win hundreds of millions of dollars in patent suits against powerful Goliaths like Microsoft, Apple, or General Electric. While these facts do not prove that intellectual property laws have only benefited entrepreneurs, they show the potential of these laws to assist entrepreneurs in their activities.

Much has been written lately about the weaknesses of our current intellectual property rights regime. In particular some claim that overbroad patents have stifled some entrepreneurial activity. These arguments may have some merit. I am not defending the current intellectual property regime. My argument is more limited: given the desire of entrepreneurs to achieve economic success, dangling the carrot of exclusive economic exploitation of knowledge has acted as a powerful incentive for entrepreneurs to innovate.

c. Law as Enforcer

Law fulfills a third potentially useful function for entrepreneurs: the enforcement of contractual obligations. When market participants transact with each other, they need to trust that the counterparty will fulfill its contractual duties. Such trust can be established many different ways. One way is through repeated positive personal experiences and

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interactions – for example, a company’s reputation for fair dealing is built over time.\textsuperscript{56} Parties may also decide to find a “trust substitute,” such as another person who acts as a guarantor. In our society, the legal system is the principal societal “trust substitute.”\textsuperscript{57} It permits buyers and sellers to contract without having to establish trust in mutual willingness to execute. Instead, parties rely on the threat of legal action to coerce the other side to perform, or at least pay damages caused by its nonperformance.\textsuperscript{58} Law enables us to transact with others that we do not know, that we have not met, or that live far away.

All market participants require such trust, but some are more exposed to the risk stemming from the uncertainty of whether their business partners will perform as promised or not. Large and established corporations, for example, can limit their risk through spreading it across many different transactional partners. If one fails to perform, the loss is contained. Entrepreneurs with a small number of clients and suppliers are much more dependent on their partners. Non-performance by one of them may cause serious financial losses to a fledgling startup. In addition, unlike entrepreneurs, established companies already know whom to trust, based on their past experiences. Large corporations also have economic power at their disposal to suade businesses partners into compliance. Entrepreneurs, on the other hand, do not yet have such transactional experience and economic power and thus have to rely more on the legal system to enforce contracts at relatively reasonable costs. As alternative mechanisms, like credit card companies or alternative dispute resolution (ADR), become more common and act as a trust surrogate at lower cost than the law, the legal system may lose some of its role as enforcer.\textsuperscript{59} However, while such mechanisms have made impressive gains in some sectors, overall the law still maintains its position. This is especially so as the legal system does not only enforce individual contracts through a formal procedure. It also acts as a promoter of good behavior by sending a powerful signal to all market participants.

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\begin{itemize}
\item \textsuperscript{56} Avner Ben-Ner & Louis Putterman, \textit{Trust Relationships: Trusting and Trustworthiness}, 81 B.U.L. Rev. 523, 527.
\item \textsuperscript{58} FUKUYAMA \textit{supra} note 57 at 311.
\end{itemize}
\end{footnotesize}
participants that violating a contractual promise risks costly societal enforcement. This societal signaling device reduces noncompliance, thus lowering transactional risk for compliant market participants. Furthermore, the law as a trust surrogate enforces the property rights it protects and thus validates and encourages the use of markets as a legitimate institution and commercial transactions as a legitimate mechanism to allocate scarce resources. This in turn, as economists have maintained, ensures overall efficiency in the allocation process.

In sum, the legal system can help entrepreneurs by enforcing the contracts they have with their business partners. The law reduces the risk of noncompliance, thus offsetting some of the disadvantages entrepreneurs are exposed to because their size prevents them from spreading the risk among many contractual partners. Finally, compared with alternative risk enforcement mechanisms, like economic power, the law is readily available to entrepreneurs at relatively low cost.

Part II – A Framework of Entrepreneurship and Law’s Role in It

In part I of this article I laid out three arguments of how the legal system can potentially facilitate entrepreneurship. Yet, these arguments do not tell us much about fit, about what kind of legal rules influence entrepreneurship. While almost any legal rule may at one level or another impact entrepreneurs and thus influence entrepreneurial activity, in the following I suggest a framework to conceptualize how law shapes entrepreneurial activity more directly.

