



# **LOW-HANGING FRUIT GUARDED BY DRAGONS**

---

Reforming Regressive Regulation to Boost  
U.S. Economic Growth

**BRINK LINDSEY**



# **LOW-HANGING FRUIT GUARDED BY DRAGONS**

---

---

Reforming Regressive Regulation to Boost  
U.S. Economic Growth

**BRINK LINDSEY**

**CATO**  
INSTITUTE

Copyright © 2015 by the Cato Institute.  
All rights reserved.

Print ISBN: 9781939709882  
Digital ISBN: 9781939709899

Printed in the United States of America.  
Cover design by Jon Meyers.

Cato Institute  
1000 Massachusetts Ave., N.W.  
Washington, D.C. 20001  
[www.cato.org](http://www.cato.org)

## EXECUTIVE SUMMARY

**T**he U.S. economy is slowing down. Trends for all the major components of growth are now uniformly unfavorable: labor participation is falling, the pace of human capital accumulation is slackening, the rate of investment is in long-term decline, and growth in total factor productivity has been low for three of the four past decades. A sudden turnaround is always possible, but there are strong reasons for believing that U.S. economic growth in the coming years will fall well short of the long-term historical trend.

Progressives, conservatives, and libertarians have a strong common interest in reversing this growth slowdown. They may have different ideas about what to do with the extra money yielded by higher growth, but all sides have a stake in getting a chance to fight it out.

Agreement on ends, however, need not translate into agreement on means. Indeed, the U.S. political debate today is beset by intractable ideological conflicts over tax and budget policy, financial regulation, health care financing, and many other issues with a strong bearing on the climate for economic growth.

Despite today's polarized political atmosphere, it is possible to construct an ambitious and highly promising agenda of pro-growth policy reform that can command support across the ideological spectrum. Such an agenda would focus on policies whose primary effect is to inflate the incomes and wealth of the rich, the powerful, and the well-established by shielding them from market competition. A convenient label for these policies is "regressive regulation"—regulatory barriers to entry and competition that work to redistribute income and wealth

up the socioeconomic scale. This paper identifies four major examples of regressive regulation: excessive monopoly privileges granted under copyright and patent law; restrictions on high-skilled immigration; protection of incumbent service providers under occupational licensing; and artificial scarcity created by land-use regulation.

Although there are vigorous debates about proper policy in all of these areas, the contending sides are not divided along left-right or Republican-Democratic lines. And it's not simply the case that one can find policy experts on both sides who favor reform. Rather, it's very difficult to find disinterested experts anywhere on the political spectrum who support the status quo. Such support is largely confined to the well-organized lobbies that profit from the current rules.

Hence the title of this paper. For all who are interested in better long-term U.S. economic performance, rolling back regressive regulation is the low-hanging fruit. Reforming these policies is something we know will make a positive difference, and by "we" I mean the vast majority of disinterested experts. Unfortunately, though, this low-hanging fruit is guarded by "dragons"—the powerful interest groups that benefit from the status quo, all of which can be counted upon to defend their privileges tenaciously.

Although opposition to progress would be formidable, pursuing an agenda of curbing regressive regulation would open up a new front in the ongoing policy fight. Instead of another left-right conflict, the contest could be framed as a choice between the public interest and vested interests. With an unprecedented deterioration in the long-term growth outlook now looking likely, this novel approach is well worth trying.

“A dispiriting economic malaise has persisted.”

