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A theory of entrepreneurship and institutional uncertainty

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ABSTRACT

Uncertainty and institutions are each vital concepts in entrepreneurship research. However, little work has been done to combine them into a consistent conceptual framework for analyzing the dynamic aspects of entrepreneurial action, uncertainty, and institutional change. Using insights from new institutional economics, we develop a model that explains the institutional uncertainty resulting from conflicts between institutions on different "levels" of social activity. We further explain how entrepreneurs can both cause and mitigate this uncertainty through market and institutional action. Finally, we focus on a special case of institutional uncertainty, "regime uncertainty", wherein entrepreneurs are left without reliable means to overcome uncertainty in political institutions.

Executive summary

We integrate insights from new institutional economics with theories of entrepreneurship and uncertainty in order to outline a theory of *institutional uncertainty*. Specifically, we use Oliver Williamson's hierarchical model of institutional systems as a framework for viewing entrepreneurial action. Williamson's model consists of four conceptual levels, each of which constitutes a different level of economizing: the top level L1 contains the norms and culture of society; the second level L2 is made up of political regulations and policies; L3 consists of governance, organizations, and long-term contracting; L4 includes the everyday bidding for resources in the market. Institutions are related horizontally and vertically: in particular, higher-level institutions constrain lower levels by formulating "rules" through which lower-level institutions are ordered.

Different theories of entrepreneurship are relevant at each level. For example, Kirzner's alert entrepreneur, who responds to price discrepancies and thereby corrects entrepreneurial "errors," appears mainly in L4. At the same time, Schumpeter's innovative entrepreneur introduces "new combinations" through starting new firms, and therefore acts primarily in L3. Knight's judgmental entrepreneur, on the other hand, can act in L4 by allocating resources, in L3 by organizing firms, and in L2 by shaping public affairs. However, entrepreneurs can experience extreme difficulty when trying to act in L1. By mapping entrepreneurship theory onto Williamson's hierarchy, we provide a basis for research on the intersection of entrepreneurship, uncertainty, and institutions. Disaggregating institutions into groups and potential sub-groups allows us to more clearly identify the effects of institutional uncertainty on entrepreneurial action. This is especially true of institutional entrepreneurship, which we conceptualize as a choice entrepreneurs make to reposition their actions either horizontally or vertically in the institutional hierarchy.

So far, most research on institutional entrepreneurship (especially in the Schumpeterian tradition) has focused on innovation while leaving the role of uncertainty aside. We fill this gap by explaining different problems that emerge once uncertainty is allowed to thoroughly permeate the institutional order. Institutional uncertainty exists when entrepreneurs doubt the future compatibility of institutions at different levels. For example, entrepreneurs can be uncertain about whether their everyday trading (L4)

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will be compatible with proposed regulatory changes (L2). In such cases, entrepreneurs believe that institutions are or will become misaligned or contradictory. Entrepreneurs can usually cope with institutional uncertainty by using a combination of good judgment and institutional entrepreneurship. We focus especially on the changing cost structures entrepreneurs face when confronted with institutional uncertainty, which provide powerful incentives for abiding, evasive, and altering entrepreneurship, and in some cases, entrepreneurial exit.

Abiding action is typical entrepreneurial behavior that legitimizes and strengthens the institutional status quo. Evasive action sidesteps a specific institutional constraint and represents a horizontal relocation to a position less burdened by the relatively high costs of institutional uncertainty. Altering action can be interpreted as a vertical repositioning for the purpose of changing higher-level institutions. If none of these methods appears feasible to the entrepreneur, institutional uncertainty causes her to exit, in other words, to give up entrepreneurial action.

We elaborate this theory by explaining a case in which entrepreneurs are unable to overcome the barriers imposed by institutional uncertainty. Specifically, we apply our framework to the "regime uncertainty" faced by entrepreneurs during the Great Depression and Great Recession, and explain why the rate of entrepreneurship diminished during those crises.

1. Introduction

Entrepreneurship is flourishing as a discipline, and there is every reason to believe it will continue to "party on" in the future (Shepherd, 2015). However, despite rapid growth in entrepreneurship research, many central concepts remain under-theorized and under-applied. This is especially true of *uncertainty*: although its importance for entrepreneurs was recognized over two and a half centuries ago (Cantillon, 2001 [1755]; Say, 1971 [1803]), the exact role it plays in entrepreneurial decision-making is still debated (McMullen and Shepherd, 2006). The reason for the continuing controversy is that, although uncertainty is frequently mentioned in entrepreneurship studies, data are sparse regarding its nature, types, and time horizons (Bloom, 2014). This in turn means that uncertainty research—despite having made important strides in the past—has a long way to go before resolving some of its most crucial problems. One such involves the question of how uncertainty influences institutions, and vice versa.

Whether social, political, or economic, institutions profoundly affect the entrepreneurial process. Exactly how this happens, however, is not so easily explained, and there is relatively little research on the "institutional conditions that facilitate or hinder entrepreneurial engagement" (Dorado and Ventresca, 2013), especially in regard to uncertainty. In particular, entrepreneurship theory lacks a systematic explanation of how uncertain institutional arrangements affect entrepreneurial decision-making. For example, it is widely held that entrepreneurship can contribute greatly to economic growth and therefore to the well-being of society (e.g., Schumpeter, 1934 [1911]; Baumol, 1986; Audretsch et al., 2006). For this to be the case, however, society's institutional framework must be conducive to *productive* entrepreneurship. Without high-quality supporting institutions (e.g., Mehlum et al., 2006), entrepreneurship can be unproductive or even destructive, thereby impairing economic performance and growth (Baumol, 1990). Indeed, it has been shown that the variance in institutional arrangements influences both the rate and type of entrepreneurial activity (Stenholm et al., 2013). The impact of entrepreneurship is therefore more ambiguous than is sometimes thought, as its effects are a function of the quality of institutions (Douhan and Henrekson, 2010).

Importantly, the relationship between institutions and entrepreneurship is not unidirectional; it consists of more than the choice between productive, unproductive, and destructive activity within a given institutional framework. Entrepreneurship can also be directed specifically toward the formal institutional setting itself and toward changing the "rules of the game" (Shepsle, 1989; DiMaggio & Powell, 1991). Entrepreneurial action can take at least three basic forms with respect to any specific institution. Common entrepreneurship *abides* by the existing institutional order. Where entrepreneurs consider an institution to be unjust or unbeneficial, they can also attempt to *evade* its influence or act in order to *alter* the institution by engaging in institutional entrepreneurship (Henrekson and Sanandaji, 2011). In fact, all entrepreneurship is relevant for the development of the institutional framework: abiding action reinforces institutions, evading action challenges their effectiveness by circumventing them (Coyne and Leeson, 2004), and altering action aims to change or replace them by for example political action. Entrepreneurial action and institutions thus influence each other in profound ways (Mutch, 2007; Sewell, 1992), despite criticism that the role of institutional entrepreneurs is overstated (Lounsbury and Crumley, 2007).

However, entrepreneurship is also influenced by institutional *uncertainty*. Uncertainty is ubiquitous in the institutional environment just as it is in the marketplace, and it poses a series of unique problems for entrepreneurs to wrestle with. We argue that current work presents an incomplete picture of the interaction between entrepreneurship and institutions by overlooking the importance of uncertainty. The overarching questions we address are how uncertainty arises from the institutional environment, and how it affects entrepreneurs' actions. To answer these questions, we apply Oliver Williamson's (1998, 2000) hierarchy of institutional levels of economizing. This allows us to distinguish different effects of uncertainty among different categories of institutions. We show how uncertainty is created when entrepreneurs anticipate misalignments, incongruences, or contradictions between institutions on different levels, and how this affects entrepreneurial behavior. Institutional uncertainty changes entrepreneurs' relative costs of bearing uncertainty in their typical abiding activities. When these costs are high, entrepreneurs have little choice but to evade institutions, alter them through action at a different institutional level, or exit the market. In the former case, entrepreneurs find different ways to do business at the same institutional level, while in the second they change their level of activity by moving upward in the institutional hierarchy. Through abiding, evading, altering, and exiting, entrepreneurs generate feedback to higher-level institutions that encourage adjustment (Elert and Henrekson, 2016). This explains how entrepreneurs and the institutional uncertainties they face contribute to the dynamics of institutional change. However, because entrepreneurs

and institutions are heterogeneous and higher-level institutions tend to be resistant to change, feedback from entrepreneurs can be ineffective at hastening desired changes. Our contribution thus provides a more refined and nuanced understanding of uncertainty and institutional development by focusing on "vertical" institutional dynamics that cause and are caused by entrepreneurial action.

