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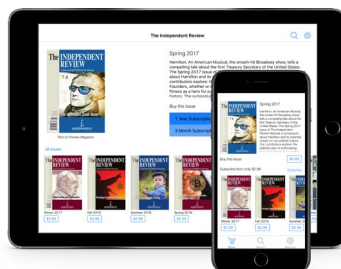
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Regime Uncertainty and the Great Recession

A Market-Process Approach

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WOLF VON LAER AND ADAM MARTIN

The U.S. recovery from the Great Recession has proceeded at a slow pace. Brady Lavender and Nicolas Parent (2012–13) show that the economy has been rebounding more slowly than from any other post–World War II recession. An International Monetary Fund (2012) report comes to a similar conclusion, and Edward Lazaer (2012) has gone so far as to call it “the worst economic recovery in history.”

Although the recession formally ended in June 2009, key indicators of economic vitality have continued to lag for several years. Net domestic investment was 32 percent lower in 2013 than the average from 2000 to 2007 (U.S. Bureau of Economic Analysis 2015). The unemployment rate of 5.0 percent in December 2015 may be close to full employment, but a more detailed comparison of employment indicators depicted in table 1 provides a more somber view of the recovery. Table 1 shows that in spite of an increase of 20 million in the U.S. population since 2007, the number of workers employed full-time has hardly risen. Part-time work has risen but not enough to compensate for the increase in population. Moreover, Matthew Dylan (2013) finds that the reduction in unemployment since the crisis started is due nearly entirely to the decline in labor force. The labor-force participation rate, at 62.6 percent in December 2015, is the lowest since February 1978 (U.S. Bureau of Labor Statistics 2014).

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Table 1
Comparison of Key Employment Numbers, United States, 2007–2015

Year	Population (in millions)	Full-Time Workers (in millions)	Part-Time Workers (in millions)	Labor-Force Participation Rate (%)
2007	301.6	121.428	24.740	66.0
2009	305.0	110.254	27.466	65.4
2015	321.4	122.013	27.689	62.6

Sources: U.S. Bureau of Labor Statistics 2008, 11; 2010, 11; 2015; and U.S. Census Bureau 2015.

A number of economists in both popular and academic outlets have pinned the slow recovery on uncertainty triggered by government policy. Scott Baker, Nicholas Bloom, and Steven Davis (2012) have constructed an Economic Policy Uncertainty Index that draws on discrepancies between forecasts and macroeconomic data, newspaper search results, and other indicators. They find that heightened policy uncertainty corresponds to lower output and employment. Thomas Siems (2010) argues that both consumer and investors are holding back due to uncertainty generated by Washington’s eclectic policies. Similarly, Allan Meltzer (2010) decries uncertainty about future taxes and regulations as the chief current enemy of economic growth.¹ Robert Higgs has argued in various popular outlets that the slow recovery is consistent with an episode of regime uncertainty (see Higgs 2008, 2010a, 2010b, 2010c, 2010d, 2011, 2012, 2013), a concept he first formulated to explain the “Great Duration” of the Great Depression (Higgs 1997).

This essay takes Higgs’s concept of regime uncertainty as a point of departure, utilizing the recovery from the Great Recession as an opportunity to investigate a possible extension of Higgs’s theory. Our primary goal is to show that regime uncertainty can be fruitfully situated in the broader theory of the market process as articulated by thinkers such as Israel Kirzner and Ludwig Lachmann.² This approach has several advantages. First, locating regime uncertainty within a broader framework insulates it from charges that it is an ad hoc explanation of economic sluggishness. Second, it facilitates the generation of new hypotheses about regime uncertainty that can be empirically examined. We offer one such examination to illustrate the fruitfulness of our approach. Third, these new hypotheses provide indirect evidence that can help judge what role regime uncertainty can play in explaining the Great Recession. This last task is far beyond the scope of one essay, in which we have only enough space to introduce our theory and explain one implication of it rather than to flesh out fully all such implications and adjudicate between our approach and other theories.

1. Alberto Alesina (2010), Alan Greenspan (2010), Juan Sánchez and Emican Yurdagul (2013), and Vernon Smith (2014) all raise similar concerns, linking uncertainty to slow growth and identifying government policy as the source of uncertainty.

2. We do not claim that regime uncertainty *needs* to be situated in market-process theory, only that it is productive to do so.

This essay begins by recapitulating and reinforcing Higgs's arguments that the slow U.S. recovery from the Great Recession can be plausibly characterized as an episode of regime uncertainty. The first section offers a uniquely comprehensive treatment of regime uncertainty in the Great Recession, synthesizing evidence from a wide range of qualitative and quantitative sources. We do *not* argue that regime uncertainty is the only explanation or even the best explanation of the slow recovery; rather, we seek only to establish that it is a sufficiently powerful explanation to merit further examination. The next section argues that the theory of regime uncertainty can be fruitfully recast in terms of market process theory. We conceptualize regime uncertainty as a negative shock to entrepreneurial alertness caused by government policies that substantially alter the rules of the game by which markets operate. This new theoretical approach to regime uncertainty fits the stylized facts identified by Higgs and allows us to generate new hypotheses subject to empirical investigation. The final section explores one such implication, presenting evidence that regime uncertainty has an asymmetric effect on small and medium enterprises and thus demonstrating the fruitfulness of our approach.