## INTRODUCTION

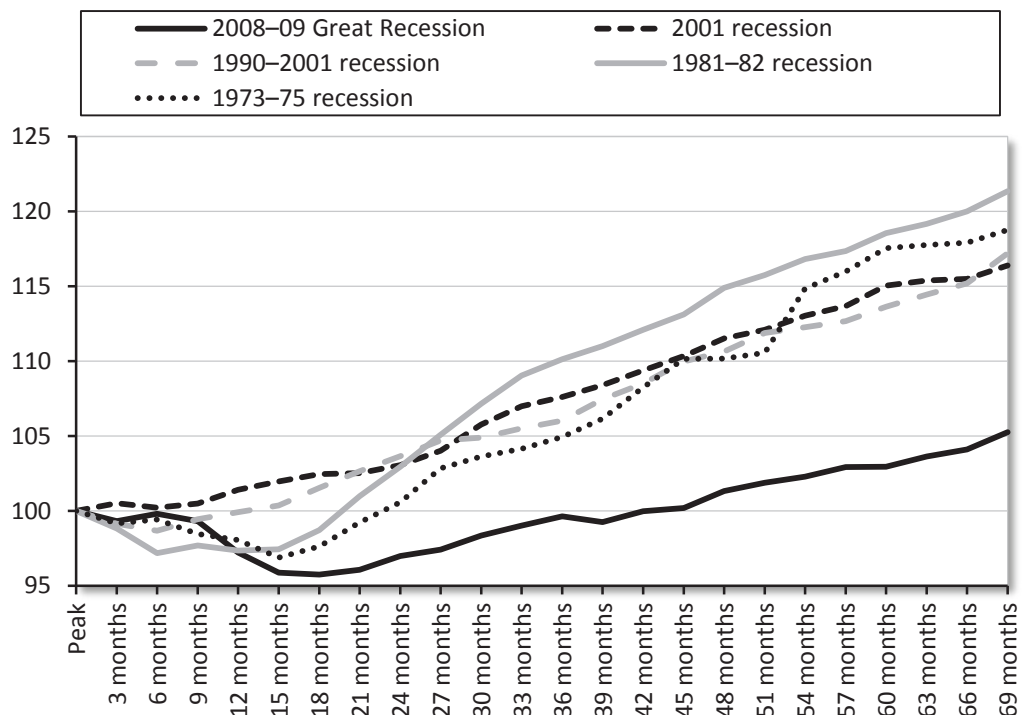
Although the Great Recession technically ended in June 2009, a dispiriting economic malaise has persisted. As shown in Figure 1, real U.S. gross domestic product (GDP) as of October 2013 was only 5.3 percent higher than it had been 70 months earlier when the Great Recession began. During the six previous economic recoveries, by contrast, real GDP growth averaged 20 percent at the same point in the business cycle.<sup>1</sup> Although the economy has picked up some steam more recently, real GDP growth in 2014 was still only 2.4 percent—well shy of the 3.2 percent annual growth in real GDP during the so-called Great Moderation of 1992–2007.

Meanwhile, the employment picture is even grimmer. Yes, the unemployment rate has gradually declined from its October 2009 peak of 10.0 percent to 5.5 percent as of February 2015, but much of this apparent progress occurred not because people found jobs but because they dropped out of the workforce

altogether. The labor force participation rate, which stood at 66.2 percent in January 2008, fell all the way to 62.8 percent by October 2013 before stabilizing; since then it has held steady with only minor fluctuations (it was still at 62.8 percent as of February 2015). You have to go back to 1978 to find rates that low. Total nonfarm payroll employment stood at 138.4 million in January 2008 when the Great Recession was just getting under way; it dropped to a cyclical low of 129.7 million by December 2009 and did not exceed its earlier peak again until May 2014. The employment-population ratio stood at 59.3 percent in February 2015, still far below its prerecession high of 63.4 percent set in December 2006.

Debate still rages over how much of the economy’s continuing sluggishness reflects short-term, cyclical factors—in particular, a shortfall in aggregate demand or deleveraging in response to the financial crisis of 2008. It is becoming increasingly clear, however, that slower growth in output and a weak labor

**Figure 1**  
Real GDP Growth Following Business Cycle Peaks



Source: National Bureau of Economic Research and the Bureau of Economic Analysis via the Federal Reserve Bank of St. Louis.

market are now the “new normal.” In other words, the ongoing economic slump is not just a matter of a temporary gap between current and “potential” output. Rather, the economy has suffered a decline in its potential or full-employment growth rate.

In a previous paper, I presented evidence for this unsettling conclusion.<sup>2</sup> Specifically, I reviewed the long-term trends for each of the four major components of economic growth: growth in labor participation, growth in labor skills, growth in investment, and growth in output-enhancing innovation. Those trends are uniformly unfavorable. Average hours worked per capita have fallen since 2000. Growth in so-called labor quality has slowed considerably. The net domestic investment rate has been trending downward for decades. And total factor productivity (TFP) growth, our best measure of innovation, has subsided again in recent years after an Internet-fueled surge between 1996 and 2004.