Two important results emerge from our approach: first, it helps explain how in some cases institutional uncertainty presents unique challenges for entrepreneurs because it obliges them to act (a) outside their areas of specialization and thus also (b) at institutional levels where it is more difficult for them to cope with uncertainty. Second, and consequently, our framework provides an institutional explanation as to why entrepreneurs might act in ways that do not seem to be in their best interest rather than simply shift their talents to different market sectors or geographic locations. In some cases, they may even choose to give up entrepreneurial behavior completely. This last topic has been neglected in many recent discussions of entrepreneurship and institutions.[1,2]

The paper is outlined as follows: in Section 2, we describe the institutional environment in which entrepreneurs act using Williamson's levels of institutional economizing. We further explain why entrepreneurship faces various constraints within and between these levels. In Section 3, we develop the analysis by showing how institutional change inspires feedback action by entrepreneurs. Section 4 explains how threats of "misalignment" between the different institutional levels create institutional uncertainty. Section 5 describes how entrepreneurs usually cope with this uncertainty using a combination of good judgment and institutional entrepreneurship. There are, however, cases in which entrepreneurs are unable to overcome the barriers imposed by institutional uncertainty. We elaborate on this claim in Section 6, where we apply our framework to the case of "regime uncertainty" as faced by entrepreneurs during the Great Depression and Great Recession. We conclude with a discussion in Section 7 of future research directions for the study of institutional uncertainty, and summarize our key findings in Section 8.

2. The institutional context of entrepreneurial action

Entrepreneurship, usually defined as the exploitation of opportunities for profit (Shane and Venkataraman, 2000; Shane, 2003), takes place in a market regulated and shaped by the institutional framework. As such, entrepreneurship happens under and is facilitated by shared mental models (Denzau and North, 1994) or institutions (North, 1990), defined as "humanly devised constraints that shape human interaction" (North, 1990: 3). They are thus collectively recognized rules, or a "system of mutual expectations" (Sugden, 1998), symbols, and "social models" (Eggertsson, 2005) that create expectations about other players' choices and intentions (Aoki, 2001, 2007). Many institutions embody formal political rules that demarcate legal action and responsibility. Others, like cultural norms and ideology, as well as organizational forms and modes of exchange, are inherently informal. Yet both formal and informal institutions provide order and structure to action—points of orientation that facilitate coordination (Lachmann, 1970; Garrison, 1986; Foss and Garzarelli, 2007; Chiles et al., 2007)—and thus lead to the convergence of expectations (Aoki, 2001, 2007).

One effective way to categorize and group institutions is to consider them as occurring in different *levels of economizing*, as identified by Oliver Williamson (1998, 2000). Williamson gives conceptual structure to the institutional framework and to what Brousseau and Glachant (2002: 4) call "the strength" of new institutional economics: "its proposal to analyze governance and coordination in all sets of social arrangements." This framework was not originally developed to study entrepreneurship as such; however, it can be used to understand the institutional conditions of entrepreneurial action and the interplay between institutions, resources, and actors (Misangyi et al., 2008). Williamson's "levels" thereby provide a basis for a deeper understanding of entrepreneurship in the market, and offer valuable insights into the functioning of, and preconditions for, successful entrepreneurial action (Pacheco et al., 2010). They also offer a foundation for understanding the dynamics of institutional change and uncertainty.

Entrepreneurial *action* is embedded in—and hence occurs within the limits of—the market's existing structure. This includes its formal and informal institutions and its allocations of resources (Granovetter, 1985; Bylund, 2015, 2016). Entrepreneurs take the current state of the market as given, a de facto starting point, and plan their behavior in accord with the perceived best way to achieve their ends, the outcome of which may generate profit (Knight, 1985 [1921]; Mises, 1949; Klein, 2008). Entrepreneurship is to some extent determined by society's institutional order, especially with regard to entrepreneurs' choices about where to focus their efforts (Baumol and Strom, 2007; Williams and Vorley, 2015). Institutions therefore affect the existence of entrepreneurship as well as the type or nature of society's resource allocation: productive, unproductive, or destructive (Baumol, 1990; Sobel, 2008).

This relationship is bidirectional, however. Entrepreneurship also affects the structure and functioning of the institutional framework (cf. Giddens, 1984; Santos and Eisenhardt, 2009; Sarasvathy and Dew, 2005). We argue that uncertainty, and especially institutional uncertainty caused by the threat of incongruences or contradictions in the institutional hierarchy ("vertical misalignment"), explains one important way that entrepreneurs effect institutional change. Most entrepreneurial actions abide by

[1] Ever since Baumol's (1990) classic paper, many studies of the relationship between entrepreneurship and institutions have focused on the *redistribution* rather than the appearance or disappearance of entrepreneurial talent.

[2] This paper frames the influence of uncertainty in terms of its negative effects on entrepreneurial behavior, e.g. cases where institutional uncertainty undermines entrepreneurship or stimulates exit. This is not because positive uncertainty that fosters entrepreneurship is unimportant, but because negative effects are easier to identify and isolate conceptually, and also because they play a more obvious role in discussions of economic growth and policy (e.g. Baker, Bloom, & Davis, 2011). For example, Bloom (2014) explains that "uncertainty shocks" are almost always the result of bad news. We also provide a useful contrast to Elert and Henrekson (2016: 108), who focus on the positive aspects of institutional entrepreneurship.

the existing institutional order, thereby legitimizing and reinforcing its "rules" or constraints and engendering path dependency (Douhan and Henrekson, 2010). In fact, the greater the fraction of entrepreneurship that abides by the institutional framework, the greater the perceived cost of not abiding and the smaller the chance that rules can be changed (as the cost of challenging the prevailing order is high) (Henrekson and Sanandaji, 2011).

Institutional change can be brought about through entrepreneurial action taken with the explicit aim of altering the existing institutional framework (Coyne and Leeson, 2004). While this can take the form of unproductive and destructive rent-seeking (DiLorenzo, 1988), there are also opportunities for productive entrepreneurship in which entrepreneurs engage in political action to alter ineffective or harmful legislation (Henrekson and Sanandaji, 2012: xvii-xviii). Entrepreneurs who believe institutions inhibit profitable investments but do not choose to directly alter them can act to evade their constraints. For instance, they may consider new or alternative means of organizing, new forms of contract, or choose to locate in a different state or country (North, 1995).

The institutional environment thus affects the quality of entrepreneurship in a given society; but it also influences its quantity. It is clear, for instance, that government intervention can reduce the amount of entrepreneurial action in society or in specific sectors of the economy (Djankov et al., 2002). Conventional approaches to this problem focus on regulatory barriers, taxes, labor regulations, and similar policies, and on the negative incentives they exert on profit-seeking entrepreneurship (Kirzner, 1985; Djankov et al., 2002; Baumol and Strom, 2007; Henrekson and Stenkula, 2010; McCaffrey et al., 2015). In extreme cases, such as in socialist economies, it can even be said that the scope of government action becomes so great that entrepreneurship disappears altogether (Salerno, 1990; Machaj, 2007). However, while this literature is vital to our understanding of entrepreneurship and institutions, it tends to focus on only one of several relevant levels of institutional analysis, namely, formal political rules (e.g. Kuchař, 2016). Furthermore, it often takes these rules as given rather than uncertain. The above considerations justify a continued research emphasis on the interactions between institutions and entrepreneurship, including the intersection of the institutional economics and institutional entrepreneurship literatures (Pacheco et al., 2010). In particular, they inform our discussion of how entrepreneurship is affected by institutional uncertainty. This can occur, for example, when entrepreneurs perceive specific types of incongruence (Webb et al., 2009) or contradiction within the institutional order. Institutional contradictions have so far been analyzed primarily as precursors to and drivers of institutional change in a general sense, especially through dialectic processes resulting from the internal contradictions of capitalism (Clemens and Cook, 1999). In contrast, we explore two different dimensions of institutional contradictions with specific implications for entrepreneurial behavior. Horizontal contradictions, which we conceive as occurring within the same institutional level, are beginning to be understood (e.g., Elert et al., 2016). However, vertical contradictions—misaligned, incongruent, or contradicting hierarchical constraints between institutions on different levels—involve different and potentially more challenging types of uncertainty. We refer to vertical contradictions as "institutional misalignment," following the terminology of Williams and Vorley (2015). By decomposing institutions vertically our analysis sheds light on how and why entrepreneurs decide to evade or alter institutions—why they choose to act outside the dominant institutional order, and why they target certain levels on which to act.