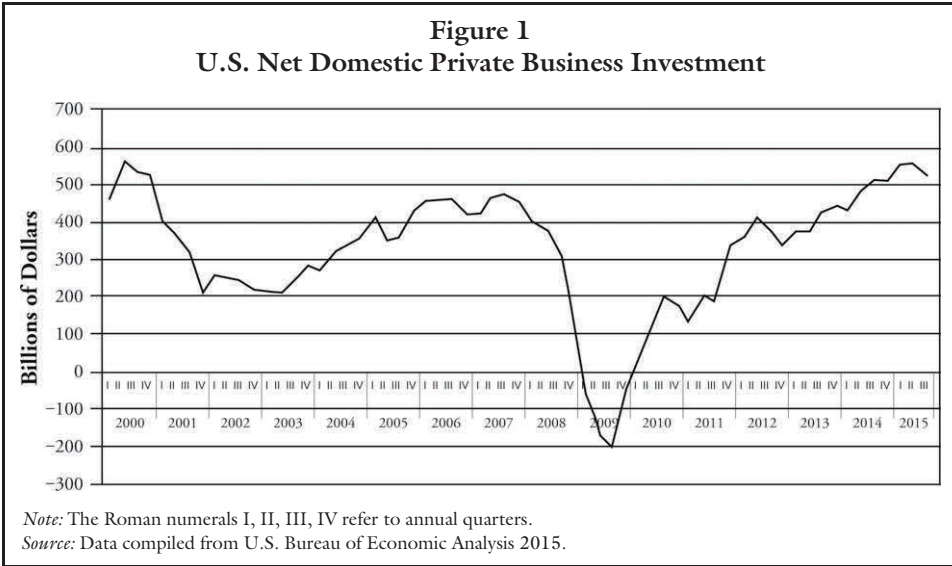
Regime Uncertainty in Wake of the Great Recession

Regime uncertainty is a situation in which investors are “distressed that [their] private property rights in their capital and the income it yields will be attenuated further by government action” (Higgs 1997, 568). This definition emphasizes the institutional framework within which economic activity takes place. Higgs continues: “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, for instance, of securities markets, labor markets, and product markets. 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” (568).

In his analysis of the Great Depression, Higgs points to the Franklin Roosevelt administration's panoply of new government programs and antibusiness rhetoric as proximate causes of such uncertainty. He compiles extensive survey evidence indicating that businessmen believed their returns on potential investments were threatened by the new regulations and by the administration's general policy stance. As a consequence of this belief, investment remained depressed throughout the latter half of the 1930s.

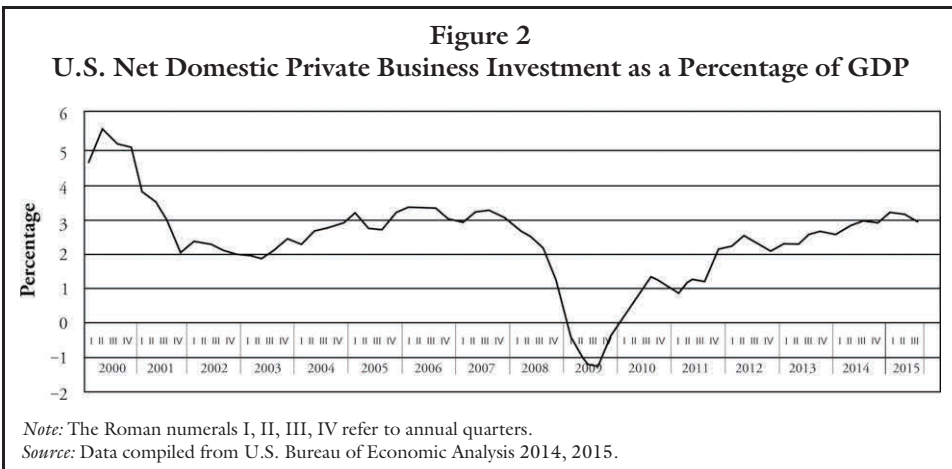
The conditions of the past few years are not as severe as those of the 1930s.³ Nonetheless, Higgs has put forward convincing arguments that regime uncertainty plagues the current recovery. We offer here a synthesis of this and other evidence

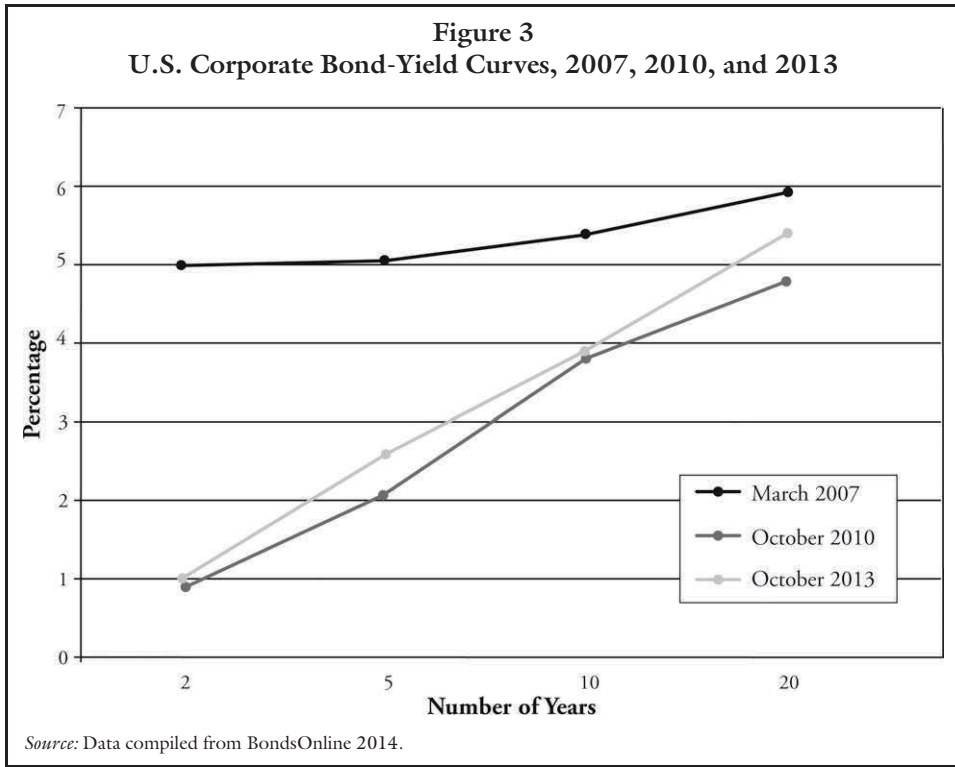
3. For a comparison of the changes in macroeconomic variables during the Great Depression and Great Recession, see Aiginger 2010 as well as Eichengreen and O'Rourke 2010.



to provide a more complete picture of regime uncertainty in the aftermath of the Great Recession.