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60 See generally ERIC A. POSNER, LAW AND SOCIAL NORMS (2000).
61 Ronald Coase, The Problem of Social Cost, 3 J.L. & ECON. 1 (1960); although the Coase goes further by suggesting that the initial assignment of property rights does not diminish the overall efficiency of the system as long as transactional costs are minimal.
62 My argument here is similar to the one made by my former colleague Florencio Lopez-de-Silanes and his co-authors Rafael La Porta, Andrei Shleifer, and Robert Vishny ("LLSV") on the importance of legal institutions for economic development; see Rafael La Porta et al, Legal Determinants of External Finance, 52 J. FIN. 1131 (1997); Rafael La Porta et al., Law and Finance, 106 J.POL. ECON. 1113 (1998); Rafael La Porta et al, Corporate Ownership Around the World, 54 J. FIN 471 (1999).
1. The Role of Risk

All humans make decisions based on a subjective, sometimes perfunctory analysis of the risks and rewards their decisions entail. Successful entrepreneurs are no different. Yet, they are somehow better than the average human. Their decisions result in higher gains. Understanding why is important as it may uncover how society can better facilitate entrepreneurship if it so desires, including through the legal system. Three reasons are conceivable to explain entrepreneurs' successes.

First, entrepreneurs may be less risk averse than others, reaping the benefits of their more risk-taking behavior. Their success would rest on their increased willingness to take risks. Second, one could argue that the difference lies not in the willingness to take risks but in the information available for decision-making. While entrepreneurs may not have complete information they may have more or better information than others, with the resulting informational advantage explaining their successes. Third, entrepreneurial success may rest on an evaluation advantage. Entrepreneurs may take the same risks and have access to the same information as others, but win because they are better able to evaluate risks and rewards. Let us take a look at each of those explanations in turn.

Politicians often call upon citizens to become more risk taking, implying that this would increase entrepreneurial activity. Superficially that may make sense. Yet, the situation is more complex. Not only are cultural values, such as risk taking, deeply rooted in both humans and society and therefore hard to change. The relationship (if there is one) between the willingness to take risks and entrepreneurial success is also not linear: An

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64 For example in the UK, politician Patricia Hewitt went so far as to introduce an “Enterprise Bill,” Hewitt Introduces Bill to Boost Enterprise and Prosperity for All, HERMES DATABASE, Mar. 26, 2002. Similar reforms are being pursued by Senator John Kerry in his role as Chair of the Committee on Small Business and Entrepreneurship, Senator Kerry’s Small Business Priorities, PR NEWSWIRE, Jan. 5, 2007.

65 Zoltan Acs & Laszlo Szerb, Entrepreneurship, Economic Growth and Public Policy, 2006 SMALL BUS. ECON. (suggesting that culture constrains what public policies can do to promote entrepreneurial activity); for a study on how to inject an entrepreneurial spirit in primary and secondary education, see Frederick Hess (ed), EDUCATIONAL ENTREPRENEURSHIP: REALITIES, CHALLENGES, POSSIBILITIES (2006).

66 The (very tenuous) line of argument is that risk takers are of a particular Myers-Briggs personality type (Greg Filbeck, Patricia Hatfield & Philip Horvath, Risk Aversion and Personality Type, 6 J. BEHAVIORAL FIN. 170) and
increase in the willingness of people to take risks does not automatically translate into more successful entrepreneurs. Increased risk-taking may not necessarily lead to more entrepreneurial activity, and more entrepreneurial activity may not lead to more entrepreneurial success. In fact, increased risk-taking may cause an oversupply of risk-takers, a problematic entrepreneurial “bubble”.67 Moving from analysis to prescription, lawmakers understandably desire a healthy supply of new entrepreneurs; yet, it may be equally important to have institutional filters to identify and encourage those entrepreneurs that are more likely to be successful. In sum, the role of risk-taking behavior is a potential explanation for entrepreneurial success, but the exact linkage between the two remains understudied, and thus extremely difficult for lawmakers to operationalize.

Explaining successful entrepreneurship through information advantages puts the focus on the informational dimension of risk assessment, and suggests that successful entrepreneurs maintain an information asymmetry in their favor. Classical economic theory disdains information asymmetries68 and when necessary suggests regulating the behavior of market actors to ensure informational balance. Not surprisingly, the legal system is replete with examples of such information rebalancing – from SEC filing requirements to nutritional information of foodstuff.69 All these cases share the same normative aim – to achieve

entrepreneurs tend to be a such Myers-Briggs personality type (Vesa Toutamaa, Awareness of Entrepreneurial Personalities: A Prerequisite for Entrepreneurial Education, NATIONAL COUNCIL FOR GRADUATE ENTREPRENEURSHIP WORKING PAPER 19/2007); but cf. Marco Caliendo, Frank M. Fossen & Alexander S. Kritikos, Risk Attitudes of Nascent Entrepreneurs: New Evidence from an Experimentally-Validated Survey (IZA Discussion Paper No. 2168, June 2006) (finding that contrary to conventional wisdom that more risk-averse individuals are less likely to become entrepreneurs, this is not true for entrepreneurs coming out of inactivity or unemployment, only for entrepreneurs coming out of regular employment); see also A. Rauch & M. Freese, Psychological Approaches to Entrepreneurial Success: A General Model and an Overview of Findings, in INTERNATIONAL REVIEW OF INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY (C. Cooper & I. Robertson ed., 2000), at 101 (suggesting that risk-taking is only one of many factors shaping the decision to become an entrepreneur); B. Schiller & P. Crewson, Entrepreneurial Origins: A Longitudinal Inquiry, 35 ECONOMIC INQUIRY 523 (1997) (empirically finding that risk-taking is difficult to separate from other factors).