To further clarify this point, we now turn to the typology of institutions advanced by Williamson (1998, 2000). Although Williamson's typology has been discussed in the context of entrepreneurship research (Elert and Henrekson, 2016), it has not been integrated into a theory of entrepreneurial action under uncertainty. By mapping entrepreneurship theory onto Williamson's hierarchy, we provide a basis for research on the intersection of entrepreneurship and institutions. Disaggregating the latter into groups and potentially subgroups allows us to identify the effects of institutional uncertainty on entrepreneurial action.

The Williamsonian framework explains how social processes can be modeled using several orders of economizing on four distinct institutional levels (Fig. 1). On the lowest level, L4, resources are allocated through market exchange. This "third order" economizing is performed via the price mechanism and market actors' bidding for resources, which provide high-powered incentives for resource reallocation (Williamson, 1985). Through continuous price determination the marginal conditions are aligned and resources are put to their most valuable uses. In the second order, level L3, governance structures fix relative prices in order to economize on frictional costs in the market that impede efficient resource allocation (cf. Coase, 1937, 1960; Williamson, 1975, 1996). This level primarily includes longer-term market relationships such as relational contracts and organizations. Entrepreneurs use these measures to reshape incentives and thereby control and allocate resources over time, increasing the chances of profit in the face of costly market action. Actions taken in L3 and L4 generally constitute "the market," including firms, contracts, prices, and resource allocation.

Williamson's first order of economizing, level L2, constitutes the formal institutional framework or the "rules of the game" for how the economy functions (cf. North, 1990; Williamson, 1985). The institutional purpose of this level is primarily to define and secure property rights through the polity, judiciary, and bureaucracy of government, but it also regulates economic action through targeted legislation and fiscal policy. Finally, the over-arching level L1 embeds the lower institutional levels in an even broader setting of cultural values and traditional norms that are not the subject of narrow economizing. Each level includes specific institutions that constrain specific actions on lower levels. The prerequisite for the entire system, starting with L1, is what Williamson calls the "zero level" or, "an evolutionary level in which the mechanisms of the mind take shape" (2000: 600).

The three institutional levels below L1 are, in Williamson's terms, economizing levels. Each includes the aim of minimizing costs with respect to the social values in the overarching L1. The higher levels each impose constraints on the lower ones by decreasing the relative cost of abiding action and increasing the cost of evasive action. Over time this creates a convergence of expectations among actors. This system creates an institutional order based on hierarchical interdependence. Importantly though, each level contains a series of institutions that may or may not be related (Webb et al., 2009). L2, for example, contains both local and central government regulations. Their interdependencies and conflicts combine to produce specific institutional orders

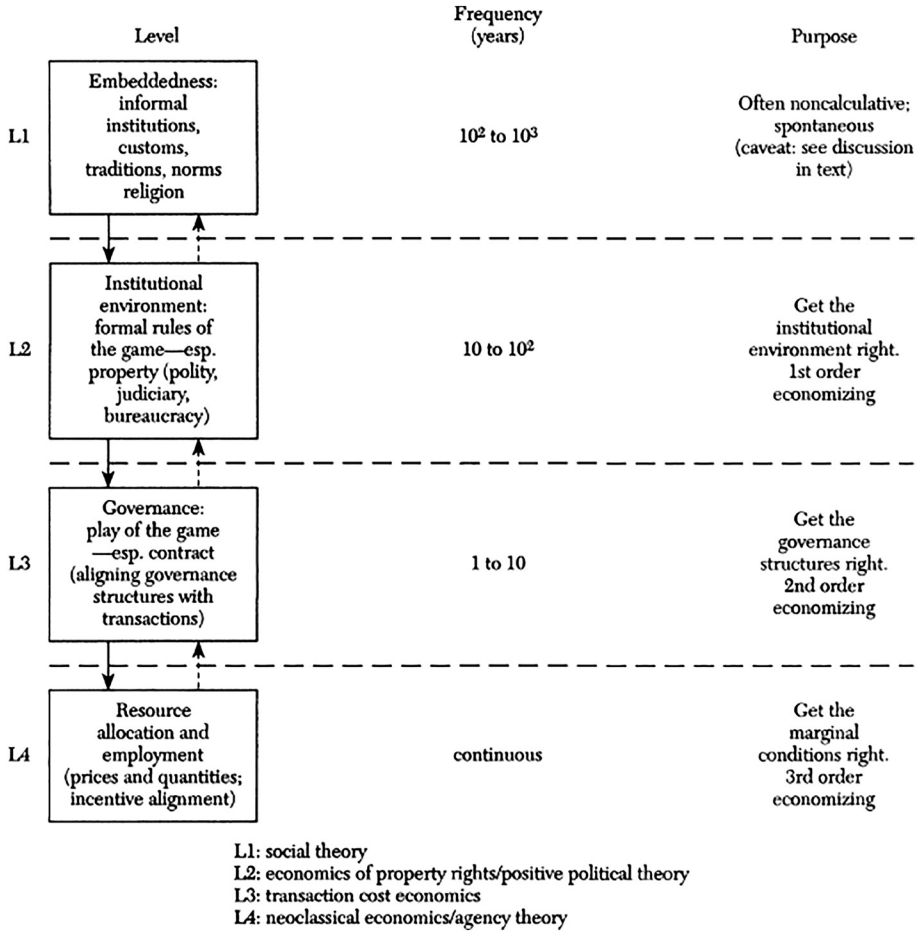

Fig. 1. Levels of the economics of institutions (Williamson, 2000: 597).

within that level. So while "institutional competition" (e.g., Vanberg and Kerber, 1994) within "polycentric institutions" (Batjargal et al., 2013) is an important aspect of entrepreneurial action, it also takes place within the greater institutional framework analyzed in this paper. Our focus here is on the dynamic relations *between* levels, and how these relations influence entrepreneurial action, specifically, the effects of their misalignment.

Entrepreneurs choose the level of economizing that best fits their ends, considering the costs involved. For economic actors, this commonly involves the "market" levels L3 and L4. As Williamson notes, however, the difficulty of effectuating change, as well as the frequency of change, increases from level to level. L4 involves continuous change that reflects consumers' changing preferences and fluctuating prices. Organizations and contracts in L3 change less frequently and at greater cost—every 1–10 years, according to Williamson's heuristic. Likewise, L2 is limited to changes every 10–100 years, which are therefore rare and "very difficult to orchestrate" (Williamson, 2000: 598). This problem applies even more to changes in norms and values on L1, which represents a time horizon beyond that of most human beings, and even of long-standing organizations (100–1000 years). Whereas changes to L2-L4 can be brought about through direct action, the social-embeddedness level (L1) is far less amenable to direct and frequent change. The reason is that the social order of L1 reflects the "spontaneous" development of institutions over time (Selden and Fletcher, 2015; Williamson, 2000). Also, as we argue, entrepreneurial methods for creating institutional change primarily consist of altering (which typically requires action at a higher level), or evading or exit (both of which occur at the "current" level and only *indirectly* precipitate change). However, L1 provides no higher level for altering action. As such, it is influenced by human action but not human design, unlike political and market entrepreneurship, which are problems for both of these. Consequently, although institutional entrepreneurs change the institutional environment, they are usually obliged to work within the constraints of L1 (or to relocate to a different "cultural" region). The role of L1 in relation to entrepreneurial action continues to be under-studied, even in research that draws on institutional economics. Elert and Henrekson (2016: 97), for example, deliberately choose to focus on formal institutions so as to avoid the complications introduced by L1.

