



In Defense of Knightian Entrepreneurship Theory

David Emanuel Andersson¹

RMIT University Vietnam

Abstract. Knightian entrepreneurship theory focuses on entrepreneurial judgment in the face of uncertainty, rather than on an entrepreneurial function that is kept separate from the function of owning capital. This paper argues that Frank Knight's theory is an especially suitable theoretical foundation for applied work on entrepreneurship, since capital-owning entrepreneurs correspond to real-world empirical observations. However, the original theory—as formulated by Knight in 1921—does not provide a clear link between entrepreneurial actions and their systemic effects on market processes. Combining Knightian theory with certain institutional theories addresses this shortcoming. Market processes will exhibit stronger equilibrating tendencies if entrepreneurs operate in (potentially) atomistic markets with stable, transparent, and non-discriminatory institutions than if they operate in institutional contexts that are associated with high market entry costs and/or unstable rules. In the latter case, entrepreneurs face a looser *system constraint*; looser constraints imply less reliable pattern predictions of market outcomes.

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1. Introduction

The most popular economic theories of entrepreneurship are no doubt the theories that are associated with Joseph Schumpeter (1934) and Israel Kirzner (1973). Both theories derive much of their popularity from an explicit linkage to two versions of equilibrium theory. Schumpeter's link is with Walrasian equilibrium theory (i.e. “the circular flow”), whereas Kirzner situates his theory in relation to a much more demanding perfect-knowledge equilibrium, as formulated by Kenneth Arrow, Gerard Debreu, and others in the 1950s. Frank Knight's (1921) treatment is a different type of entrepreneurship theory which lacks an explicit linkage to equilibrium theory, and may have for this reason been less attractive to many economists. In this article, I argue that Knight's more open-ended theory is not only realistic, as some entrepreneurship scholars have argued, but also provides a sound theoretical basis for more applied work for two additional

1. David Emanuel Andersson, Department of Economics and Finance, School of Business and Management, RMIT University Vietnam. Ph: +84-2437261460 (ext. 6025). Email: david.andersson@rmit.edu.vn

reasons. First, it provides a suitable foundation for empirical research, since Knightian entrepreneurship corresponds to objectively ascertainable observations. Second, an explicit linkage with the idea that economic agents face different “system constraints”—which are in turn influenced by institutions and market structure—makes it possible to link Knight’s theory with equilibrating and disequilibrating tendencies. If the system constraint is “tight,” an initially disequilibrating change will gradually revert to a new equilibrium, as in Schumpeter’s theory. However, if the system constraint is “loose,” there will be no tendency toward eventual equilibration, and the eventual outcome becomes impossible to predict, and we get systemic patterns that may be as indeterminate as in the Lachmannian version of “radical subjectivism” (Lachmann, 1956/1978). System constraints are “tight” if barriers to entry are low and institutions are stable and perceived as such.

The conclusion is that Knightian entrepreneurship theory offers certain advantages as compared with Schumpeter’s and Kirzner’s theories, since a conception of entrepreneurs as uncertainty-bearing owners (and residual claimants) makes it possible to integrate entrepreneurship into a more comprehensive institutional theory. These advantages only become evident, however, if Knight’s (incomplete) theory is complemented with insights from institutional economics.

The main advantages of Schumpeter (1934) and Kirzner (1973) are their more comprehensive treatments of market dynamics than Knight’s theory. They achieve this by sacrificing timelessness in favor of historical specificity. There is therefore no real need for theoretical complements that specify spatiotemporal contexts and their effects on coordination or value creation. Kirzner (1973) shares certain assumptions with standard neoclassical models of competitive markets, such as well-defined property rights and the implicit assumption that market actors can interpret price signals and calculate money revenues and costs. It is thus a theory of a well-behaved capitalist economy rather than a general ahistorical theory of entrepreneurship. Schumpeter’s theory (1934) is even more historically specific. An explicit assumption is that entrepreneurship is confined to a small minority in the population, and that the informal institutions of society inhibit unconventional ventures in the economic sphere. Hence Schumpeter’s theory is arguably a theory of entrepreneurship in early industrial society, rather than a theory of, say, innovation in contemporary high-tech localities such as Silicon Valley. Schumpeter’s theory is an attempt to grapple with the reality of economic processes in the manufacturing-based industrial economies of the early 20th century, while Kirzner’s theory can be used as a complement to neoclassical models for economists who would like to include a role for entrepreneurs and who are—like Hayek (1937)—skeptical of the assumption of sufficient knowledge of market conditions as in textbook models of various market structures. Both Schumpeter (1934) and Kirzner (1973) are therefore easier to adopt without modifications than is Knight (1921). My main contention in this paper is that

Knight (1921), *in combination with relevant complementary theories*, is fruitful for entrepreneurship research. I do not claim that Knight's theory is a better or more self-contained theory than Schumpeter or Kirzner on its own. It is not.