67 See generally DAVID SKEEL, ICARUS IN THE BOARDROOM: THE FUNDAMENTAL FLAWS IN CORPORATE AMERICA AND WHERE THEY CAME FROM (2005).

68 A fundamental assumption in the microeconomic theory on markets is “perfect information.” The literature is replete with complexities that arise due to asymmetric information, most popularly the problems of “moral hazard” and “lemons.” See N. GREGORY MANKIW, PRINCIPLES OF ECONOMICS at 484-90 (4th ed. 2007).

69 Publicly traded corporations are required to provide comprehensive information about their business to shareholders and potential investors through filing requirements with the SEC. Companies offering investment opportunities are required to make public detailed information about potential risks. Food producers have to provide nutritional information to consumers. Pharmaceutical companies have to detail uses, dosage, risks and side effects of their drugs to potential users. The auto industry has to let consumers know gas usage of the cars
information symmetries. To the extent that entrepreneurial success rests on information asymmetries, classical economic theory seems to suggest eliminating the foundation entrepreneurial activity is built on. Empirical work, however, has shown that individuals who are knowledgeable in a particular sector or industry perceive risks to be lower, and thus are able to identify entrepreneurial opportunities that others do not see. They succeed because of the information advantage they have.\textsuperscript{70} While this may run contrary to traditional economic theory, a vocal minority of economists, the so-called “Austrian School”, has suggested that information asymmetries are omnipresent in market transactions.\textsuperscript{71} For these economists, the information advantage argument is perfectly congruent with their larger view of the functioning of markets.\textsuperscript{72} The task of the legal system they argue is precisely not to rebalance information asymmetries. This would only cause a lamentable reduction of entrepreneurial potential without outweighing benefits for market competition.

The third argument focuses on the process of how successful entrepreneurs weigh risks and rewards. Entrepreneurs are, the reasoning goes, not necessarily more risk-taking, or have access to better information. Instead they are better able to evaluate risks and rewards. The human ability to evaluate risk (and reward) has recently received sustained academic attention. Behavioral economists have taken a hard look at human behavior, transforming the simplistic idea of an always-rational \textit{homo economicus}.\textsuperscript{73} Psychologists have studied information evaluation and decision-making of individuals, including in high-risk / high-


\textsuperscript{72} See generally Israel M. Kirzner, \textit{Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach}, 35 J. ECON. LIT. 60 (reviewing Austrian School economics literature).

reward professions. In his popular work on the history of risk, Peter Bernstein has shown how recent our probabilities-based understanding of evaluating risks and rewards is. Taken together, this research suggests that evaluating risks and rewards is difficult for humans, and that some humans may be better at it than others. This could point towards an explanation of entrepreneurial success. Yet, even if some humans are better than others, it is unclear whether entrepreneurs are among these that are better at assessing risks. As these differences are rooted in us being human, and embedded in our minds, facilitating entrepreneurial activity by changing the way we evaluate risks and rewards may be difficult. We may not be able to alter human risk assessment, at least not through the relatively crude means of laws and regulations.

If simply increasing the amount of risk humans are willing to accept or changing the way humans process information in their minds hold out little near-term promise, policy-makers intend to assist entrepreneurs may opt for a strategy that is less dependent on human psyche to change, and more on the information entrepreneurs base their assessment on.

Evaluating risks and rewards may be a visceral process for some successful entrepreneurs, while others may engage in a very structured, detailed analysis. Both groups, however, tend to break up risks and rewards into smaller components that they assess in turn. Some of these components the entrepreneurs think they can control, other are taken out of their hands as they are shaped by societal, political and economic contexts. This points to an important differentiation. While for “internal” components entrepreneurs need to evaluate their ability to shape these in accordance with their plans and preferences, they cannot do the same for “external” components. For the latter the best they can hope for is to be able to accurately assess them.

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76 See European Commission, Eurobarometer Entrepreneurship, at 42-44 (June 2004) (differentiating between internal and external factors weighed by potential entrepreneurs).
This is a (small) blessing and a (huge) curse. It is a blessing because it does not require entrepreneurs to factor in change that they themselves cannot affect, and thus may make evaluating these components easier. It is a curse as entrepreneurs have little or no control over these elements of their overall assessment of risks and rewards. At best they can accurately assess these components. Not surprisingly, therefore, entrepreneurs want to understand the likely trajectory of these “external” components to evaluate them with sufficient precision. What they crave is informational accuracy. Incidentally, this is where the law can come to help.