Consequently, there are strong reasons for believing that growth in the coming years will fall well short of the long-term historical average. Between 1870 and 2010, growth in real (i.e., inflation-adjusted) GDP per capita averaged 1.96 percent.<sup>3</sup> By contrast, recent long-term growth projections by top academic and government economists point to an average annual per capita growth rate that ranges from 1.05 percent to 1.63 percent—a drop-off of between 17 percent and 46 percent from the historical trend line.<sup>4</sup>

A decline in the growth rate of, say, half a percentage point may seem a small matter. Because of the power of compound interest, however, the long-term implications are huge. After 30 years, an economy that averages 2 percent annual growth will be 16 percent larger than it would have been if its growth rate had averaged 1.5 percent. Over the course of a normal lifespan of 75 years, that extra half percentage point of growth results in 46 percent more output.

Conservatives and libertarians should require little convincing that more economic output is generally something to be desired

and that therefore the prospect of a prolonged growth slump is a matter of serious concern. Progressives, on the other hand, may be more skeptical. In particular, they might object that, because of income inequality, all the extra output created by higher growth wouldn’t translate into commensurate income gains for most Americans. After all, real GDP per capita rose 72 percent between 1979 and 2007. Yet according to one estimate that takes pains not to understate recent gains, median market income (i.e., pretax and pretransfer) rose by only 26 percent to 30 percent over the same period (depending on whether or not the value of employer-provided health insurance is included).<sup>5</sup>

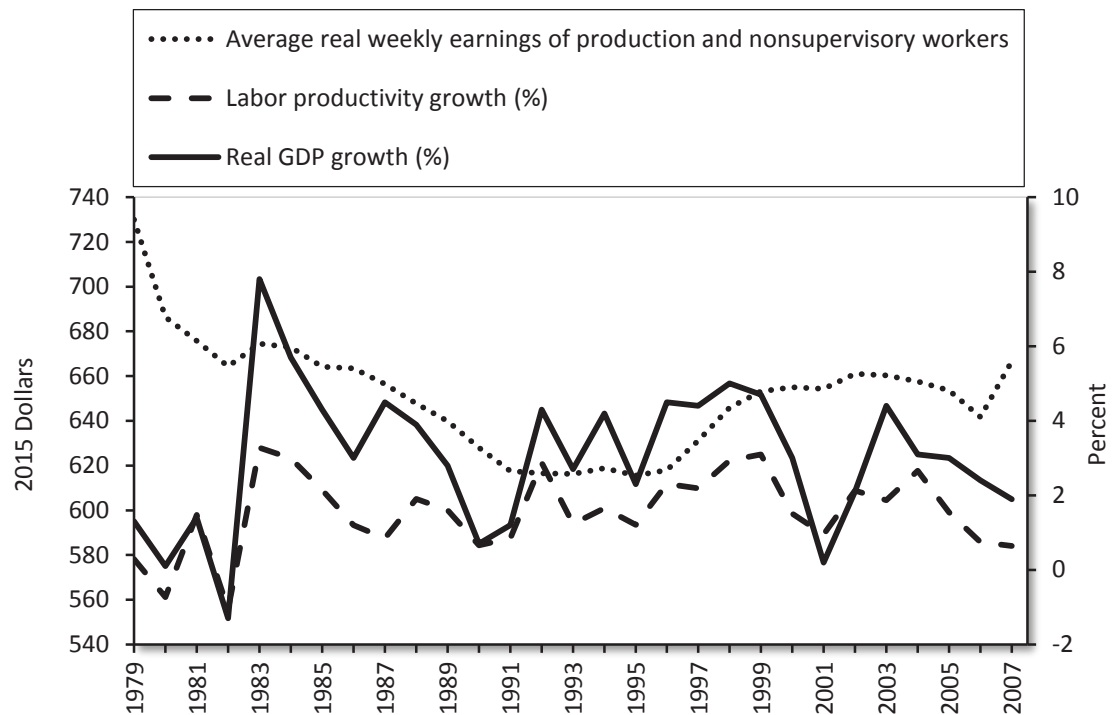
It’s an understandable concern, but disappointment with the pace of median income growth will hardly be assuaged by a slowdown in the economy’s overall expansion. Consider Figure 2, which charts average real weekly earnings for production and nonsupervisory workers, labor productivity growth, and growth in real GDP per capita between 1979 and 2007. The chart tells a grim story: according to the official numbers from the Bureau of Labor Statistics plotted here, average weekly earnings for American workers, adjusted for inflation, were actually lower in 2007 than they were in 1979.<sup>6</sup> But note the one real bright spot on this chart, the only period of strong growth in real earnings: the late 1990s, when GDP and productivity growth were surging as well. Thus, even in the era of income inequality, faster growth redounds to the benefit of average workers. Indeed, in the current circumstances, it appears that only strong growth can stave off stagnation or disappointingly sluggish growth in workers’ pay.