Figure 1 indicates that domestic private net investment (henceforth “private investment”) finally surpassed the levels of 2006 and 2007 in the second quarter of 2014. However, these are net figures. Much of this investment was just recovery from losses incurred in the crisis. Figure 2 paints a less-encouraging picture. Private investment *as a share of gross domestic product* (GDP) remained below the precrisis levels as of the third quarter of 2015. Officially, the crisis period, as declared by the National Bureau of Economic Research (NBER) (2014), was from December 2007 to June 2009. In the precrisis years 2001–2007, average shares of investment





amounted to 2.8 percent of GDP, but in the postcrisis years private investment has averaged only 1.9 percent of GDP.⁴

If this investment shortfall is due to uncertainty about the future, one should expect to see a steeper yield curve for private bonds (Higgs 1997). As figure 3 shows, before the crisis, the corporate bond-yield curve was rather flat. The interest-rate spreads between different maturities of A-rated bonds differed between 5 percent and 6 percent. After a period of high volatility during the crisis, the corporate bond-yield curve is now much steeper than before the crisis. These yield curves are consistent with an increase in time preference due to heightened uncertainty about the future. A similar pattern was observable during the Great Depression in the midst of the Second New Deal policies (Higgs 1997, 2010c). Bond-yield curves for treasuries returned to their precrisis slope in early 2009. In addition, the private bond-yield curve is much steeper than the yield curve for Treasury bonds. If a steep yield curve were the result of inflationary expectations, the two curves would have a similar slope (Higgs 2010b).

4. See also Higgs 2013 for a slightly different approach regarding net private business investment. There, Higgs depicts the present-day economic recovery as rather weak and writes that “[t]he U.S. economy, in short, seems to be stuck in a decidedly subpar condition. Private investors are not making the volume of investments required to propel living standards upward at the same rate at which the economy achieved such improvements historically for almost two centuries” (315).

Just as in the case of the Great Depression, the past few years have witnessed a large uptick in new and sometimes sweeping policies. Regulation has rapidly expanded since the crisis. Patrick McLaughlin and Omar Al-Ubaydili (2013) report that the number of binding rules in the Federal Code of Regulation rose by 11.2 percent from 2007 to 2012. By comparison, between 2001 and 2006 binding rules increased by only 5.3 percent. From 2007 to 2012, the budget allocated to economic regulatory agencies (*excluding* environmental and workplace-related regulation) rose 30 percent (Dudley and Warren 2008, 22, and 2013, 17). Over that same period, the number of personnel employed by regulatory agencies grew by about 17 percent (Dudley and Warren 2008, 28, and 2013, 23). The trend continued in 2015 with an estimated increase of \$3.1 billion to a total of \$60.9 billion in regulatory outlays (Dudley and Warren 2014, 1). Moreover, Susan Dudley and Melinda Warren (2014) also find that this increase in regulatory activity has been focused more on economic regulation than on social regulation. Notably, these findings exclude the budget of the Department of Health and Human Services, which is in charge of the implementation of the Affordable Care Act.⁵

Survey data are consistent with this view. Although surveys are limited, what matters for our argument are not the objective effects of government policies but rather how they are perceived. A number of Gallup polls highlight the heightened level of concern with government activity in the past few years. In a sample of U.S. citizens, the proportion of respondents who believe that there are too many economic regulations in the United States rose from 36 percent to 47 percent between 2006 and 2012 (Pollingreport 2013) and continued to rise slightly to 48 percent and 49 percent in 2013 and 2014, respectively (Newport 2014). A different survey finds that trust in all branches of the U.S. federal government has been declining; the trust in legislative and judicial bodies is at its lowest point since 1973 (Jones 2013). Two surveys in 2013 found that fewer Americans (42 percent) than ever before trust the federal government to handle domestic problems (Wilke and Newport 2013) and that a majority (60 percent) believe that the federal government has too much power (Wilke 2013). Another survey shows that 72 percent of respondents perceive the federal government as the biggest threat to the future of the United States (Newport 2013). The chief economist of Moody's Analytics Division, Mark Zandi, summarizes these concerns: "Increasingly I'm of the view that the reason why our economy can't kick into a higher gear is because of the uncertainty created by Washington" (quoted in Sullivan 2013).

5. One may argue that such regulation is beneficial or detrimental in the long run, but this view does not affect our own argument either way. There is ample evidence that *in the short run* the regulatory response to the Great Recession created a more complex and less transparent business environment. The rules that facilitate a quick recovery are transparent, simple, and friendly to investment, enabling entrepreneurs to better adapt to a change in economic conditions (Epstein 2009). Christian Bjørnskov (2015) found in analyzing 212 crisis episodes in 175 countries that higher levels of economic freedom are strongly negatively correlated with the duration of a crisis.

Taken together, the previous data indicate that (1) the recovery from the Great Recession has proceeded slowly, (2) investors are uncertain about the future, and (3) there is concern among business owners and the population at large that federal policy initiatives are harmful to the economy. Thus, the past few years can credibly be characterized as a period of regime uncertainty. We do not claim that regime uncertainty is the only or even the dominant reason for the slow recovery, only that it deserves to be taken seriously.⁶

A Market-Process Perspective on Regime Uncertainty

Situating regime uncertainty within a more robust theoretical framework can enhance and extend its explanatory power. In Higgs's original article on this topic (Higgs 1997), the theoretical mechanism—drawing on the work provided in a collected volume edited by Lee Alston, Thrain Eggertsson, and Douglass North (1996)—is that the security of property rights influences investment and thus economic growth. In a later qualification of his previous work, Higgs (2008) offers an expansive conception of property rights, giving due attention to how various policies—regulatory, fiscal, and monetary—abrogate entrepreneurs' control over resources.