Specific theories of entrepreneurship are more relevant at specific levels. For example, Kirzner's (1973) alert arbitrageur-entrepreneur appears mainly in L4, responding to price discrepancies and thereby correcting entrepreneurial "errors" (Kirzner, 1978). At the same time, Schumpeter's (1934 [1911]) innovative entrepreneur introduces "new combinations" through starting new firms, and therefore acts primarily in L3. Knight's (1985 [1921]) judgmental entrepreneur, on the other hand, can act in L4 by

allocating resources (Casson, 1982: 23), in L3 by organizing firms (Foss and Klein, 2012), and in L2 by shaping public affairs (Klein et al., 2010).

In these theories and many others, market entrepreneurship involves profit-seeking action "horizontally" within the level entrepreneurs deem appropriate. To attain a specific end, they search for the most appropriate mix of institutional constraints within their preferred levels, usually the lower two. This search includes evading action, which seeks to avoid institutional constraints. These kinds of horizontal entrepreneurial actions have been identified in the literature already, and are better understood theoretically and empirically, than vertical actions. This is especially the case on the lower levels of Williamson's model: even when acting in entrepreneurial groups or strategic alliances, entrepreneurs are not generally capable of changing deep-seated social traditions or fundamental informal rules in society (Williams and Vorley, 2015; Selden and Fletcher, 2015). Instead, market entrepreneurship happens in L3 and L4, through trade and the formation, change, and dissolution of governance structures, including contractual relations and organizations. However, this does not imply that entrepreneurs never act in L2. In fact, as we argue, institutional uncertainty due to institutional misalignment can impose significant costs on, and even prevent, action in L3 or L4. Consequently, it encourages entrepreneurs to shift their efforts to higher institutional levels (L2 and L3) in order to alter the institutional constraints on their preferred levels of action. We thus find that entrepreneurs can enter L2 to induce institutional change, whether productive (e.g. removing or improving harmful regulation), unproductive (e.g. redistributing income through legal means), or destructive (e.g. creation of privilege or regulation that hinders or excludes competitors).[3]

Importantly, there are often a variety of institutions on any particular level that conflict with each other and incentivize entrepreneurs in different ways, as discussed in the literature on institutional contradictions (Friedland and Alford, 1991; Clemens and Cook, 1999; Seo and Creed, 2002). To the extent that they conflict, expectations become unreliable and create additional uncertainties for entrepreneurs. However, although they are important for explaining a wide range of actions, within-level or horizontal contradictions do not directly change the institutional setup. Instead, they are more likely to encourage evading entrepreneurship to sidestep contradictions by shifting action within levels or helping others to do so (Elert and Henrekson, 2016: 101; Elert et al., 2016; Brousseau and Raynaud, 2006). Elert and Henrekson (2016: 106) propose that evasion may provide feedback to higher-level institutions and thereby *indirectly* engender institutional change. In the next section, we make this explicit by explaining feedback in terms of its vertical effects, which challenge institutional constraints. We find that entrepreneurs' perceptions of the vertical relations between institutional levels in Williamson's model provide a means for analyzing entrepreneurship-driven institutional change. This change happens when entrepreneurs shift their actions to a higher level for the purpose of altering its institutions and reducing institutional costs on lower levels, rather than taking evasive horizontal action to avoid institutional constraints. Our argument is focused on how entrepreneurial action is both a cause and an effect of uncertainty arising from institutional misalignment.

Relatively little research has been done on institutional uncertainty. Instead, most work in related fields tends to focus on ambiguities in formal legal institutions (i.e. in L2) (Atherton and Newman, 2016; Kuchař, 2016; Elert and Henrekson, 2016; Dequech, 2006). Kalantaridis and Fletcher (2012) point out, for example, that research on institutional entrepreneurship tends to be strong when discussing L2, but weak in other areas of society. They also observe a "significant gap in theorising the processes of adaptation… and resistance that may lead to institutional change" (2012: 211). Our view of institutional uncertainty helps to fill this gap.

3. Institutional change and feedback

We have shown how Williamson's framework implies that entrepreneurs choose how to act across two institutional dimensions. Yet it also provides a novel way to conceptualize the dynamics of institutional entrepreneurship by revealing the role entrepreneurs' two-dimensional choices play in this ongoing process. It thereby specifies the interconnectedness of the different levels. The levels represent a hierarchy based on the frequency at which institutions change and the scope of their influence. The potential impact of change increases with each level because, as Williamson (2000: 596) notes, "the higher level imposes constraints on the level immediately below" (represented by solid arrows in Fig. 1). Because changes increase the cost of maintaining the status quo, they induce corresponding adjustments on lower levels. The model also includes mechanisms for feedback to move in the opposite direction (dashed arrows in Fig. 1).

Whereas Williamson specifically chose to avoid explaining feedback processes, our approach provides a conceptual basis for analyzing them. Specifically, we argue that feedback to a large extent consists of entrepreneurial *actions* that abide, alter, or evade the effects of institutions, or result in exit. These actions have repercussions throughout the hierarchy. Feedback is more plentiful and tends to cause more frequent change at the lower levels because actions there are burdened by lower (and more measurable) costs and thus constitute more viable options for entrepreneurs. This can be seen by comparing feedback from actions on different levels. At L4, change is both constant and specific as individual entrepreneurs can swiftly and at relatively low cost adopt new trading positions that fit their expectations of changing customer preferences. Consequently, buying and

[3] An anonymous referee points out that reforms in L2 designed to improve conditions in L3 and L4 have the characteristics of a public good, and are therefore insufficiently incentivized. This is consistent with Williamson's model, which notes high-powered and low-powered incentives, respectively, in L4 and L3. However, we argue that entrepreneurs have at least two incentives that could encourage them to engage in institutional entrepreneurship. First, there could be both monetary and reputation rewards attached to successfully reforming institutions. Second, it is possible that after successfully reforming institutional constraints entrepreneurs will find it profitable to return to "business as usual" at their previous institutional levels. We do not therefore believe that public-goods issues necessarily rule out institutional entrepreneurship.

selling activity on this level provide direct feedback horizontally to other market participants, especially other entrepreneurs, through the determination of prices, which offer high-powered incentives for adjusting behavior. This feedback informs entrepreneurs' decisions to abide, evade, and alter, and it may even force them to exit. New behavior either falls within the existing constraints of L3 institutions (abiding action) or outside their influence (evading). Fluctuating prices also increase the costs of "discovering what the relevant prices are" (Coase, 1937: 390) and thus induce entrepreneurs to establish new or adjust existing governance structures in response (altering action, which entails shifting actions to the higher level L3).

For entrepreneurs acting in L3 it is even more difficult and costly to change the constraints of the next higher level, L2. They can either act outside L2's existing constraints to influence the institutional status quo (force change through evasion in L3) or organize direct political action (altering action in L2). Similarly, at L2, actors can attempt to evade prevailing norms by changing political rules or acting outside their constraints. They can also alter them directly in L1, for instance, by agitating for cultural or social change. Yet at L1, acting according to idiosyncratic rather than deeply-embedded and shared norms can impose exorbitant costs on actors, and there is no higher level to which feedback can be targeted or in which corrective action can take place. It may be true of course that social norms evolve over time and that surviving norms must prove their social value, à la Hayek (Stone, 2010; Hayek, 1973), but this process generally occurs across a time horizon too long for individuals to incorporate directly into their plans.

In general, major changes in society happen in L1 as values and norms change, whether "spontaneously" or as a result of war, economic crisis, new religious influences, or cultural conflict (Huntington, 1996). However, these changes occur only with "a great deal of inertia" (Williamson, 2000: 597). The full impact of a change is often unclear until the cascade of adjustments on lower levels is complete. A change in norms in L1 has, through the constraints it imposes on lower levels, repercussions on the legal and regulatory apparatus (L2), which in turn sets limits and establishes rules for economic organizing (L3) that affect exchanges and prices (L4). This is not to say feedback to higher levels is always ineffective, only that attempts to effectuate institutional change from the bottom-up are quite costly. There is therefore a threshold effect keeping entrepreneurs on their preferred levels until the cost of institutional uncertainty, analyzed in the subsequent section, is exceeded and, consequently, action on a different level becomes the least-cost option. Such costs can also make entrepreneurial action appear too costly at *all* levels, thereby discouraging entry or causing exit.