Many progressives might argue that, even with faster growth, the gains from economic growth are no longer shared widely enough. More redistribution, they contend, is needed to correct the imbalance. Libertarians and conservatives can be counted on to dispute the point, but that is an argument for another day. For present purposes, it suffices to point out that slow growth will make funding any more generous provision for the less well-off all but impossible.

“There are strong reasons for believing that growth in the coming years will fall well short of the long-term historical average.”

“Progressives and libertarians should be united on the desirability of higher economic growth.”

**Figure 2**  
Average Weekly Earnings, Labor Productivity Growth, and Real GDP Growth



Source: Bureau of Labor Statistics, Bureau of Economic Analysis, and Organisation for Economic Co-operation and Development via the Federal Reserve Bank of St. Louis.

Because of the aging U.S. population and rising health care spending, entitlement spending on the elderly figures to put the squeeze on everything else the federal government does. According to the Congressional Budget Office, spending on Social Security and the major federal health care programs is projected to balloon to 14 percent of GDP by 2039—double the 7 percent average over the past 40 years. Meanwhile, spending on everything besides interest payments would fall to 7 percent of GDP, well below the 11 percent 40-year average—indeed, a smaller share of GDP than at any time since the late 1930s. And even with this hit to the relative size of nonentitlement spending, by 2039 federal debt as a share of GDP is projected to hit the all-time historical peak of 106 percent (set in 1946 at the end of World War II). It will continue upward from there.<sup>7</sup> To put it mildly, this is not a fiscal environment that augurs well for big new federal social programs.

Alas, we cannot simply grow our way out of this predicament. Yes, higher growth directly inflates the denominator of the debt-to-GDP ratio; on the other hand, it also leads to increased spending under entitlement programs and thus works indirectly to boost the numerator as well.<sup>8</sup> Nevertheless, faster growth does mean a considerably larger economy over the longer term and, consequently, more resources available for funding income transfers than would otherwise be the case.

For illustrative purposes, consider Harvard economist Dale Jorgenson's projections of U.S. economic growth during the period 2010–20. In a 2013 paper with Mun Ho and Jon Samuels, he projected an average growth rate for overall real GDP of 1.91 percent during this decade, which, once anticipated population growth is backed out, yields an average growth rate in real GDP per capita of 1.05 percent. By contrast, the long-term trend line for growth of real GDP per capita stood at 1.96 percent



from 1870 to 2010, which, adding in anticipated population growth, would result in an average growth rate for overall real GDP of 2.82 percent during 2010–20. If that historical trend line could be maintained, overall GDP (expressed in 2013 dollars) would be \$1.27 trillion higher than if Jorgenson’s projections are accurate. Assuming federal government spending as a percentage of GDP holds to its 1982–2007 average of 21.0 percent (a conservative estimate, because it omits the temporary spike in federal spending relative to GDP that occurred in the wake of the Great Recession), that means the federal government would have an extra \$266 billion a year to spend (in 2013 dollars) if the growth slump could be avoided.

Consequently, progressives and libertarians should be united on the desirability of higher growth. They may have different ideas about what to do with the extra money, but both sides have a stake in getting the chance to fight it out.

So can anything be done to stir the economy out of its current doldrums? The heartening answer is: yes, absolutely. Current trends in labor participation, labor quality, investment, and innovation point to a permanent reduction in the U.S. economy’s long-term growth path, but those trends do not exist in a vacuum. They are situated in the larger context of the nation’s laws and economic policies, which combine to shape the incentives of individuals and firms along countless different margins. Change those laws and policies and you can change those incentives; change those incentives, and you can change the economic trends.

The fact is—and it’s hard to imagine who would disagree—that American public policy is far from optimal when it comes to facilitating economic growth. Look at the factors that shape each component of growth and you will find laws and policies that push in the wrong direction: laws and policies that discourage participation in the labor force, frustrate accumulation of human capital, deter productive investment, and inhibit innovation or block its diffusion throughout the economy. In the circumstances, this is good news: it means that

there is wide room for improving public policy and consequently wide room for improving economic performance.