We do not object to this account, but it does merit refinement for three main reasons. First, theories such as North's that relate to the quality of property-rights enforcement are best suited to explaining long-run economic performance (or "secular growth"). The symptoms of regime uncertainty, by contrast, are episodic. Like a business cycle, regime uncertainty concerns the short- to medium-term fluctuations in economic activity rather than longer-term trends. Distortive rules and interventions are a persistent background condition of most economies, yet *severe* symptoms of sclerotic investment are more transitory. Periods of slowly recovering investment are probably best characterized as an adjustment process. For this reason alone, market-process theory is an attractive framework for refining the microfoundations of regime uncertainty. Second, situating regime uncertainty within a broader theoretical framework bolsters its generality, creating a bulwark against accusations that regime uncertainty is an ad hoc concept. Third, refining the theory behind regime uncertainty allows for extensions of the concept that can be explored theoretically and empirically.

Market-process theory identifies entrepreneurial profit seeking as the driving force that coordinates economic activity (Kirzner 1997). In the context of market

6. Although this section focuses on the United States, the European Union's (EU) slow recovery from the Great Recession is also consistent with an episode of regime uncertainty. The EU responded to the crisis with 1.5 trillion euros in stimulus investments—or approximately 12 percent of the EU's GDP—from 2008 to 2012 (European Commission 2014). The European Supervisory Authority was founded in early 2010 and created three new regulatory agencies that oversee, coordinate, and delegate regulatory output to the national regulatory authorities. Recent research evaluating surveys conducted by the EU has found evidence that regulatory output and legal uncertainty have increased (Laer 2015a). In general, the voices advocating for more regulation became more powerful in the aftermath of the Great Recession (Quaglia 2012).

institutions, successful entrepreneurship takes the form of arbitrage. A profit opportunity presupposes a price discrepancy between commodities that are (or could be) substitutes. The existence of such a discrepancy reveals a lack of coordination in market participants' plans. Production and consumption activities would be better aligned with fewer inconsistencies if resources were allocated differently. An entrepreneur earns a sheer profit when he imagines and executes a plan that reallocates resources and tends to dissipate the profit opportunity.⁷

Market prices both reveal the existence of discoordination and incentivize its correction. But what of the possibility of entrepreneurial error—failing to perceive profit opportunities or imagining opportunities that do not exist? Entrepreneurs imagine and enact plans simultaneously with other entrepreneurs. Different entrepreneurs may imagine inconsistent profit opportunities in response to the same market conditions.⁸ Understanding entrepreneurship as arbitrage highlights this conundrum: as an entrepreneur enacts a plan predicated on extant price signals, other entrepreneurs may concurrently enact other plans that make those signals obsolete.

Systemic coordination depends on the cultivation and exercise of entrepreneurial alertness. Alertness is the capacity to aptly forecast future market conditions and thus to identify plans that will actually result in a profit. Alertness is not just luck. If successful entrepreneurship is solely a matter of fortuitous coincidence of plans, there would be no reason to believe that economic activity should be coordinated at all. Orderly patterns of indirect exchange would be mere happenstance. If alertness is not random, then *realized* profits and losses act as a selection mechanism for resource control. Earning profits at time t increases the resources at one's disposal at time $t + 1$. This increase channels investment funds into the hands of entrepreneurs, who—until unexpected changes arise—are more alert. At any given time, prices tend to reflect the best guesses of most able entrepreneurs (Kirzner 1996).

Alertness is specific to context. All individuals “share in this ability to some extent . . . [b]ut some have higher degrees of this ability—some in some lines of endeavor, others in other lines of endeavor” (Kirzner 1992, 26). Alertness depends in part on the specific knowledge of time and place that entrepreneurs have. Jason Arentz, Frederic Sautet, and Virgil Storr (2012) provide experimental evidence consistent with this view, finding that subjects “primed” with information suggesting an arbitrage opportunity were twice as likely to discover it as those not so primed. Adam Martin (2011), following Vernon Smith (2007), argues that alertness is a form of ecological rationality and as such is highly context dependent. Social environments serve as incubators of entrepreneurial alertness; this process takes time,

7. Even “Schumpeterian” or innovative entrepreneurship can be seen in terms of arbitrage because innovations still turn existing resources into new products (Kirzner 1999).

8. Following Frederic Sautet (2000), one might call this the “Lachmann problem.” For our purposes, though, the debate between Lachmann and Kirzner on the epistemological status of coordination is irrelevant. All that matters is that both think coordination is possible and that market institutions play a role in securing it.

so radical shifts in social environments may act as a “shock” to existing forms of alertness.

Another key insight of market-process theory is that the *cultivation* and *exercise* of alertness depends not only on monetary calculation—prices, profits, and losses—but also on the broader institutional framework of commercial activity (Kirzner 2000, chap. 4). Both formal legal rules and informal cultural norms serve as points of orientation by which entrepreneurs can form better expectations about which projects may be profitable (Lachmann 1971; Lewis 2011). When government regulations displace market institutions, they change not only incentives but also the entrepreneurial discovery process that normally characterizes market activity (Kirzner 1985).

Episodes of regime uncertainty can be fruitfully characterized as *negative shocks to entrepreneurial alertness* caused by alterations to market institutions. During an episode of regime uncertainty, entrepreneurs’ ability to form correct expectations of future market conditions has been hobbled. The driving force of the market sputters, and market participants are temporarily unable to achieve the level of coordination they could before the negative shock.