The hierarchical structure of Williamson's model and the fact that entrepreneurs act on a specific institutional level (the horizontal, two-dimensional choice) yields a better understanding of the institutional implications of entrepreneurial action. This is particularly the case for evasive and altering entrepreneurship, both of which, in contrast to common abiding entrepreneurial action, are often intended to effect institutional change. Evasive entrepreneurship sidesteps an institutional constraint, and the costs it gives rise to, and can therefore be understood as a horizontal repositioning. Successful evasion finds a viable market position that offers the entrepreneur a different institutional cost structure than competitors, though does not necessitate innovation.[4] Altering entrepreneurship instead suggests a vertical repositioning where the entrepreneur directly engages with an institution, for the purpose of changing or even abolishing it. In both cases, the existing institutional framework is inconsistent with the entrepreneur's preferred action.

We construe feedback in Williamson's model as action. For evasive entrepreneurs, the institutional setting is insufficient because it does not support their preferred behavior. By evading institutional constraints, they can indirectly cause institutional change when actors on higher levels respond to the challenge of resulting institutional "voids" (Khanna and Palepu, 1997). Such responses can be a direct result of evasive action or a response to the actions of adversely affected competitors trying to maintain the existing institutional order. For altering entrepreneurs, in contrast, the institutional setting on their preferred level is so constraining that they do not consider evasive action a viable option. Both of these types of institutional action constitute feedback from the level of preferred action (commonly L3 or L4) to the higher level (L2 and L3, respectively). A key difference Williamson overlooks though is that altering action provides *direct* feedback, while evading action provides *indirect* feedback. Abiding entrepreneurship provides *direct* feedback by reinforcing and legitimizing the existing institutional order.

4. Institutional misalignment and institutional uncertainty

In addition to an explanation of feedback, Williamson's model is also missing a logic for analyzing the impact of time and change between different institutional levels, in other words, of institutional uncertainty. These concepts are closely related: the passage of time allows for change and creates doubts about the institutional setup among entrepreneurs in the present. This idea fits with some traditional results in entrepreneurship research. For example, Frank Knight (1985 [1921]) observed that one reason human beings develop institutions is to help eliminate uncertainty (Emmett, 2011). It therefore makes sense that when institutions themselves become uncertain, they pose special problems for decision-makers. Thus far, entrepreneurship research has focused mainly on low-quality institutions that undermine entrepreneurial action, e.g. stifling regulations. Whether institutions are *uncertain*, however, is not a question that has received much attention. This makes sense, given the "Schumpeterian-Baumolian" (Kalantaridis, 2014) and Kirznerian approach of institutional entrepreneurship theory, which tends to focus on innovation rather than uncertainty (Elert and Henrekson, 2016; McCaffrey, 2009, 2014).

[4] Evasive entrepreneurs seek to escape institutional constraints in order to take advantage of a relatively less constrained position in which limiting institutions are underdeveloped or non-existent (cf. Gao et al., 2017). This can entail Schumpeterian innovation (Elert and Henrekson, 2016), but it need not, unless entrepreneurship is construed in a narrow Schumpeterian way.

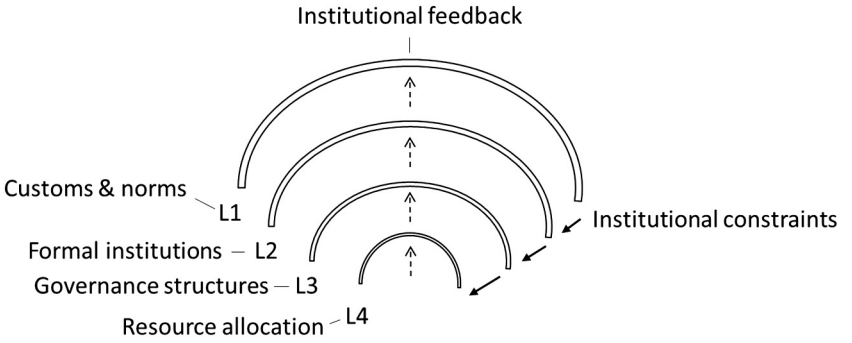

Fig. 2. Institutional levels in alignment.

Yet institutional incongruences (Webb et al., 2009) and contradictions (Elert and Henrekson, 2016) do not need to exist in an objective sense to create uncertainty. What matters is that entrepreneurs *believe* they exist, and view potential threats to be plausible and credible. The literature on conventional entrepreneurship has so far focused on uncertainty in the context of the market, that is, within L3 and L4, often without distinguishing between them. But we argue that there are unique uncertainties within each level. L4 contains the "ordinary" uncertainty of the market relating to resource allocation and how it matches consumer preferences. L3 includes the uncertainties of innovative governance, contracting, and firm structures. L2 then implies the political uncertainty associated with rules and policy changes and their enforcement, and L1 the overarching uncertainties regarding social values, cultural norms and behavior, and their trends in the distant future.

However, vertical interconnections and related constraints and feedback mechanisms mean that uncertainty *between* levels also poses unique problems. For example, how does uncertainty regarding economic policies in L2 affect the actions of entrepreneurs in L3 and L4, who are constrained by and rely on L2 institutions to establish stable, supportive rules of the game? We can answer by considering the "alignment" between institutional levels. Williamson's framework assumes full institutional alignment, or what Douhan and Henrekson (2010) refer to as "institutional equilibrium." In this case, entrepreneurs believe that institutions are stable and will not change significantly. Full alignment suggests an optimal situation where social costs are minimized because there are no perceived contradictions arising due to mismatches between institutions on different levels. Actions on each level comply with the boundaries established by higher levels. Entrepreneurs are content to abide, which is the least-cost option. In other words, there are no governance innovations on L3 that evade and cause uncertainty with respect to the formal rules established and enforced on level L2, just as there is no misalignment between L1 and L2 or between L3 and L4. Aligned institutions can be of high or low quality.

This equilibrium is depicted in Fig. 2. Institutions on each level are represented by an arc that constrains actions in lower levels by imposing costs on non-compliant (evading) action (Elert and Henrekson, 2016). However, this kind of institutional alignment rarely exists in the real world. Entrepreneurs can have radically different perceptions of the future, while institutions in different levels change at different frequencies and are affected by different types of entrepreneurial action. As a consequence, they are not always aligned. Actual or perceived misalignment creates a special type of uncertainty for entrepreneurs, namely, institutional uncertainty. Institutional uncertainty reflects an additional cost borne by entrepreneurs as a result of their doubts about the future stability of institutions and their future alignment.

In Williamson's model, the constraints placed by one institutional level on lower levels reduce costs through standardizing behavior and promoting convergence in expectations. Thus the customs and norms in a society (L1) facilitate the implementation and enforcement of formal rules (L2) that in turn facilitate cost-effective governance mechanisms (L3) to encourage welfare-maximizing resource allocation (L4). At the same time, constraints also raise the relative costs of challenging actions such that evading and altering actions become less likely—but not impossible. The constraints of higher institutional levels impose "standards" on lower levels in the same sense that technology standards do: it may be possible or even preferable for firms to move beyond established standards such as USB ports for "plug and play" peripherals in their devices, but incompatibility comes with a cost. Consequently, we should expect incompatibilities only where they are judged to be valuable enough to overcome this cost while remaining more profitable than simply abiding. This applies to new products as well as innovative business models like ride-sharing businesses (Cramer and Krueger, 2016). In fact, the evasion itself is sometimes an innovative business (cf. Elert et al., 2016). Entrepreneurs' ventures are often most stable under conditions of institutional alignment, when all relevant institutional constraints are in sync.[5] When this alignment is disturbed, the institutions entrepreneurs rely on are thrown into doubt, and new uncertainties arise. Misalignment alters stable expectations about institutional quality, changes, and trends. *Perceived* instabilities are the root cause of institutional uncertainty, which imposes costs on entrepreneurs and in turn inspires them to act in order to reduce or eliminate the uncertainty as it relates to their own decisions. Their actions can in turn create new uncertainties, especially for competitors.