In the next section, I review some especially relevant features of Knight's theory. Section 3 argues that Knight's theory is a suitable theoretical foundation for empirical research. This is followed, in the fourth section, by a discussion that explicates the need for an institutional complement to make the Knightian theory relevant for analyzing real-world market processes, with special emphasis on the role of institutionally derived system constraints that shape entrepreneurial opportunities. The final section provides a summary of the main conclusions and implications.

2. Frank Knight's Path-breaking Contribution

In "Risk, Uncertainty, and Profit," Knight (1921) offers a theory of microeconomic processes that for the first time makes explicit the fundamental difference between risk and true uncertainty. What is usually labeled "uncertainty" in later mainstream contributions is in fact no more and no less than simple risk as Knight defines it. Risk denotes a situation with more than one possible future outcome, but it is at the same time a well-structured state where the set of possible outcomes is known in advance and where each outcome is associated with an objective probability. It is then a straightforward matter of performing a simple calculation to act in a way that maximizes the *expected* utility or profit. Later "rational expectation" theories use two assumptions that relate to Knightian risk: the first assumption is that there are objective probabilities associated with all possible economic outcomes, and the second assumption is that economic actors know these probabilities and incorporate them in their decision rules in a way that makes them maximize their *expected* utilities or profits. This is what it means to be "rational" according to these theories.

The Knightian view is different. Situations of risk refer to situations where a structure has been put in place by people or is an emergent property of natural processes. Casino gambling is an obvious example that involves risk on the part of both the casino's owners and its customers, but so is a plane crash due to mechanical failure. Note that in both these cases there are known and well-defined outcome sets. Many processes that may be labelled as biological, medical, or technological have well-structured risks and outcomes; the main reason for this is that such processes play themselves out without (endogenous) human creativity. The same is true of the risk of natural disasters and below-average rainfall and their effects on the quantities and prices of various agricultural goods. A stable equilibrium, especially in its original formulation as a circular flow—an economic process that is repeated every year—is a repetitive

process which easily incorporates notions of risk but which is subverted by Knightian uncertainty.

Uncertainty in its Knightian sense is a set of possible future outcomes that is open-ended, in the sense that there is no way to know how many possible outcomes should be listed as feasible (cf. Loasby, 1999). It is thus unstructured. And since it is unstructured there is no reliable way of attaching a probability to an outcome, even if it is one that is clearly possible or one that seems “likely.” In a well-structured situation with a known set of outcomes, it is not necessary to have access to objective probabilities for maximization to occur. An individual who is ignorant of the actual probabilities may simply choose to assign the same probability to each event, or even to invent her own *subjective* probabilities. The situation is totally different for an individual who faces a choice involving structurally uncertain outcomes. According to Knight, such a person exercises *judgment* rather than a maximizing strategy. Judgment is also different from later psychologically grounded alternatives to maximizing, such as Herbert Simon’s (1956) notion of satisficing.

While it may be reasonable to assume maximization of expected utility as the decision rule of rational people in well-structured situations, it is unreasonable to assume the same of rational people facing a genuinely uncertain outcome as the result of whatever it is that they decide. According to Knight, a decision-maker who judges rather than maximizes is an *entrepreneur*. Hence the role of the entrepreneur in the economic system is to “shoulder uncertainty.”

While Knight’s seminal treatment of risk, uncertainty, and entrepreneurship has been almost completely ignored by later economists, it is beginning to have an impact in the early 21st century, particularly within the interdisciplinary field of entrepreneurship and in some non-mainstream schools of economic thought. Langlois and Cosgel (1993), Foss et al. (2007), Langlois (2007), Andersson (2008) and Foss and Klein (2012) all put the notion of entrepreneurial judgment at the center of their analyses of entrepreneurship, and integrate Knightian uncertainty into modern institutional economic theory to account for microeconomic change.