Regime uncertainty shuffles the epistemic points of orientation that market institutions provide. Economic activity becomes disordinated to the extent that the epistemic guidance of such institutions was the binding constraint on the level of coordination prior to the onset of regime uncertainty. The length and severity of discoordination depend on the degree to which entrepreneurs’ alertness was specific to the prior institutional regime and on how closely the new regime resembles the prior one. Some forms of alertness will carry over and allow for rapid recoordination, whereas other forms of alertness will be rendered wholly obsolete.

The exercise of alertness depends not only on stable legal rules but also on the more fluid forms of governance provided by contracts and firms (Williamson 2000). Contracts and firms create a basis for entrepreneurs to explicitly coordinate their plans and thus enable entrepreneurs to protect against some changes that might render the completion of longer-term projects less profitable (Sautet 2000). A firm’s capital combinations—including both traditional capital goods and the firm’s contractual arrangements—“operationalize” entrepreneurial alertness into an organizational structure (Horwitz 2002).

The proximate cause of an episode of regime uncertainty renders some of these firms, contracts, and capital combinations unprofitable or even unfeasible. For example, a change in statutory law may render a broad class of contracts, such as labor contracts, unprofitable for certain types of work. Not only would entrepreneurs need to orient their expectations to the new rules, but they would also need to renegotiate or replace the contractual relationships predicated on those rules.

Economic activity becomes sluggish because of the negative shock to entrepreneurial alertness caused by regime uncertainty; profitable opportunities are less likely to be noticed, and economic growth slows. But there is little reason to suppose the slowdown is permanent. New forms of entrepreneurial alertness can grow up—like

weeds—in the new institutional environment. This process will take time, however, because entrepreneurs need to operationalize these new forms of alertness by modifying firms, contracts, and capital combinations. Devising and signing new contracts and reallocating capital goods are costly and require time. Recoordination is thus a piecemeal process.

Conceptualizing regime uncertainty as a negative shock to entrepreneurial alertness also opens the door to extending and elaborating Higgs's theory by drawing out its implications. Here we briefly mention three such possible extensions, the last of which is sketched out in more detail in the remainder of this essay. The first and most obvious implication of our approach is that it extends the applicability of regime uncertainty beyond postcrisis recoveries. In principle, negative shocks to entrepreneurial alertness can take place *without* a preceding economic crisis. Second, integrating regime uncertainty into market-process theory raises the question of how entrepreneurial activity gets redirected. Well-functioning market institutions direct entrepreneurship into activities that coordinate an advanced division of labor. The impairment of institutions does not eliminate profit seeking but rather redirects it into domains in which profits are more easily grasped, initiating a "superfluous discovery process" (Kirzner 1985, 144–45). This redirection is consistent with Higgs's own observation that investors shift toward more short-term investments. But entrepreneurial activity may be redirected in other ways as well, such as to other jurisdictions (capital flight) or to other institutional spheres (e.g., rent-seeking activities). A third implication of our approach, which we explore in the next section, is that there may be important and systemic differences in how an episode of regime uncertainty affects different sorts of enterprises and different sectors of the economy.

Regime Uncertainty and Heterogeneity: The Case of Small and Medium Enterprises

Alertness, we have argued, is deeply contextual. It is specific to certain lines of endeavor, depends on a range of institutions, and gives rise to a wide variety of business organizations. It would be odd, then, if a negative shock to alertness were to manifest uniformly throughout a complex and heterogeneous economic system. Particular disturbances to both the institutional regime and the nexus of contractual relationships in all likelihood have radically different effects across different sectors, regions, and types of firms. These differences suggest that one can disaggregate episodes of regime uncertainty. In the rest of this essay, we set out to illustrate, though not exhaust, this possibility with regard to the recession of the past few years.

One margin on which enterprises may differ in crucial respects is firm size. Although the analytical category of an entrepreneurial plan may not map one-to-one onto firms as legal entities, firm size surely reflects important substantive differences in the nature of the profit opportunities that entrepreneurs pursue. We argue that

these differences in context may make smaller-scale enterprises far more susceptible to the effects of regime uncertainty. There are a number of plausible reasons for this asymmetry:

1. *Marginal versus Inframarginal Plans.* Larger firms are more capable of altering the scale on which they operate. In particular, they have room to shrink without shutting down entirely. Popular chains normally do not face the decision of whether to stay in business altogether or shut down, but whether to open or close marginal locations. The owner of a single restaurant has fewer margins on which to adjust.

2. *Fixed Costs of Compliance.* Larger firms are better able to bear the fixed cost of compliance with new regulations. As is commonly stressed in the public-choice literature, regulations can even benefit larger firms because these firms can spread the cost of compliance over more output than their smaller competitors. A firm that already has lawyers on staff can adapt to regulatory changes more nimbly than one that does not. Compared to larger firms, smaller companies are at a disadvantage in monitoring and adapting to new rules because larger firms can afford to keep dedicated lawyers and accountants on staff to sort through new regulations.⁹

3. *Rent-Seeking Costs.* Following a similar logic, larger firms are likely better positioned to redirect their endeavors in the face of regime uncertainty. One crucial form this redirection might take is toward rent-seeking activity, which, following Mancur Olson (1965), is more likely to pay off for larger companies. Large firms likely face lower organizational costs for exploiting such opportunities than do coalitions of small firms. As a consequence, the content of new regulations is less likely to be unfavorable to larger firms.¹⁰