[5] Importantly, alignment can be either beneficial or harmful to entrepreneurs, depending on the quality of institutions in equilibrium. This implies that institutional uncertainty can be a prerequisite of positive institutional change. For example, institutional entrepreneurs might reform regulations at L2, creating short-term institutional uncertainty on the way to a more beneficial set of institutions in the long term.

Entrepreneurs choose both a horizontal and a vertical position in the institutional hierarchy. We are interested mainly in the latter. To take one example, we argue that entrepreneurs choose action in L2 for the same reason they might choose to shift their efforts from L4 to L3: the costs of bearing institutional uncertainty. Shifting actions to a higher institutional level indicates that entrepreneurs fear institutional misalignment, which increases the cost of bearing uncertainty on a lower level, and so decreases the relative cost of higher-level action. Misalignment implies that institutional constraints poorly match (or even burden) the entrepreneurs they govern by affecting their ability to form proper expectations about the future institutional order: which institutions will remain, how they will affect actions at particular levels, how (or if) specific "rules of the game" will be enforced, and what additional changes to them are in store. In other words, the entrepreneur is uncertain with respect to the institutional environment in which she wishes to act.

Misalignment can also be caused by institutional entrepreneurship: just as innovators disrupt existing economic orders, they can also disrupt the institutional status quo and convince other entrepreneurs that institutions on one level will be pushed out of alignment through evading or altering action. This creates institutional uncertainty for entrepreneurs acting within "downstream" institutions, who suddenly find themselves adrift from or even at odds with the new constraints of "upstream" institutions, and thus cannot minimize costs through abiding action. In fact, entrepreneurial action under institutional uncertainty creates contradictions when abiding action on one level constitutes evading action on another.

5. Entrepreneurial responses to institutional misalignment

Institutional misalignment arises when entrepreneurs believe specific institutions relevant to their preferred actions are out of sync vertically. Entrepreneurs might also believe that relevant institutions on one level will be disrupted and thus "pushed" out of equilibrium with others. Our interest is in how this misalignment affects entrepreneurs and what, if anything, they can do in response. How do entrepreneurs react to perceived misalignments and the institutional uncertainties and costs they impose? We answer by examining the impact of misalignment on each institutional level. In the examples below, for the ease of argument, we explain the effects of perceived institutional misalignment in cases where institutions are misaligned in ways consistent with entrepreneurs' doubts.

5.1. L4 misalignment

In the first case, institutions on Williamson's level L4 are misaligned with those on higher levels such that resource allocation and employment, and therefore prices, quantities, and incentives, deviate from the ordering influence of levels L1-L3. This implies more than simple entrepreneurial error in judging future consumer wants, which causes price discrepancies that are often corrected relatively quickly. Instead, it involves resource allocation in the market that is at odds with existing governance structures and contracts, contract law, and basic social norms. As such, market exchange does not comply with the constraints of institutions at higher levels: it is costlier than it otherwise would be and entrepreneurs find it troublesome to "get the marginal conditions right" such that incentives are aligned with institutions.

The black markets of Soviet Russia provide an example of widespread L4 misalignment. In this economy, social values, political institutions, and governance structures were arguably aligned, but resource allocations and prices were not. As Boettke (1993: 44) notes, "economic behavior in the black market was both a normal way of life and an albatross around the average citizen's neck." This "albatross" reflects the institutional cost of uncertain entrepreneurial action in L4 that was at the same time the "normal way of life." That is, it was aligned generally with the institutions at that level—but at odds with relevant institutions at higher levels. The enforcement of legally permitted contracts and governance structures on L3 would have put an end to the redirection of resources from the regulated to the black market and resulted in punishment for consumers. Similarly, the effective enforcement of rules at L2 would have thwarted black market trades. Yet the mismatch between formal government policy and what citizens were able to get away with meant there was room for entrepreneurs to doubt whether and how higher-level institutions would enforce their constraints, or how these constraints would change over time.

Evading actions also create uncertainty about institutional misalignment by conducting business outside the constraints of a particular level. L4 misalignment through evasion is exemplified by Uber, whose entry changed resource allocation and prices in the transportation market by acting outside the constraints of the prevailing institutional order. Uber thus bears the cost of institutional uncertainty because it acts in a market space where there is no clear institutional hierarchy of constraints. But it also creates institutional uncertainty and costs for incumbents because (a) the future value of taxi companies' existing governance forms and contracts (L3) is now unknown, and (b) the responses to Uber's actions by higher-level institutions (L2)—whether they enforce existing laws or adapt to innovation—cannot be easily predicted.

Within L4, Uber's entry creates uncertainty surrounding simple market transactions. Entrepreneurs experience sudden changes and as a result doubt which institutions will shape their costs: existing institutions or new ones influenced by evasion. Due to this uncertainty, exchanges are carried out at significantly higher costs, and valuable transactions fail to occur. This is a typical problem analyzed in Transaction Cost Economics (Williamson, 1975, 1985), where opportunistic behavior causes uncertainty because actors cannot rely on existing, or anticipate future, market prices.

To once again encourage these profitable exchanges, entrepreneurs can switch their actions to the higher level L3 in order to alter (create) beneficial institutional constraints for their preferred actions in L4. That is, they can implement governance structures that facilitate proper adaptation to changing market conditions. Without proper governance the outcomes of market transactions and their value for each party are uncertain. Modifying governance falls outside the scope of arbitrage entrepreneurship,

but it is available to Schumpeterian creators of business firms and organizations, as well as Knightian decision-makers, intrapreneurs, and business strategists. Examples include writing relational contracts or vertically integrating production.

5.2. L3 misalignment

In the case of L3 misalignment, the problem is to "get the governance structures right." Existing contracts and organizations are suboptimal in that they do not support efficient resource allocation in L4. At the same time, they are high-cost solutions with respect to L2, because the governance forms being used are insufficiently supported by the institutional environment. When institutions are aligned, suboptimal governance choice within L3 can be caused by entrepreneurial errors, for example, writing contracts based on poor information. Yet errors can be corrected as entrepreneurs suffer losses as revealed through the price system (feedback from L4), which lets them know that factors of production are mispriced. Nevertheless, changes to governance are less frequent and more costly than changes to resource allocation. Contracts cannot be rewritten frequently so as to seamlessly adjust to changes in prices; in fact, the purpose of contracts is to economize on transaction costs by offering stability in governance.

As a result, when L3 is misaligned, errors are harder to correct than in L4: the legal frameworks at L2 do not constrain governance, while at the same time market exchange at L4 lacks a reliable feedback mechanism. This creates uncertainty for entrepreneurs both above and below L3. To use the Uber example, in addition to increasing the supply and changing the allocation of transportation among L4 institutions, Uber also sidestepped existing taxi and labor law regulations by providing a service platform through which drivers and riders find each other in real time. It thereby acted outside the constraints of L2 (evaded its institutions) by using a form of organizing that falls outside formal rules regulating incumbent taxi companies (cf. Elert and Henrekson, 2016: 100). The effect of this kind of evasion at L3 is misalignment and institutional uncertainty with respect to both L2 and L4. Uber's evasive action at L3 allows for institutional uncertainty because the response from institutions in L2 cannot be fully anticipated, which provides a rationale for altering action by incumbents (Mitchell, 2015: 91–94; Cannon and Summers, 2014).

5.3. L2 misalignment

Misalignment of L2 occurs when the values, norms, and customs of L1 are aligned only with market governance and organizations (L3) and market action and exchange (L4). Thus, the formal rules of the game, including the legal environment and administrative powers of the bureaucracy, do not adhere to the traditions and cultural values of society or to the ways individuals and organizations actually conduct business. This corresponds to institutional disequilibrium as discussed in e.g. Douhan and Henrekson (2008, 2010). For example, following a coup d'état, a new regime might implement laws aligned with its own goals but at odds with society's values and commercial activities. Because these laws are not aligned with common social values or business organization, entrepreneurs are uncertain about their enforcement as well as the enforcement of contracts and agreements that are already in effect. Misalignment at L2 thus imposes greater costs on society than misalignment in L4 and L3 because entrepreneurs who specialize in acting in L4 and L3 lack the means to directly produce necessary changes to institutions in L2 (Li et al., 2006). L2 is the domain of institutional entrepreneurs, as distinct from market entrepreneurs who act in a narrower business environment. This is also where rent-seeking (DiLorenzo, 1988) and "crony capitalism" (Holcombe, 2013) take place.