2. The Role of Law

For entrepreneurs, “external” risks point to risks they can assess, but not control. Each of these risks consists of the cost or benefit and the probability that it will be incurred. For example, applying for a subsidy is a potential reward, but receiving it may not be certain – an entrepreneur has to factor this uncertainty into her overall assessment.

This makes it possible for the law to play a dual role in facilitating entrepreneurship. First, policies translated into laws can lower the costs for entrepreneurs. Labor laws can be structured so that hiring and firing employees is easy and relatively cheap, permitting entrepreneurial enterprises that grow unevenly to adjust their human resources swiftly and at low transactional cost.\textsuperscript{77} Corporate and tax laws can be designed to make it easier for startups to obtain outside funding, through venture capitalists for example, and to provide their employees with stock options as a means of attracting and retaining important talent.\textsuperscript{78} Intellectual property laws can be made to lower the barriers for being granted a patent, from lowering filing fees to reducing the paperwork required to file a patent application.\textsuperscript{79} All

\textsuperscript{77} \textit{Supra} note 10.


these measures are achievable through adjustments of the legal system; they reduce the overall cost for an entrepreneur and thus, assuming fixed benefits, tilt the risk/reward equation in the entrepreneur’s favor.

It is important to realize that such costs do not vanish. Reducing them for entrepreneurs results in these costs to be borne by other groups in our society. For example, changing labor laws to eliminate severance payments or giving notice when terminating employment contracts reduces costs for entrepreneurs and thus facilitate entrepreneurship, but employees (or in states with generous unemployment benefits the taxpayers) will bear the cost.  

Similarly, modifying bankruptcy statutes to lower the stigma of failure may help entrepreneurs who have failed to try again, but investors and creditors shoulder the costs of such redistribution. Lowering costs for entrepreneurs in this way may be in society’s interest, especially when entrepreneurial activity is perceived to be too low, but it is important for lawmakers to realize that such actions are not costless.

Law functions as the mechanism through which external costs and thus the overall risk for entrepreneurs are lowered. While not often described in these terms, this role of the legal system is relatively well understood and legislatures have already deliberately or intuitively employed the law in this way. The legal system may, however, play a second important role, and this one is less frequently discussed. As I have suggested, entrepreneurs weigh risks and rewards and differentiate between those risks that they can influence (which they will attempt to do) and those external ones that they cannot shape. Like any risk, external risks, too, consist of two elements, the cost (or reward) and the probability that it will be incurred. For example, if an entrepreneur decides to bring a new product to market that may infringe upon another company’s intellectual property right the cost of infringement is relatively straightforward to calculate. Depending on the legal system the entrepreneur may be forced to pay damages (actual, punitive or statutory), fines, and court costs should a court conclude in the other party’s favor. Yet, it is uncertain how the court will decide. Each possible

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80 This is the basis of the Danish flexwork system. See Danish Technological Institute, FlexWork Blueprint No. 008, available at http://www.flexwork.eu.com/members/blueprints/BP08v01.pdf (describing a model of the flexwork system).

81 For an empirical analysis of the role of bankruptcy law on entrepreneurial activity, see John Armour & Douglas Cumming, The Legislative Road to Silicon Valley, OXFORD ECONOMIC PAPERS Vol., 58, 596 (2006).
outcome is associated with a certain probability. Calculating the sum of the probability of each possible outcome multiplied by its potential cost yields what economists call the expected value (or utility if one takes into account the subjective dimension of decision-making). Law bears on this probability. It can make outcomes more or less likely to happen. If, for example, intellectual property law would require relatively little evidence for an infringement case to succeed, the probability that an infringement will lead to actual cost for the infringer will increase. This rather direct linkage between probability of external events and entrepreneurial risk may suggest that to facilitate entrepreneurship the law ought to aim at lowering probability (and thus overall risk) for external costs entrepreneurs typically face.

Yet, this strategy suffers from two weaknesses. First, it necessitates that lawmakers can identify what the relevant factors are, without causing inefficiencies through under- or over-inclusiveness. For example, making it harder for intellectual property rights holders to sue rights infringers may encourage undesired free-riding. Second, it rests on the capacity and willingness of legislators to treat entrepreneurs more favorably than others. In some circumstances this may trigger equal protection concerns. More importantly, such a stance of preferential treatment may be politically difficult to defend.