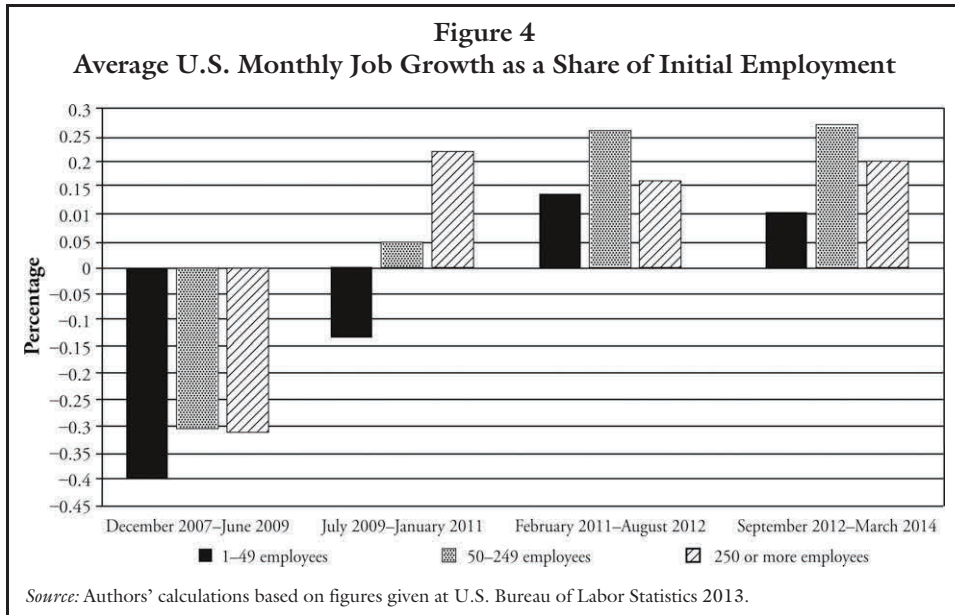
4. *Epistemic Heterogeneity.* William Baumol (2004) notes an empirical link between the size of firms and the nature of the innovation they produce. Whereas large firms incrementally improve existing products, smaller firms typically introduce new types of goods and services. In market-process terms, more revolutionary discoveries—more radical forms of dissent from existing ways of doing things—are associated with smaller enterprises. These innovations rely on more fundamental cognitive leaps and confront more uncertainty; as a consequence, they probably rely even more on the epistemic orientation provided by stable and secure market institutions than do more routine enterprises.

These arguments make it plausible to posit that episodes of regime uncertainty have more deleterious consequences for smaller firms than for larger ones.¹¹

9. Smaller firms may outsource some compliance costs by hiring law firms, but this possibility is also open to larger firms. Essentially, larger firms *can* make a “make or buy” decision on legal advice depending on which has lower total cost, whereas small firms are stuck with only “buy.”

10. Smaller firms can band together in the form of trade associations, but this organizational problem is costly.

11. One potential counterargument is that small firms may suffer simply due to the costs of regulatory compliance rather than to uncertainty. There are three problems with this counterargument. First, we do not seek to establish conclusively that *only* our theory accounts for the evidence we marshal, only that our



In the years since the Great Recession, the data on the performance of small and medium enterprises (SMEs) are consistent with this hypothesis. Once again, our goal is not to establish conclusively that smaller firms' travails can be attributed primarily to regime uncertainty but rather only to illustrate that various data are consistent with this implication.

Figure 4 presents the U.S. Bureau of Labor Statistics data on job openings and labor turnover, broken down by firm size in nineteen-month increments (the length of the recession, according to the NBER). The monthly data come from a sample of more than 16,400 nonfarm businesses. The figures for December 2007 to June 2009 show that during the NBER-defined recession period SMEs with one to forty-nine employees shed far more jobs than did larger firms. Smaller firms also experienced a slower recovery. In the period immediately following the recession, from July 2009 to January 2011, SMEs with one to forty-nine employees continued to lose jobs, whereas larger firms began to recover.

theory is consistent with the facts. Second, many of the costs of compliance are information costs. Empirically, it is difficult to disentangle information costs from more radical forms of uncertainty because they normally coexist. Information costs are the result of deliberate searches, whereas entrepreneurship involves grappling with uncertainty. But as Randall Holcombe (2003) points out in the context of research and development, search can create more scope for entrepreneurship. Just as lowering search costs creates more opportunities for entrepreneurship, increasing them can make entrepreneurship more difficult, which may affect firms of different sizes asymmetrically. Finally, in claiming that *uncertainty* rather than mere regulatory burden affects firms, we are making a claim about an *episode* of recovery rather than about a secular trend. Regulations may burden smaller firms with higher costs in the long run, but we argue that they *also* have an added epistemic effect on entrepreneurship in the short run.