Yoram Barzel (1989) offers a theory of economic property rights that is particularly conducive to an integration of Knightian uncertainty and entrepreneurship into a broader framework (Foss et al., 2007; Andersson, 2008). Owners of human and physical capital (including “land”) may rent out their resources, and in exchange they receive a contractually specified payment. It is easy to think of such people as (at least implicitly) maximizing or satisficing some sort of expected income or utility, and therefore it is no great surprise that standard theory limits itself to such factors. But capital owners may also decide *not to rent out their capital*. If they decide to keep control of the use of their capital, owners thus *do not* receive any pre-specified return; they reserve the right to exercise their property rights in the form of *entrepreneurial judgment*. They then become

residual claimants, so that any deviation from the sum of all contractual compensation is accounted for as “profit” or “loss” (Andersson, 2008).

The owner of a resource under her own direction—that is, one that has not been rented out—must subtract an opportunity cost that corresponds to the market rent (or wage) from accounting profits or losses to arrive at an estimate of the true entrepreneurial profit or loss. This is obvious. But what is less obvious, and where property rights theory makes a real contribution to our understanding of Knightian entrepreneurship, is that entrepreneurship is really about the *creation of capital* if capital is understood in its broad Knightian sense (Andersson and Andersson, 2017).

An illustrative example will help to clarify this notion of entrepreneurship. Assume a skilled individual. Let us call him Adam. Adam possesses economic property rights over the use of his skills, which means that he is the person who has ultimate control over the deployment of these skills to productive or consumptive activities. These skills constitute Adam’s human capital. His human capital may be conceived of as an open-ended bundle of valuable attributes. For example, one attribute is his ability to teach undergraduate microeconomics, while another attribute is his ability to give an inspirational speech on the importance of creativity to real and aspiring executives.

Several colleges recognize Adam’s skills as an economics lecturer, and the highest-bidding college offers him a salary of \$50,000. This is then Adam’s market “wage” and his opportunity cost, since this is his best-paying skill as a contractually compensated wage earner. But Adam thinks that he can earn more by repeatedly offering his spiel to audiences of real and aspiring executives, renting auditoriums and selling tickets to events that he advertises on his personal website as “the event that will unlock your creative potential and make you rich.” This is an attribute of his human capital that (we may assume) employers offering long-term relational contracts have no willingness to pay for, and thus he becomes an entrepreneur, who in effect *judges* that others—colleges, profit-seeking firms, government bureaucracies—underestimate his true value. By exercising entrepreneurial judgment, Adam in effect *creates* a new human capital attribute that he thereby *innovates*. (In other words, the human capital attribute of a specific inspirational speech enters the market for the first time.)

Note that it is impossible for Adam to *a priori* objectively estimate his potential profit, since this is an entirely new type of speech, and he might become a celebrity (good for Adam), *or* some other person might successfully capture this market by offering what consumers perceive as a superior imperfect substitute, *or* he might attract imitators who drive down the market price by giving lower-priced speeches, *or* something entirely unforeseen might happen such as a (speech-induced) opportunity to run in an election (with potential utility gains from the exercise of political power). Indeed, even the range of possible earnings may be unknowable, since markets such as these often give rise to “winners-take-all” phenomena (Andersson and Andersson, 2006).

Such an open-ended list of potential outcomes, all of which result from one initial entrepreneurial decision, does not exist in general equilibrium. In equilibrium, every factor earns the same marginal return, and there is no room for entrepreneurial profits or losses. Therefore, equilibrium models are not useful tools for understanding the role of entrepreneurship in the economy. An entrepreneurial action can only be a movement away from or toward some equilibrium, depending on how “absolute” the equilibrium is. There is in this sense no real difference between different entrepreneurship theories, whether Knightian, Kirznerian, or Schumpeterian. They all by necessity refer to dynamic phenomena that happen when the economy is not yet—or no longer—in equilibrium.

Despite this system-level agreement, I believe that there are good reasons for employing the Knightian approach when analyzing real-world entrepreneurship. While earlier arguments for the Knightian theory have stressed its greater realism as compared with other influential theories (see Foss and Klein, 2012), two additional arguments are that it is its potential as the theoretical foundation for empirical research and the potential of combining Knight’s theory with other theories that offer more realistic treatments of equilibria and disequilibria that make it especially attractive as a theoretical basis for applied research. In the next section, we shall assess its relative strengths as a basis for empirical research, while in the following section we shall complement the Knightian theory with the notions of “system constraints” and institutions, which in turn makes it possible to link Knightian entrepreneurship to equilibrium and disequilibrium.