There is another and more promising way through which the legal system can aid entrepreneurs. It rests on the understanding that entrepreneurs try to shape and assess internal and assess external factors when estimating overall risks and rewards. Given the many uncertainties associated with the multitude of factors, entrepreneurs may - given unchanged expected value - prefer less uncertainty on external factors. For example, rather than having a fifty percent chance to receive a subsidy, entrepreneurs may prefer a hundred

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82 For the narrative of expected value theory see Mark J. Machina, *Choice Under Uncertainty: Problems Solved and Unsolved*, 1 J. Econ. Persp. 121 (1987); it is important to point here that not all expected values are equally enticing to all actors – richer actors may find less subjective value in gaining an extra dollar than less affluent ones; this has led to an adjustment from expected value to expected utility. For the sake of simplicity I do not introduce the difference in this paper; suffice to say that subjective utility rather than objective value is what influences entrepreneurial decision-making; See generally John von Neumann & Oskar Morgenstern, *Theory of Games and Economic Behavior* (1953).

83 This is similar to what James Gibson has recently describe din the context of IP laws (James Gibson, *Risk Aversion and Rights Accretion in Intellectual Property Law*, 116 Yale L. J. 882 (2007)).

84 To be sure, as the EPC literature explains in much detail, such a superficial view is, well superficial.
percent chance – and thus certainty – to receive half of the subsidy. The expected value in both instances is the same, but the latter offers entrepreneurs certainty. Such a view would suggest that the role of the legal system in facilitating entrepreneurial activity is to reduce uncertainties that entrepreneurs perceive.85 This can be done many different ways. Clarifying the tax code reduces the uncertainty for businesses in paying taxes, and so may changes in civil procedure and the court system to ensure that more trials lead to expected outcomes. Similarly, setting clear rules for granting intellectual property rights lowers uncertainty. These measures link the legal system in its role as facilitating entrepreneurial activity to its role in delivering transparency, predictability and certainty.86 In fact, one could argue that one of the reasons for the entrepreneurial success in the United States is the relative transparency and predictability of its legal system – often summarized under the rubric of a functioning “rule of law” compared to other societies.87 In sum, strengthening the rule of law - clarifying legal rules to be more predictable and by reducing uncertainty of legal processes – fosters and sustains entrepreneurial activity.

In one sense, however, reducing uncertainty to stimulate entrepreneurial activity seems counter-intuitive. Aren’t entrepreneurs risk-takers that thrive on uncertainty rather than shying away from it? Of course; but if humans are weak at evaluating risks and dealing with uncertainty, increasing certainty may have a positive effect. It may prompt some entrepreneurs to act and other individuals to join the ranks of entrepreneurs, thus increasing the entrepreneurial pool. As expected values remain constant, there would be no direct

85 It is important to note in this context that what counts are perceptions, not objective values, as humans make decisions based on their perceptions, not based on access to an objective truth.

86 See Rafael La Porta et al, supra note 62; see also Katharina Pistor, Law as a Determinant for Equity Market Development: The Experience of Transition Economies, in Peter Murrell, Assessing the Value of Law in Transition Economies (2001) 249; Josh Lerner & Antoinette Schoar, Does Legal Enforcement Affect Financial Transactions? 120 Q.J.Econ. 223 (2005) (finding that investment performance in private equity investment was better in common law countries, arguably because of a superior legal framework for such investments)

87 This is certainly the view of the legal institutions literature; see Edward Glaeser, Rafael La Porta, Florencio Lopez-de-Silanes and Andrew Shleifer, Do Institutions Cause Growth? 9 JOURNAL OF ECONOMIC GROWTH 271 (2004); La Porta et al, supra note 53; for an extensive treatment of the subject see KENNETH W. DAM, THE LAW-GROWTH NEXUS – THE RULE OF LAW AND ECONOMIC DEVELOPMENT (2006); for the developing world see Dani Rodrik, Arvind Subramanian & Francesco Trebbi, Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development, 9 J. ECON. GROWTH 65 (2004); see also Boettke & Coyne, supra note 40; Lerner & Schoar, supra note 86; for a research agenda on the role of courts and the rule of law for entrepreneurship, see Smith & Ueda, supra note 8, at 241-246.
societal cost associated with such a reduction of uncertainty.\textsuperscript{88} Lowering uncertainty then is the second role the legal system can play in facilitating entrepreneurial activity.

The understanding that lowering uncertainty will lead directly to more entrepreneurial activity is well aligned with what economists have termed expected utility theory, which suggests that risk-averse human beings are willing to pay for certainty. For example, individuals may prefer the certainty of receiving a third of a subsidy to a fifty percent chance of all of it. The difference between a third and a half is the price paid for certainty. Assuming this is true, lawmakers could take the certainty strategy one step further and lower payouts to entrepreneurs in return for increased predictability.\textsuperscript{89}

Yet, it turns out expected utility theory has shortcomings. In particular, experimental economists have found that how much risk an individual is willing to accept is not constant. Experiments have shown that humans tend to change their assessment of risk as potential payoffs increase.\textsuperscript{90} The more money at stake, the less risk-taking people tend to be. This suggests that lawmakers may want to prioritize increasing predictability to high payoff cases, i.e. situations where high benefits or costs are at stake for entrepreneurs.