For market entrepreneurs bearing the costs of uncertainty from L2 misalignment, the opportunity cost of leaving L4 and L3 is high, and they are likely ill-equipped to alter higher-level institutions. An ideal entrepreneur would be able to effect change at all levels equally well (Li et al., 2006), but we argue that such universally-successful "super-entrepreneurship" is unlikely. Entrepreneurs are heterogeneous with respect to their own skills and to the institutional environment (which is also heterogeneous), and therefore face different costs when acting in and moving between different institutional levels (Engelhardt, 2012). For example, acting at L2 to alter harmful institutions may be an option for market entrepreneurs, but the higher costs can also incentivize them to take evasive action or, if the costs are high enough, close shop. In addition to differences in skills, the means for acting in the political and economic spheres are also heterogeneous, and therefore involve different costs, making specialization beneficial. Political and economic actions do not exist in isolation from each other; nevertheless, an entrepreneurial division of labor encourages individuals to specialize.

5.4. L1 misalignment

Finally, misalignment in L1 suggests that the norms, traditions, and customs of society are different from both its formal institutional environment (L2) and economic practices (L3 and L4). Analyzing this situation adds to Elert and Henrekson's discussion (Elert et al., 2016: 97), which studies evasive action in the context of entrepreneurs' disagreement with L2 and agreement with L1. In contrast, L1 misalignment poses a special problem for entrepreneurs because the misalignment, from a Williamsonian perspective, manifests on the social embeddedness level—ideology, culture, norms, etc.—that cannot be changed through economic or political means and offers no higher level for altering action. Also, misalignment in L1 typically indicates that entrepreneurs anticipate changes on lower levels. Realigning L1 requires changing social values to make them consistent with existing economic and political actions. We argue that meeting this challenge is largely beyond the abilities of entrepreneurial action because L1 is not subject to economizing efforts. This claim is illustrated in the next section.

6. Entrepreneurship under regime uncertainty

We now turn to a specific case of institutional uncertainty due to misalignment in L1: *regime uncertainty*. Here entrepreneurs are highly doubtful about the willingness of political institutions to provide ideological and legal support for entrepreneurial action.[6] In a nutshell,

> [Entrepreneurs] may be more or less "uncertain about the regime," by which [is meant], distressed that investors' private property rights in their capital and the income it yields will be *attenuated further* by government action. Such attenuations can arise from many sources, ranging from simple tax-rate increases to the imposition of new kinds of taxes to outright confiscation of private property. Many intermediate threats can arise from various sorts of regulation… In any event, *the security of private property rights rests not so much on the letter of the law as on the character of the government that enforces, or threatens, presumptive rights*.
>
> [(Higgs, 1997: 568, emphasis added)]

Higgs (1997) introduced the concept of regime uncertainty to explain the long-term decline in entrepreneurial action during the Great Depression. He argued that one reason the Depression lasted so long was that entrepreneurs refrained from investing due to fears of increasingly aggressive economic policy that they believed threatened not only short-term profits, but the free-enterprise system itself. The rhetoric of political leaders and pundits during the New Deal era signaled an ideological shift toward increased regulation of business activity and economic planning, trends that entrepreneurs believed would accelerate and threaten their profit-seeking activities (e.g. threats to fundamental free-market institutions such as property rights). The apparent shift in accepted social values and passive popular support for the regime's rhetoric, made entrepreneurs doubt the future of the free-enterprise system. Yet institutional changes were not viewed as inevitable, but rather as credible threats: entrepreneurs could not be sure if and how they would be put into practice, and therefore which entrepreneurs would bear the highest relative costs of the proposed policies; hence, uncertainty. Entrepreneurs also could not be sure that institutional quality would decline, let alone be certain about how best to respond to the regime's promises of change.[7]

Much of the regime uncertainty that emerged during the Great Depression derived from changes or anticipated changes in the personnel of the administration. The New Deal involved appointing many individuals to key public offices who were widely viewed as "anti-business," and who therefore produced distrust and doubt among entrepreneurs (Higgs, 1997). However, the regime's seemingly radical position reflected a much broader sentiment, indicating that a value shift toward greater skepticism about markets and business was underway. For example, Schumpeter (1943: 181) admitted at the time to being surprised that, regarding "the policies of the New Deal, we cannot fail to be struck by the absence of any serious resistance to them." There was little popular disagreement with the shift in economic policy; "resistance" to the New Deal was apparent primarily in the business world—L3 and L4—and in the inertia of L2. In such an investment environment, where fears of increased taxation, nationalization, or outright socialization of industry—and thus, of the future of the market economy itself—existed, entrepreneurial action and investment were discouraged, ultimately prolonging the Depression. The lack of entrepreneurial investment hindered recovery and imposed significant costs on entrepreneurs.

Since Higgs' initial study of the effects of regime uncertainty, further research has expanded his analysis (Wiśniewski, 2012) and corroborated his findings in other contexts (e.g. Chamlee-Wright, 2007; Carden, 2008; Coyne and Boettke, 2009; Baker et al., 2011; Hanke, 2016). In particular, recent work has extended the analysis to the sluggish recovery period following the Great Recession, which has been characterized by many of the same fears regarding the future of entrepreneurial institutions (Laer and Martin, 2016). Importantly, although regime uncertainty was originally invoked to describe investment decisions, we argue that it is particularly important as a problem of entrepreneurial action, and an effective illustration of entrepreneurs' inability to respond directly to institutional misalignment in L1. The problem of regime uncertainty revolves around entrepreneurs' expectations about the unreliability of the institutional environment. Where entrepreneurs trust that society holds values beneficial to business and property rights, they can be confident its institutions will be respected such that profits will accrue to the entrepreneurs whose decisions created them. If the values enshrined in L1 appear stable and consistent, they will constrain lower level institutions in L2, L3, and L4, thus creating a reliable institutional environment for entrepreneurial action.

Regime uncertainty is an entrepreneurial problem because there is an important time element in entrepreneurs' perceptions (cf. McMullen and Dimov, 2013). Perceptions about future institutions matter greatly for entrepreneurs (Schumpeter, 1939: 1038–1050), especially expectations about the future security of property rights (Brouthers, 1995). These perceptions depend less on the formal protections provided by government and more on its expected de facto policies (Rapaczynski, 1996; Kalantaridis, 2014). If property rights are secure today, this makes little difference if entrepreneurs are convinced (even if

[6] In this section, we focus specifically on regime uncertainty in a negative sense in which uncertainty undermines entrepreneurs' trust in the institutional environment in which they invest resources in promising ventures. This is not the only way to conceive of uncertainty with respect to political regimes: we could, for example, discuss how uncertainty about a future transition to high-quality institutions encourages entrepreneurial activity. However, we focus on this negative case to explain how deep and far-reaching the consequences of institutional misalignment can be.

[7] A key feature of this specific example is that it assumes that institutional quality was relatively high prior to the onset of the Great Depression. In other words, regime uncertainty implies that entrepreneurs are negatively affected by institutional uncertainty. However, we can imagine a scenario where institutional quality is relatively low to begin with, and in which entrepreneurs are more optimistic because of institutional uncertainty. One possible example is the trend toward "bourgeois dignity" that occurred leading up to the industrial revolution (McCloskey, 2010). If rhetoric about entrepreneurship is positive, it might signal to entrepreneurs that social values are about to change in positive ways, thus encouraging investment.

erroneously) that they might be undermined at some relevant future point. Regime uncertainty exists because entrepreneurs do not trust the constraints L1 places on a potentially disruptive regime. Although entrepreneurs have doubts, they cannot be sure, because "the *potential* use of power does not necessarily translate into its *actual* use in business-government relations" (Stevens et al., 2015; emphasis in original).