3. The Empirical Realism of Knight’s Theory

Schumpeter (1934) and Kirzner (1973) are the two most influential theories of entrepreneurship in economics. Arguably, they owe their popularity to the clarity of their expositions, which present them as *complements* to general equilibrium models. Schumpeter’s complement is a Walrasian “circular flow,” while Kirzner’s is Debreu’s timeless general equilibrium. A property of both theories is a clear separation of the entrepreneurial and capitalist functions. Hence these theories are not about entrepreneurs in the sense of the normal use of the word; it is about a specific type of human action that does not require any resources at all. It is a superior insight about how to combine pre-existing “labor” and “land” in a new way (Schumpeter, 1934), or a superior alertness to a pre-existing profit opportunity (Kirzner, 1973). These are “thin” theories about economic life at its highest level of abstraction, but the elegance of these two theories comes at the expense of three limitations. First, there is a separation between entrepreneurship and uncertainty. Second, both theories obscure the role of capital. Third, the two theories treat entrepreneurship as a phenomenon that is rather different (and more

abstract) than what most empirical entrepreneurship researchers would consider as instances of entrepreneurship.

Schumpeter's and Kirzner's abstract conception of the entrepreneur makes it possible for them to claim that entrepreneurs do not shoulder uncertainty (or risk). How is this possible? Using our example of Adam—the economics lecturer and inspirational speaker—should make their reasoning clear. In the Schumpeterian framework, Adam in his role as entrepreneur combines labor and land (and capital as given mixtures of labor and land) in a new way. Adam's new combination is his labor (now as motivational speaker rather than as a lecturer), land (space for auditoriums), and mixed labor and land known as capital goods (buildings, laptop computers, and so on). This new use gives rise to entrepreneurial profits if Adam is successful, and if it is sufficiently successful to affect economic development, it will attract imitators who will gradually bid up input prices and bid down output prices. (Admittedly, this is not a very Schumpeterian example, since Schumpeter had a traditional view of development that focused on manufacturing and agriculture.) The key point here is that Adam in his role as entrepreneur has no need for capital. The theory posits that a capitalist provides capital and shoulders uncertainty, but that same capitalist does not earn an entrepreneurial profit. How does Schumpeter (*ibid.*) accomplish this feat? He does this by assuming that in the case where Adam uses his own money to rent auditoriums and his own labor to produce speeches, he is—in a theoretical sense—borrowing money from himself (Adam in his capitalist role) and hiring himself as a worker (Adam in his role as labor input). Consequently, Adam earns profits in his entrepreneurial role, risk-compensated interest in his capitalist role, and wages in his labor role. He may even earn rent if he happens to be the landowner. Hence there are no flesh-and-blood Schumpeterian entrepreneurs.

Kirzner's (1973) treatment is similar, except that Adam discovers a discrepancy between the total cost of the land, labor, and capital inputs and the output revenue from selling his inspirational speech service. The entrepreneur again ceases to exist after the initial and instantaneous discovery, after which all costs and revenues accrue to conventional production factors, apart from the profit which accrues to Adam in a way that does not put "Adam the entrepreneur's" resources in jeopardy—it is either "Adam the capitalist" or an external lender who shoulders a vaguely defined uncertainty or risk in this theory.

The implicit assumption in both theories is that asset ownership is unimportant for our understanding of the economic function of entrepreneurship. This makes for thinner and more elegant theories, but they thereby disregard interpersonal differences in access to capital. Relative access to capital is however a relevant concern when comparing real-world entrepreneurial processes in different institutional settings. An economy with a well-developed banking system where most people have access to credit is more likely to spawn innovations than an economy where most innovative entrepreneurs must rely on

their own—perhaps meager—savings (Andersson, 2008). Thus, the role of capital is obscured.

There is also an additional capital-based argument against separating the entrepreneurial and capitalist functions of market actors. If we take Knight (1934) seriously and view capital as inclusive of all types of physical, human, and social capital, it becomes impossible to conceive of an entrepreneur who is devoid of capital. Even the possibility of discovering a profit opportunity requires—first—that the discoverer has the human capital necessary for recognizing what revenues and costs are and—second—the institutional (social) capital of a system of property rights that make revenues and costs meaningful and worthy of discovery in the first place.