Behavioral economics has added yet another important wrinkle to the story, showing that an individual’s decision what risks to accept for what rewards depends substantially on whether the individual hopes to gain or fears to lose. Humans are more risk-averse when they consider potential gains, and more risk-taking when they evaluate potential losses or cost.\textsuperscript{91} This would suggest that lawmakers should focus on making legal rules more certain for financial benefits offered to entrepreneurs, like subsidies, rather than costs, like taxes, as

\textsuperscript{88} To be sure, reducing uncertainty is not costless. Better laws may require better preparation; better legal processes may require better training of judges, more personal etc.

\textsuperscript{89} Whether and how much can be saved depends on the risk threshold of the group in question, and is likely a complex calculation.

\textsuperscript{90} Hans Binswanger, \textit{Attitudes Towards Risk: Theoretical Implications of an Experiment in Rural India,} 91 \textsc{The Economic Journal} 364 (1981); Steven Kachelmeier & Mohamed Shehata, \textit{Examining Risk Preferences Under High Monetary Incentives: Experimental Evidence from the People’s Republic of China,} 82 \textsc{American Economic Review} 5 (1982); see also Charles Holt & Susan Laury, \textit{Risk Aversion and Incentive Effects,} 92 \textsc{American Economic Review} 5 (2002).

entrepreneurs value certainty more on the upside. Yet, experiments have revealed humans tend to understand potential gains or losses by how they are being presented (“framed”). Kahneman and Tversky have shown that when the same prospect is framed in terms of a potential gain, humans prefer certainty, if it is termed as a potential loss, humans are more accepting of chance. This has consequences for how the law ought to be used to facilitate entrepreneurial activity. On the most superficial level, it may suggests that wherever uncertainty can be decreased through reform of the legal system, it ought to be described in terms of gains rather than losses. A bit more sophisticatedly one may suggest that given the same level of predictability, lawmakers should offer a potential gain rather than threaten a potential loss, for example, offer a subsidy rather than a tax break.

To summarize, the theory of risk offers a framework for understanding the role of law in encouraging (or discouraging) entrepreneurial activity. Through changes in the legal system, direct costs for entrepreneurs can be lowered. Law can also lower uncertainty, thus prompting more people to engage in entrepreneurial activity. Behavioral economics has shown that lowering uncertainty does not offer constant gains across the board. In particular, the framing of a prospect – whether as a potential gain or loss – influences how humans evaluate the associated risk. Lawmakers can use the lens of risk to understand the role of law in facilitating entrepreneurial activity and design more effective legislation. The strength of the approach lies in it being both comprehensive - covering all aspects of entrepreneurial activity - and operationalizable. It thus is more useful than the more particularistic views of the role of law that were mapped out in part I. Unfortunately, the conceptual lens is not without its own shortcomings.

Part III – Overcoming Conceptual Weaknesses Through Radical Innovation – For Schumpeterian Law

The traditional model I have presented in part II provides a rather stylized and sequential understanding of how innovation works. Technology is ascribed to be the disruptive agent

92 See Daniel Kahneman & Amos Tversky, Prospect Theory: An Analysis of Decision under Risk, 47 ECONOMETRICA 263 (1979); Daniel Kahneman and Amos Tversky, Choices, Values and Frames, 39 AM. PSYCHOLOGIST 341 (1984); OBERLECHNER, supra note 91, at 71-88 (discussing high risk decision-making in foreign exchange).
of change. Entrepreneurs identify and refine technologies in order to seize entrepreneurial opportunities. This is the moment of “entrepreneurial disruption”. It is achieved by a special individual, the entrepreneur, and driven by technological change. In this model, entrepreneurs change the world through technology. They are the driving force and the lead actors in entrepreneurship. The law plays only a minor, supporting, role.

This view sees technology as the mechanism of change in the hands of a special group of human beings. It is a variant of technological determinism: the seeds of change are already embedded in the technology. The entrepreneurs take these seeds and grow them. Such a conceptualization of the interface between technology and society has been criticized as too linear. It fails to take into account the many other elements of society’s in shaping technology. The reality is a much more iterative process, in which many actors, institutions, and processes shape the trajectory of the entrepreneurial product.