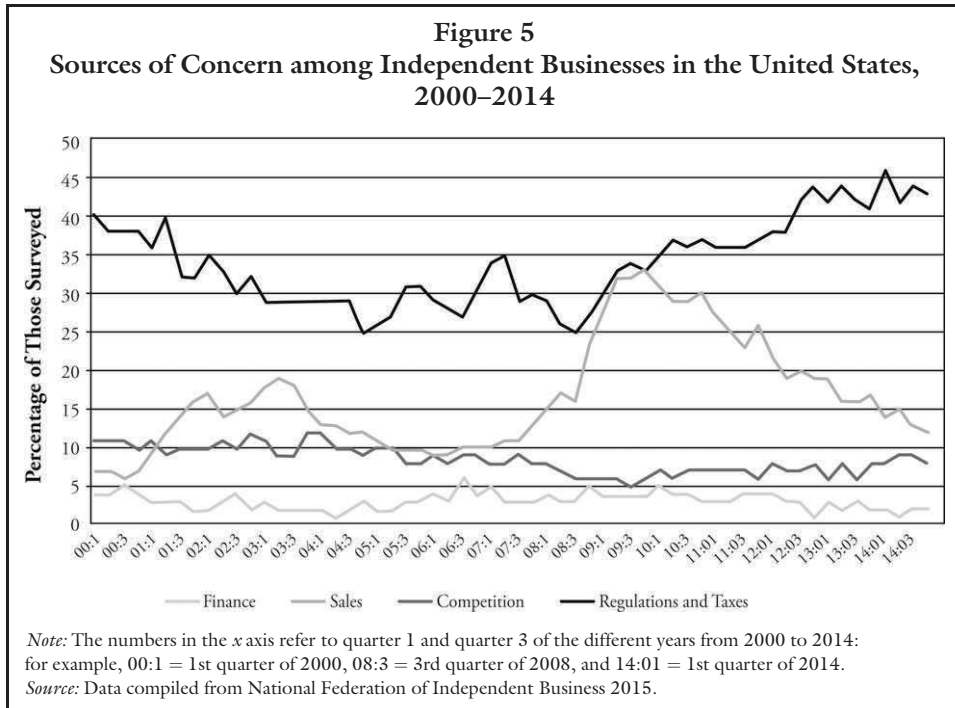
These data make it plain that SMEs shed jobs more rapidly and recovered more slowly than larger firms. New firms, defined as firms that are less than twelve months old, accounted for only 9.6 percent of total firms from 2008 to 2010, a smaller share than at any time since the Census Bureau began collecting such data in 1974. As of 2012, this ratio remained lower than the historical average (Center for Economic Studies 2014). The same report indicates that new firms created fewer jobs in 2010 than in any year since 1983. Established businesses, in contrast, started hiring again in 2010. These findings are consistent with a wide range of research indicating that various forms of uncertainty more adversely affect SMEs than they do larger businesses (Ghosal and Loungani 1996; Koetse, Van der Vlist, and De Groot 2006; Bianco et al. 2013; Ghosal and Ye 2014, esp. table 8).¹²

Survey data confirm that the concerns of small businesses exactly parallel the broader evidence for regime uncertainty discussed earlier. The National Federation of Independent Business's monthly surveys of a random sample of its more than 10,000 member businesses encapsulates this general trend clearly. Each month respondents are asked about their biggest concerns. Since early 2010, small businesses have consistently reported that taxes and government regulation are their primary source of concern (figure 5). A U.S. Chamber of Commerce survey of 1,482 small businesses (defined as businesses with up to five hundred employees and less than \$25 million in revenue) reports that "86% of small businesses believe that regulation, rules, and taxes will negatively impact their ability to operate" (2012).

Among business owners, two pieces of legislation in particular can be singled out as sources of concern: the Patient Protection and Affordable Care Act (PPACA) and the Dodd–Frank Wall Street Reform and Consumer Protection Act (Dodd–Frank). PPACA is the third lengthiest of 8,431 bills passed by Congress in the past three decades (Laer 2015b). The length of the bill is an imperfect but instructive measure of its scope. A better measure can be found by searching for the PPACA in the *Federal Register* for 2014. The law is not a given bundle of regulations but an order to federal bureaus to issue new rules, a process that is still ongoing. Thus far, there are 619 rules regarding PPACA plus 481 proposed rules. These rules are accompanied by 801 "documents of notice" that provide regulatory guidance for both bureaus and businesses. Businesses not only have to understand the PPACA and the laws it alters but also have to anticipate future regulations that the act will ultimately create.¹³ Delays

12. One may argue that this asymmetry is due to small firms' greater dependence on loans combined with a credit crunch in the wake of the crisis (Berger and Udell 1998, 2006; Audretsch and Elston 2002). However, a Richmond Federal Reserve Bank report argues that the *demand* for credit fell precipitously as well (Nash and Zeuli 2011, 3). The evidence in figure 5 is consistent with the latter interpretation. And even where access to loans is a binding constraint on small businesses, we show later that regime uncertainty may still be at play, especially the uncertainty created by Dodd–Frank.

13. William Li and his colleagues (2014) likewise find that Dodd–Frank and the PPACA are considerably more complex than the average law.



in implementation only contribute to the resulting regime uncertainty by leaving the final contours of the law ambiguous.

A U.S. Chamber of Commerce (2013) study reports that 48 percent of small-business owners (from a sample of more than 1,300 small businesses) believe that the PPACA will have detrimental effects on them, and only 9 percent expect positive results. The report also shows that 41 percent of surveyed small businesses are holding back on hiring new employees, and 38 percent have refrained from growing due to PPACA. Finally, 71 percent claim that the PPACA makes it more difficult to hire new employees. Chris Conover (2013) estimates that 650,000 workers had their working hours reduced as a result of the legislation. Most small businesses surveyed by the Chamber of Commerce found themselves overwhelmed by the PPACA's requirements and not fully prepared for many of the law's provisions (U.S. Chamber of Commerce 2013). A Kauffman Foundation (2014) study found that in 2014 only 19 percent of the more than 12,000 surveyed small businesses felt prepared for the implementation of the PPACA. In 2012, a Gallup poll found that 48 percent of small businesses named the PPACA as the main reason for not hiring any additional employees (Jacobe 2012).

The PPACA also illustrates the costly process of recontracting that accompanies a negative shock to entrepreneurial alertness. Because existing firms are a response to the previous institutional regime's governing of market activity, they need to be reshaped according to the profit opportunities that exist under the new

rules. This is demonstrated most clearly by the shift to part-time labor in the wake of the PPACA (Mulligan 2014). Entrepreneurial plans are more likely to succeed if they utilize a smaller proportion of full-time workers than they did before in order to decrease health-care costs (Conover 2013; Graham 2014). Larger businesses can substitute capital for labor and bear the increased costs of compliance easier than can smaller companies with fewer margins on which to adjust, but many smaller businesses are less able to cope with these regulations.