Our third argument for employing Knightian theory concerns the empirical implications of the preceding two arguments. Since entrepreneurship involves a transitory mental realization or discovery according to both Schumpeter and Kirzner, it becomes impossible to do conventional “revealed-preference” empirical research on the prevalence of entrepreneurship in different institutional or spatial contexts. The only type of empirical research that can deal with Schumpeterian or Kirznerian entrepreneurial functions is asking innovators (in the case of Schumpeter) or innovators, speculators and arbitrageurs (in the case of Kirzner) to describe what they recall about their mental states at the moment when they realized that there was an unexploited profit opportunity or when they subsequently decided to pursue that opportunity. These are interesting and valid questions, but the momentary character of the exercise of entrepreneurship must consequently imply that interviews with individuals who have exercised the entrepreneurial facet of their personality are the only admissible empirical observations.

In contrast, a Knightian approach would incorporate most of which goes under the general rubric of entrepreneurship studies. Since Knightian entrepreneurship is judgment under conditions of uncertainty about how to deploy physical or human capital, it corresponds to what we conventionally think of as entrepreneurship. Starting a new firm is entrepreneurship. Introducing an innovation within an existing firm is also entrepreneurship. Even an owner’s decision to deploy the human capital of a manager in a new way is entrepreneurship in its Knightian sense. A quantitative empirical study of innovation in firms with different attributes or business start-ups in regions with different business conditions thus deal with different subsets of Knightian entrepreneurship, but would involve a measure of the joint effects of entrepreneurial and capitalist decisions according to the other two theories.

4. Knightian Entrepreneurship, System Constraints, and Institutions

Knight's (1921) theory lacks an explicit link to the prevailing equilibrium theory of his time, unlike Schumpeter (1934) or Kirzner (1973). Instead, Knight's book consists of two rather separate parts. The first part reads like a textbook with conventional early equilibrium models, while the second part calls the first part into question by introducing the concepts of uncertainty and judgment. But this does not imply that it is impossible to link Knightian entrepreneurship to equilibrating or disequilibrating tendencies. It does however necessitate that we integrate it with a theory of expectations.

In the 1930s, the Stockholm School initiated one of the first sophisticated attempts to deal with the problems associated with individuals' possibly heterogeneous expectations. Members of this school called their approach the "temporary equilibrium method." It includes a distinction between *ex-ante* and *ex-post* values of the same variable. *Ex-ante* values are decision-inducing expected values, which therefore influence realized *ex-post* values. Their basic assumption was that expectations determine market demand and prices. The systemic consequence is that a learning process guides the evolution of prices and production over time.

Myrdal (1927) presents one view of how expectations and risk influence the business cycle. The fact that production takes time, and the unavoidable incompleteness of agents' knowledge, are both aspects of the economy that cause a dynamic pricing problem. Later Hayek—withstanding his many political disagreements with Myrdal—reached similar conclusions about the endogenous dynamics of market behavior.

Hayek viewed expectations as deriving from shared habits, norms, and traditions (Butos and Koppl, 1997). In other words, institutions—understood as rules that govern behavior—give rise to expectations. In Hayek's view, it is a combination of slow biological and fast social evolutionary processes that causes these rules to emerge in human societies (Hayek, 1952; 1973). It is therefore *not* a foregone conclusion that the uncertainty of the future causes discoordination in the economy before that future is known. Since institutions shape expectations, these expectations will tend to converge among people who interact within a joint institutional framework. From Hayek's spontaneous-order perspective, there is also a selection process that weeds out "unfit" expectations, while sustaining "fit" ones (where "fit" means "sufficiently good" rather than optimal). A market with stable institutions that govern the behavior of participants will then produce reasonably similar—and therefore coordinated—expectations.

Koppl (2002) and Koppl and Whitman (2004) propose that the tendency towards convergent expectations only prevails if there is sufficient institutional stability. If certain individuals or organizations—so-called "Big Players"—can change the rules in sudden or unpredictable ways, then divergent expectations will have much greater impact on market outcomes. Koppl (2002) suggests that a

central banker with discretionary powers to change interest rates is a good example of someone who may cause discoordination of expectations and thus of prices and markets.

According to the economists of the Stockholm School, the combined effect of the duration of production and market actors' imperfect knowledge is uncertain expectations, leading to dynamic impacts on the endogenous formation of prices of goods and factors of production. There was according to this analysis no guaranteed equilibrium. When these ideas were built into macroeconomic analyses of investments, economists of the Stockholm School came to conclusions more in line with Keynes's "General Theory" (1936) than with Hayek's "Prices and Production" (1931/1967).