These new theories, often termed “constructivist,” posit a much more complex, heterogeneous interplay of the various agents and mechanisms involved in innovation, and lay out their argument using rich, detailed case studies. For example, Thomas Hughes has argued that a technical innovation takes place within a technological system, and may gain a “technological momentum” that pushes the innovation in a certain direction irrespective of the will of the innovative entrepreneur who initially conceived of it. Others have advanced what has been termed the actor-network approach, suggesting that the interplay resembles

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“heterogeneous networks of human and nonhuman actors.” Finally, Wiebe Bijker and Trevor Pinch have advanced a theory of the social construction of technology (SCOT), in which the innovative process is described “as an alternation of variation and selection” that is “multi-directional”, rather than linear. In particular, they show that users of products play a fundamental role in the innovative process, as do other contextual factors.

While each constructivist theory of technological change has a unique take on innovation, they share a common thread: They offer both theoretical reasons and empirical facts to undermine the conventional linear model of innovation. If these critiques have merit, then the conceptual lens of risk and entrepreneurship may suffer from a fundamental weakness - an ill-understood underlying conception of how innovation, particularly in the context of entrepreneurship, actually works. This in turn has significant consequences for the role of law in facilitating entrepreneurial activity.

The conceptual lens described in part II has portrayed law as having two fundamental, reactive roles associated with lowering risks for entrepreneurs: directly lowering the cost for entrepreneurial activity (or increase the gains to be had), and increasing predictability. Either way, law is facilitating, but not directly creating, entrepreneurial activity. If, however, constructivist theorists are correct that this conceptual lens is inaccurate in that it is incomplete, then demographic groups other than the entrepreneur may play important roles in the innovation process. Assisting these groups may also lead to more entrepreneurial success. Consequently, lawmakers may want to investigate such unorthodox ways of stimulating the innovative process.

100 Pinch & Bijker, supra note 93, at 28.
It may also be inaccurate, if we follow constructivist theories, to see in technology the central mechanism that drives the entrepreneurial process. In fact, the legal system may be another such mechanism. I have already said as much when describing law as an enabler in part I. I explained how law could function to facilitate entrepreneurial activity. Now, based on the constructivist conceptualization of the innovation process within a socio-technical context I am suggesting that the law’s role as an enabler of entrepreneurial activity is to function as a much more central mechanism that is embedded in our understanding of the entrepreneurial process itself. Conceived this way, law can actively shape the trajectory of entrepreneurial endeavors by altering how technology is being shaped through societal constraints. In setting these constraints, law’s role is not only central, but also active. Given such import, how should lawmakers use the legal system to assist innovative entrepreneurship? No simple set of rules will ever be able to fully guide an activity as complex as lawmaking. Still, we may suggest a few rules-of-thumb:

(1) If innovation is happening in a heterogeneous network of many elements, there is no inherent benefit to legal inaction.
(2) If entrepreneurial activity is multi-directional rather than linear, with multiple paths and a complex interplay of enabling mechanisms, then experimenting with these mechanisms is not an inherently inferior strategy. This suggests that through flexibility and repeated adaptation of the regulatory framework, a suitable dynamic with other mechanisms may be achieved for entrepreneurial success.
(3) Conceived this way, there is no inherent disadvantage for using the legal system preemptively to try to facilitate the right mix for entrepreneurial success. Regulation is risky, but so is inaction.

Such a conception of law contradicts the conventional wisdom of how the legal system ought to function. Most legal scholars believe that the law should be reactive, slow, and predictable, in order to decrease uncertainty. By contrast, I suggest that the law should be used proactively as a mechanism of entrepreneurial facilitation. Legislators intent to stimulate entrepreneurship should seize potential opportunities to create regulatory tensions that entrepreneurs can exploit to upset existing markets with radical new offerings. They need not fear to be locked-in either. Law can and should be used repeatedly and in an
iterative and adaptive way if necessary. In short, policymakers desiring to facilitate entrepreneurial activity should use the law in an entrepreneurial fashion, acting swiftly, risking errors, and adapting fast to changing circumstances.

Such behavior may upset incumbent players in the market. They will likely lament the additional uncertainty created. But by creating regulatory friction — by bringing change to the market — these new laws may create entrepreneurial opportunities. Whether and to what extent society ought to help entrepreneurs relative to existing businesses is a political decision, not a legal one, and not one that I address here. What is important, however, to understand is that the legal system offers an effective mechanism of promoting market change that is more powerful, and can be used more frequently, than is generally thought.