Our analysis of regime uncertainty provides one example of why it is valuable to understand change and uncertainty among different institutional levels, which have fundamentally different implications for the market system and therefore also entrepreneurial practice. Entrepreneurs can handle and even benefit from uncertainty in the context of market and political action—L2, L3, and L4—but find it more costly and difficult to effect change in ideology. When faced with uncertainty relating to L1, entrepreneurs are sometimes left with no choice but to restrain their actions altogether or exit the market, rather than redistribute their talents horizontally or vertically among other institutions. Ideological trends and social norms relevant to entrepreneurs often change slowly and infrequently (Kalantaridis, 2014) and therefore are outside the scope of practical calculative action. In this specific sense, they are not subject to entrepreneurs' direct influence, and changes to them are attributable to luck more than to good judgment (Demsetz, 1983; McCaffrey, 2016). Our institutional approach thus provides one way of looking at the "critical area of inquiry" that appears at the crossroads between entrepreneurship, economic development, and institutions (Acs et al., 2008).

7. Discussion

We have identified and explained a key component of the relationship between entrepreneurship and uncertainty, namely, the role of uncertain institutions in determining entrepreneurs' decisions to abide, evade, alter, or even exit, and the role of these actions in generating further institutional uncertainty. We use Williamson's (1998, 2000) model of institutional levels of economizing as a lens to better understand the types of institutional uncertainty entrepreneurs face, and to explore how entrepreneurs can respond to their challenges. In line with Williamson, we find that entrepreneurs have the means to bear and even to overcome institutional uncertainty arising in three of the four levels, though such action can be extremely, even prohibitively, costly. We also further develop the concept of "regime uncertainty," a seemingly paradoxical problem for entrepreneurship, to illustrate entrepreneurs' inability to bear institutional uncertainty in the first and highest, social embeddedness level.

There are several advantages to this approach. First, disaggregating institutional levels, their relatedness and alignment, and the uncertainties attached to them, provides a novel way to distinguish between different types of entrepreneurial decision-making. It is generally acknowledged that uncertainty is a key feature of the entrepreneurial environment (McMullen and Shepherd, 2006; Foss and Klein, 2012; Bylund and Manish, 2016), but the exact relationship between entrepreneurial action and decision-making is often vague, as is the role of uncertain institutions. In particular, little attention has been paid to the possibility that contradictions between different types and frequencies of institutional change can produce distinct kinds of uncertainty that require distinct types of entrepreneurial judgment to overcome. Yet as we have shown, uncertainty due to perceived misalignment between institutional levels can provoke a wide variety of responses among market entrepreneurs within levels, some of which cause further institutional uncertainty, and some of which help to resolve it. For example, institutional uncertainty encourages evasive action within levels as well as altering entrepreneurship *between* levels in an attempt to reconcile social constraints and feedback mechanisms, thereby reducing uncertainty and nudging the institutional environment toward alignment, a kind of equilibrium. The idea that entrepreneurial actions can be undertaken within and between levels, and that both types of actions are responses to institutional uncertainty, offers a more nuanced way to view the constraints and incentives institutions provide entrepreneurs, as well as possible feedback actions.

Second, our analysis illuminates other findings in the entrepreneurship literature by suggesting how and why entrepreneurs choose to act in the non-market realm of politics (Henrekson and Sanandaji, 2011). Where formal institutions and policies restrict the scope of entrepreneurial action in ways that entrepreneurs (or their customers) consider illegitimate or arbitrary, entrepreneurs may choose to evade those institutions through action in L3 or attempt to alter them directly by taking action in L2. Entrepreneurs who choose to pursue political influence in L2 may be tempted to use the political apparatus not only to defend the market, but also to pursue privileges or other political measures to subdue competition, i.e. to rent-seek. If left unchecked, institutional uncertainty may therefore snowball into large-scale adoption of unproductive or even destructive entrepreneurship that could drain the market of capital by redirecting investments toward seeking political favors rather than creating value for consumers (Laer and Martin, 2016).

Our approach offers a third advantage by conceptualizing the ultimate institutional limits of entrepreneurship. That is, there are types of institutional uncertainty that create seemingly insurmountable obstacles to entrepreneurial action. Although some entrepreneurs can act to influence institutional conditions, market entrepreneurs must to some extent take them as given. This is particularly true of fundamental social institutions (L1): when they become uncertain, the most basic assumptions entrepreneurs make about the social world are thrown into doubt. This, in turn, undermines entrepreneurs' abilities to allocate resources, alter governance structures, and to directly influence social change through institutional entrepreneurship. Ultimately, if the costs of uncertainty at L1 are great enough, entrepreneurs will refuse to act or simply exit the market.

We illustrated this point through the example of the Great Depression, but our analysis is relevant for many other problems in entrepreneurship and related fields, including endogenous vs. exogenous institutions (Kalantaridis, 2014; Douhan and Henrekson, 2010), institutional voids (Puffer et al., 2010), "public entrepreneurship" (Klein et al., 2010), "policy entrepreneurship" (Mintrom, 1997), "policy uncertainty" (Baker et al., 2011; Julio and Yook, 2012), and "political risk" (Stevens et al., 2015; Agarwal and Ramaswami, 1992).

Institutional uncertainty also carries important implications for empirical problems in entrepreneurship. For example, given that several measures show increases in uncertainty during recessionary periods (Bloom, 2014), many questions could also be posed about the financial crisis of 2008, and the policy response to it (Laer and Martin, 2016). Similarly, policy responses to repel measured inequality can, through causing institutional uncertainty, have unintended and perhaps harmful effects on entrepreneurship (Packard & Bylund, forthcoming). The theory of the firm is also relevant (Bylund and Manish, 2016), as lasting institutional uncertainty may have decisive effects on market structure. Small entrepreneurial ventures and startups may be especially vulnerable if, due to their size and limited impact on the economy, they are not considered politically significant. This can in turn lead to additional mergers and acquisitions in order to increase firm size and thereby increase political importance and protection (cf. Klein and Klein, 2001), which small businesses usually lack in environments of poor political institutions (Manolova and Yan, 2002; Tonoyan et al., 2010; Williams and Vorley, 2015). Institutional uncertainty could therefore—and this hypothesis appears to be in line with Williamson (2000)—be a driver of firm size in industries subject to, for example, destructive entrepreneurship by incumbent firms. In addition, important empirical research remains to be done on reactions to and the long-term effects of institutional uncertainty.

While these and other important questions remain to be answered, our analysis nevertheless provides a framework for further study of the effects of uncertainty on institutional entrepreneurship, especially the degree to which misaligned institutions create uncertainty and thus affect entrepreneurs' perceptions of their reliability. It also offers a model that allows us to study institutional change and to trace its effects across multiple institutional levels or contexts. Importantly, even though, as North (1990: 6) notes, "institutions typically change incrementally rather than in discontinuous fashion," the effect of incremental change can be disruptive for the actions and expectations of individual entrepreneurs and whole industries, depending on where in the hierarchy the change takes place. Our analysis shows how entrepreneurs can and do respond to such uncertainty by economizing, choosing actions at the institutional level they expect to be most advantageous. It is also true that entrepreneurs' actions can cause institutional change. The discussion in this article reveals the central role of uncertainty in the relationship between entrepreneurial action and the institutional environment. Our conclusions thus uncover *how* institutional change "comes from the perceptions of the entrepreneurs in political and economic organizations that they could do better by altering the existing institutional framework at some margin" (North, 1990: 6). Future research should attempt to specify the empirical nature of these relationships and elaborate on the theoretical implications of the analysis.

8. Conclusion

This article investigated the vital entrepreneurial concept of uncertainty as it relates to the institutional structure of society. We introduced a framework for understanding "institutional uncertainty" that emphasizes how uncertainty appears at different institutional "levels." This approach shows that different types of uncertainty (that is, types arising on different institutional levels) affect entrepreneurship in diverse ways and thus warrant different responses. Common business entrepreneurship, which is carried out on the lowest institutional levels of market exchange and governance structures, is well-suited to overcoming uncertainty in those contexts. In fact, action in L3 can in some respects be explained as a response to uncertainty at L4. In contrast, uncertainty at the higher levels of the institutional environment warrants entrepreneurship aiming specifically to alter institutions. The most difficult case for entrepreneurs involves shifts in the deepest values and norms in society (L1), which typically create a type of uncertainty that falls outside the influence of business entrepreneurs. We illustrate this problem using the example of "regime uncertainty," a specific type of political uncertainty that undermines entrepreneurs' ability to engage in productive business entrepreneurship.

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