Koppl (2002) and Andersson et al. (2015) offer clues as to why both a Keynesian and Hayekian picture of the economy may be partial and incomplete. Keynesian underemployment of labor is the effect of sticky nominal wages, which assumes institutional conditions such as powerful labor unions and central banks that can influence inflation rates. This is thus a special rather than a general theory. Hayekian coordination of expectations can be criticized on similar institutional grounds: it presupposes stable market-sustaining institutions and, additionally, that barriers to market entry are low enough so that profit-seeking firms face competitive pressures.

Koppl and Whitman (2004) make use of the notion of a *system constraint* to shed light on both expectations and potentially equilibrating processes. If we have a market with stable institutions and atomistic competition among producers of very close substitutes, the system constraint is "tight." At the limit—with maximized "tightness"—we approach the hypothetically ideal conditions of perfect competition. Koppl (2002) claims that as we approach these ideal conditions, real individual expectations—what he calls "cognitive expectations"—no longer matter. What we are dealing with then are instead the "acognitive expectations" associated with theories of "rational expectations." The structure of the market will then ensure that only those expectations that conform to underlying market conditions will affect market outcomes.

The opposite situation—with a "loose" system constraint—comes into being if institutions are intrinsically unstable and/or if there is a monopolistic producer in a market with entry barriers that imply prohibitive costs for potential suppliers of close substitutes. Under the conditions associated with loose system constraints, real subjective expectations become important to market outcomes, and there is no underlying tendency for people's "cognitive expectations" to converge. Koppl and Whitman (2004) write that this intrinsic indeterminacy necessitates the kind of "hermeneutic" analysis common in historical accounts of disruptive political or cultural events; that is to say that the only way to explain such events is to interpret historical outcomes with the help of the real or hypothesized motivations, strategies, and opportunity sets of influential actors.

The concept of a “system constraint” offers, I believe, the clue to a more complete understanding of entrepreneurial market processes along Knightian lines. Given the structural uncertainty of the future, owners of resources become entrepreneurs when they exercise judgment about resource deployment. By assumption resource owners are profit seekers or—strictly speaking—utility seekers (in the case where production for sale is bundled with the owner’s own consumption of the relevant resource). Profit-seeking judgment has the (mostly unarticulated) aim of *loosening* the system constraint, which allows the owner-entrepreneur to earn profits in her role as residual claimant. But since the system constraint is loose, there is no guarantee that the entrepreneur will select the profit-maximizing price-quantity combination. Rather, it allows her to choose any price-quantity combination between the two break-even points and the maximum (i.e. the $MR=MC$ point).

With entry costs low enough to attract imitators, the entrepreneurial action is clearly a disequilibrating change, in that the pioneering profit-earning entrepreneur causes the marginal products of the inputs to exceed their costs. Other things being equal, this will cause imitator-entrepreneurs to gradually bid up input prices and bid down output prices, until a new equilibrium is reached, which thus implies a gradual tightening of the system constraint. So far this is reminiscent of the Schumpeterian story. But even in a market with stable institutions, this is not a universal process. If an entrepreneur manages to introduce a new product with prohibitive entry costs, a loose system constraint may be sustained for a much longer time. For example, if “Adam the inspirational speaker” is perceived as truly unique, he may benefit from a profit-generating looseness of the system constraint as he produces this service for the rest of his life, in much the same way that certain actors, athletes, and musicians become more valued for *who* they are than for *what* they do. Disequilibrium is then sustained in the sense that there is no way for imitators to either bid up input prices or bid down output prices until the system constraint is once again a tight one.

The more interesting situation, however, concerns what happens when market institutions are themselves unstable and thus unreliable. What happens when the discretionary actions of powerful individuals—rather than the preferences of regular consumers—decide the success of an entrepreneurial venture? Following the logic of Koppl and Whitman (2004), we conclude that in that case all bets are off. Anything might happen. Sometimes, a loose system constraint manifests itself as a soft budget constraint. For example, powerful political figures in the Chinese province of Inner Mongolia decided to invest in a new city of a million people called Ordos. The city was built, but only 20,000 willing buyers of apartments showed up, resulting in one of China’s notorious ghost towns. When unelected politicians control the approval of loan applications, and when potential losses can be “exported” to the population at large, there is no guarantee that there will be any movement toward equilibrium;

expectations about the whims of powerful politicians and monopolistic licensees then become more important for entrepreneurial success than being in the service of anonymous consumers. The “productive entrepreneurs” that characterize markets under the rule of law then will have to give way to the “destructive entrepreneurs” so typical of kleptocracies everywhere.