Schumpeterian law — using the law in a proactive, opportunistic, flexible, and risk-taking fashion — may sound alien to our conventional wisdom, but surprisingly perhaps it is not novel to lawmakers. The European telecommunications regulation reform of its mobile telephony market is one example of such Schumpeterian lawmaking. In the late 1980s, the European Commission decided to push for an early regulatory framework for third generation digital wireless telephony.102 What emerged was a regulatory framework that set a common technical standard (and frequency) and mandated that providers permit subscribers to use each other’s networks (what we today call “roaming”).103 The European lawmaker acted early, before all technical details were settled. Its decision to pick a winner and impose roaming was risky, and criticized by many observers at the time.104 Moreover, the mobile telephony rules were repeatedly adjusted over the next decade, increasing uncertainty.105 By contrast, in the United States, regulators did not impose a common technical standard or

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105 Id.
frequency for digital mobile telephony.\textsuperscript{106} Technical innovation and market forces were deemed the preferred mechanisms for entrepreneurial success.

In Europe, Schumpeterian law facilitated a thriving mobile phone market with innumerable entrepreneurial opportunities and assisted in making the European GSM standard the global leader.\textsuperscript{107} In contrast, in the US, technical innovation and the forces of competition did not prove sufficient for a similar entrepreneurial success, and a decade and a half after the first GSM network began operating in Europe the US remains locked in an inferior position.\textsuperscript{108}

The case of GSM offers a vivid example of Schumpeterian law. It does not, however, establish that Schumpeterian law was the main cause of Europe’s GSM success. As we are moving from linear to multi-directional theories of innovation and innovative entrepreneurship, in part stimulated by constructivist theories, we must forego the temptation to single out factors and attribute central causality to them. If the non-linear theories tell us anything, they tell us that success has many “fathers”. Law, like technology is just one mechanism, one tool that may facilitate success. This may also point towards an agenda for future research of the role of law: through comprehensive case studies to understand whether, how and why Schumpeterian law was able to facilitate entrepreneurship, so that we may gain a better understanding of the underlying dynamics among the various factors and mechanisms of innovation. This in turn may help lawmakers make better use of the tool of Schumpeterian law in the future.

The case also does not prove that Schumpeterian law is always worth the risks involved. As with any entrepreneurial endeavor, for every success there are numerous failures. While the EU has had fifteen years of fantastic success in the mobile phone sector, the same


\textsuperscript{107} See David Lazer and Viktor Mayer-Schönberger supra 36 at 832-33.

\textsuperscript{108} \textit{Id.} See also “The tortoise and the hare”, \textit{THE ECONOMIST}, March 14, 2002.
mechanism of Schumpeterian law failed to facilitate a similar success in digital television. Using the law in this entrepreneurial fashion can sometimes result in vast financial and other resources spent on failed endeavors.

The very recent rise of WiFi may soon offer another success story to tell. Here, very early the FCC designated some radio spectrum as available for use without need for a license. This unlicensed spectrum, once technology was available to make use of it, created vast entrepreneurial opportunities for equipment and service providers alike to provide millions of users with wireless network connectivity at high speeds. It influenced the creation of similar unlicensed spectrums throughout the world, and shaped the landscape of Internet access.

Policymakers may well decide that Schumpeterian law is not for them. Not every legislature, just like not every human being, has the nerves, the conviction, the drive and perhaps the foolishness to be entrepreneurial. Entrepreneurship comes with great risks, but it offers huge rewards for those that succeed. Whether lawmakers want to be entrepreneurial or not is up to them. What I hoped to show in this article is that, in the hands of clever and bold legislators and regulators, law can turn into a powerful tool in stimulating entrepreneurial activity.

Conclusions

The relationship between law and Schumpeterian entrepreneurship is frequently described in antagonistic terms. In part I of this article I gave three reasons why this is a fallacy. Law I suggested can act as enabler, leveler and enforcer, facilitating not hindering entrepreneurial activity. To understand that law can be useful does not, however, help lawmakers in

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comprehending how to use law to stimulate entrepreneurial activity. In part II therefore I offered a comprehensive framework of the relationship between entrepreneurship and law. I suggested an understanding of entrepreneurs as reflective risk-takers, based on recent research in behavioral economics and the psychology of decision-making, which in turn makes possible to conceptualize the role of law.

However, as I argued in part III, such a framework is not without severe shortcomings, the starkest of which is its reliance on a linear concept of innovative entrepreneurship, in which an entrepreneur uses technology as the single agent of change. Recent social theories of technology have shown that innovation is not linear, but multi-directional, involving more actors and a multitude of mechanisms. This in turn points towards a significantly more prominent role of law in stimulating entrepreneurial activity. Contrary to traditional views of the law as static and reactive, I suggest that law can be used more timely and pro-actively. As cases demonstrate, such Schumpeterian law holds significant promise, but as all entrepreneurial activity is not without risks. What is important, though, is to realize that law’s potential role in stimulating entrepreneurship is much larger than we have thought.