Adaption to new regulation is not the only asymmetric cost favoring larger firms. Another is the cost of monitoring the regulatory process. In 2012, Congress enacted 121 laws. Regulatory agencies were comparatively more enthusiastic. They enacted 3,708 regulations in 2012 (Crews 2013, 3). This means that nearly 97 percent of all new regulatory rules were issued by bureaucracies and not crafted by democratically elected representatives. To put it differently, twenty-nine times more rules were issued by agencies than by Congress. One year later, this ratio increased to fifty-one rules being enacted for every law passed in 2013 (Crews 2014, 3). Regulatory decision making in bureaucracies is more complicated for the public to anticipate and track compared to the legislative process in the two houses. A report by the U.S. Government Accountability Office found that in more than one-third of the cases regarding major economic regulation (regulation with an expected impact on the economy of \$100 million or more), regulators failed to issue public notices of proposed rules (2012).

Dodd–Frank was also of particular concern among small businesses. At 357,386 words, it is the fourth-longest law written in the past four decades (Laer 2015b). Dodd–Frank was signed into law in 2010. According to a report from Davis Polk & Wardwell (2015), roughly 75 percent of its 395 rule-making requirements had been put into place by December 2015. The remaining quarter of the rules are still currently being implemented. These lengthy rollout processes make it harder for business owners to anticipate their future costs of compliance. Robert Greene and his colleagues estimate that the act, once fully implemented, will increase the size of the sections relevant to the financial industry in the Code of Federal Regulations by about 26 percent (2013, 193). Financial institutions will have to expend substantial resources studying, interpreting, and complying with these new regulations. In 2012, 75 percent of seventy-five surveyed (mostly community) Florida banks stated that they will hire one to five more additional full-time employees to deal with the rising burden of regulatory compliance (Atwater 2012, 10). The same report finds that the uncertainty and confusion generated by Dodd–Frank has significant negative effects on banking operations (Atwater 2012, 6).

Small-business owners rarely claim that access to loanable funds is the binding constraint on their profitability. However, even when finance is the binding constraint, regime uncertainty caused by Dodd–Frank is still at play. Small community banks are disproportionately affected by Dodd–Frank in the same way that SMEs more generally are disproportionately affected by regime uncertainty. Because community

banks are an important source of funding for SMEs, the uncertainty confronting the banks translates into a lack of funds for new businesses (Nash and Zeuli 2011, 4). Heather Peirce, Ian Robinson, and Thomas Stratmann surveyed two hundred small banks in forty-one states and found that 90 percent of them experienced increased compliance costs due to Dodd–Frank; these costs translated to higher fees for their customers (2014, 64–65). A report issued by the Dallas Federal Reserve Bank similarly found that small banks are adversely affected by the new regulations (Gunther and Klemme 2012). These regulations also discourage smaller banks from seizing profit opportunities that would allow them to grow larger. Some banks have reportedly held back on growth (Chaudhuri 2014a). In 2013, there was only one case of a new bank registered at the Federal Deposit Insurance Corporation; in contrast, in 2006 there were 190 approvals of new banks (Chaudhuri 2014b).

Just as with the broader, economy-wide trends surveyed earlier, these data sources are consistent with our understanding of regime uncertainty. Small businesses (1) recover more slowly than larger firms, (2) cite uncertainty regarding policy as a chief source of concern, and (3) experience particular difficulties navigating new waves of regulation. These conclusions are consistent with a market-process approach to understanding regime uncertainty that highlights the importance of entrepreneurial alertness embedded in market institutions as the force that normally coordinates economic activity. When those institutional background conditions are disrupted, it impairs entrepreneurs' ability to effectively seize profit opportunities.

Conclusion

Market-process theory provides a convincing and fruitful lens through which to view regime uncertainty. Episodes of regime uncertainty are constituted by a substantial shift in the institutional background conditions that facilitate the cultivation and exercise of entrepreneurial alertness. This conception of regime uncertainty fits the details adduced by Higgs and by situating the theory in a broader framework facilitates the extension of the theory to draw out more specific implications. We have introduced preliminary evidence regarding one of those implications, that smaller-scale enterprises are more susceptible to the deleterious consequences of regime uncertainty. However, this dimension of enterprise heterogeneity is likely not the only one to be relevant under conditions of regime uncertainty. Further studies might look at differences between firms in different sectors, with varying management and ownership structures, with differing levels of international mobility, or with different customer bases.

Other implications to our framework bear further investigation. Episodes of regime uncertainty, if our analysis holds up, may not require a prior crisis. Changes in institutions—or anticipated changes in institutions—may be sufficient. In addition to expanding the explanatory reach of the theory, this implication has the advantage of allowing “out of sample” predictions. Identifying episodes of regime

uncertainty in noncrisis contexts would bolster the persuasiveness of this approach to explaining crisis situations and provide a bulwark against arguments that it is ad hoc.

This possibility also raises the question of whether only “negative” changes to institutions—those that impair existing forms of commercial activity—can cause an episode of regime uncertainty. Throughout this essay, we have assumed, because of the case we were examining, that changes in institutions tend to create ambiguity and barriers to entry. But market-friendly institutional reforms may also render some forms of entrepreneurial alertness obsolete and may lead to an economic slowdown. In the case of an improvement in rules, there is a countervailing force: the improvement in institutional quality makes new ventures possible. We leave it as an open question whether these two forces will necessarily offset one another in the short run.

Another line of inquiry might focus on *how* entrepreneurial activity is redirected in an episode of regime uncertainty. Individuals do not stop seeking profit just because the rules have changed. One natural direction of reallocation in a fluctuating institutional environment is toward shorter-term investments. This implication is consistent with the data about the yield curve. Entrepreneurs may also seek out opportunities in other jurisdictions, leading to capital flight. Political entrepreneurship may displace market entrepreneurship as profit seekers become rent seekers. Or entrepreneurs may redirect attention and resources toward pursuing nonmonetary profit opportunities in various forms of consumption activity (including civil society endeavors).

We submit that these avenues of inquiry are promising, can increase our understanding of regime uncertainty, and provide fruitful extensions of market-process theory. Our goal has not been to exhaustively enumerate these avenues but rather to explore one of them, showing that there are profit opportunities to be exploited by pursuing these questions.

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