But although stable market institutions lead to equilibrating tendencies, this does not mean that a tighter system constraint necessarily leads to superior outcomes in the dynamic sense of an ongoing market process. Elert and Henrekson (2017) discuss how entrenched interest groups—so-called “incumbents”—may at the same time stabilize expectations in a population and outlaw innovative change to the extent that it jeopardizes their privileged economic positions. Powerful guilds, labor unions, and professional associations are historical examples of groups lobbying for—and often succeeding at—introducing laws, regulations and even informal customs that inhibit innovative activity. In these cases, the selective violation of established laws and norms may be in the interest of beneficial economic restructuring and greater innovativeness. We thus encounter a situation where a less predictable social environment and a loosening of the system constraint away from equilibrating tendencies engender economic progress, which is consistent with Schumpeter’s observation that entrepreneurial innovators are up against the intrinsic conservatism of most people. The dynamic productivity gains associated with rule-breaking tend to be especially pronounced in developing and transition economies. Hernando De Soto (2000) describes how adherence to the bureaucratic regulations associated with setting up a new business would stifle almost all entrepreneurial ventures in countries as geographically distant from one another as Egypt, Peru, and the Philippines. Hence stable equilibria are not ideal if we view them from the perspective of *dynamic* rather than static efficiency.

On the other hand, stable institutions are conducive to repeated innovations followed by equilibrating imitative entrepreneurship—with both lower prices for consumers and market prices that more accurately reflect real resource scarcities—if such institutions adhere to the principles of transparency, stability, and non-discrimination (cf. Hayek, 1973). It is thus not enough to have stable institutions that reduce uncertainty; they must also be adaptable to novel economic conditions and provide potential entrepreneurs with low barriers to market entry.

5. Concluding Remarks

In this article, I have argued that Knightian entrepreneurship theory provides a suitable theoretical foundation for empirical research and can be adapted to provide a nuanced understanding of disequilibrating and equilibrating processes. The latter advantage is however only implicit in Knight’s own formulation of his

theory as well as Foss and Klein's (2012) updated version. Combining Knightian theory with Koppl (2002) and Koppl and Whitman (2004) makes it possible to make the connection explicit. Under certain institutional conditions—that is, stable market-sustaining institutions and low barriers to entry—the resulting market process takes on features that resemble those described by Schumpeter (1934). An entrepreneurial innovation results in a temporarily loosened system constraint, entrepreneurial profits, and a short-lived monopoly. Imitator-entrepreneurs will gradually tighten the system constraint, reduce profit margins, and increase the number of sellers, until a new equilibrium is attained.

But this is not the only type of entrepreneurship. Some entrepreneurs may supply intrinsically unique products, in much the same way that Jack Nicholson controls his own inimitable personality as a marketable resource. The system constraint then stays loose, the imitators never show up, and a market with abnormal profits persists, in the sense that such suppliers can set whatever prices they want between the break-even points and the profit-maximizing price-quantity combination.

But this departure from the Schumpeterian benchmark is still only minor. A more important and historically quite common departure occurs if we abolish stable institutions, and replace them with discretionary power, with a concurrent loosening of the system constraint, particularly as it applies to the most powerful actors. In that case, individuals' expectations matter a whole lot more, and the resulting "market" or economy will not behave in an orderly fashion. For entrepreneurs, it may then become more profitable to guess what powerful individuals will do next, rather than base decisions on market conditions such as resource availabilities and consumer preferences. Destructive entrepreneurial actions and conspicuous disequilibria such as the ghost towns of China are typical real-world manifestations of dysfunctional quasi-markets in which institutions fail to harmonize expectations in ways that reflect underlying market conditions.

The other important departure—common in the Third World—is when institutions have proliferated and accumulated to the extent that they make entrepreneurial entry all but impossible. The *de jure* system constraint will then, if enforced, sustain a stagnant and suboptimal circular flow. The only partial remedy is then for entrepreneurs to evade the law by operating in black or gray markets. If sufficiently successful, this may increase the political will to modernize the legal system and do away with regulations that inhibit innovative activity.

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