Although everyone might agree on the need to change public policy, finding agreement on what particular changes to make is considerably trickier. After all, American politics today is characterized by deep ideological divisions and intense partisan polarization over government’s proper role in the economy. And many of the major fronts in the political conflicts of recent years—the overall trajectory and specific composition of federal spending, the level and structure of taxation, health care policy, regulation of the financial sector, immigration, climate change, and environmental regulation more generally—involve policy issues with important implications for the level of output or the permanent rate of growth. On these questions, and many others besides, the respective sides are miles apart when it comes to the proper direction of policy change. Yes, as I’ve just argued, they share an interest in continued healthy economic growth that transcends the left-right divide. But agreement on ends need not translate into agreement on means, and in the present case, there is disagreement aplenty.

Nevertheless, it is still possible to construct an ambitious and highly promising agenda of pro-growth reforms that steers largely clear of the red-versus-blue divide. Such an agenda would place in its crosshairs the depressing variety of policies whose primary effect is to inflate the incomes and wealth of the rich, the powerful, and the well established by shielding them from market competition. To apply a convenient label, let’s call these policies “regressive regulation”—regulatory barriers to entry and competition that work to redistribute income and wealth up the socioeconomic scale.<sup>9</sup>

A policy agenda of reforming regressive regulation can take advantage of an ideological no man’s land in contemporary American politics. Conservatives tend to valorize business and the well-off (“job creators”) and take a dim view of government regulators (“bureau-

**“It is still possible to construct an ambitious and highly promising agenda of pro-growth reforms that steers largely clear of the red-versus-blue divide.”**

“The reform and repeal of regressive regulation now represents the most promising ‘low-hanging fruit’ for reinvigorating the U.S. economy’s long-term growth prospects.”

crats”); progressives, meanwhile, identify with government regulators (“public servants”) and the disadvantaged while casting a suspicious eye toward business and the successful (“plutocrats”). Regressive regulation scrambles these ideological loyalties, and the effect is to mute both support for and opposition to these policies along ideological lines. Conservatives generally cheerlead for deregulation, but they don’t tend to focus on the regulations that favor their constituencies. Progressives, on the other hand, instinctively defend regulation as necessary and beneficial, but that impulse weakens considerably when regulation’s obvious effect is to entrench privilege and deepen disadvantage.

Further dampening ideological “us-versus-them” thinking in this issue space is the fact that many of the regressive regulatory policies in question take place at the state and local levels. At least in the economic realm (things are different for social issues), American ideological identity these days is primarily shaped by stances on national issues and one’s posture toward the federal government and goings-on in Washington, D.C. Economic policies pursued by states and municipalities are thus less likely to become clear signals, and litmus tests, of ideological orientation.

This peculiar state of affairs, in which ideological passions on both sides are substantially neutralized, creates an opening to cut through the prevailing polarized deadlock and effect significant policy change. Here the main conflict is not between the left and right’s conflicting visions of the public interest. Instead, a fairly robust intellectual consensus exists on where the public interest lies: economists, whether they tend to vote Republican or Democratic, are likely to support the various reform proposals made later in this paper because the status quo in each area has few disinterested defenders. In the case of regressive regulation, the conflict can thus be persuasively framed as the perennial one between public interest and private privilege. The only vociferous supporters that these policies can count on are the narrow interest groups that

are profiting from them at the expense of the rest of us.

These circumstances lead me to the conclusion that the reform and repeal of regressive regulation now represents the most promising “low-hanging fruit” for reinvigorating the U.S. economy’s long-term growth prospects. As I review below, the economic evidence is strong that dismantling barriers to entry and competition can significantly affect both the level of total output and the permanent rate of output growth. Meanwhile, efforts to reform those barriers that redistribute wealth and income upward can take advantage of a political environment relatively free of the polarized ideological conflict that now plagues policymaking in so many other domains. In other words, the economic gains are large, and the political conditions for realizing those gains are relatively favorable.

Alas, it must be must conceded that the political conditions are only *relatively* favorable. Without a doubt, the interest groups that profit from regressive regulation pose a formidable obstacle to reform. The political strength of these vested interests results from that bane of democratic governance: the problem of concentrated benefits and dispersed costs. These groups have a large stake in maintaining the status quo, while each of the millions of victims of regressive regulation has only a tiny individual stake in changing things for the better. The collective action problem of organizing large, diffuse groups of victims thus tilts the political playing field decidedly in favor of smaller, more cohesive groups. In the present situation, that means that any political effort to take on regressive regulation is going to face well-organized and tenacious opposition.

Hence the title of this paper. Contrary to the most pessimistic outlooks, there is low-hanging fruit for boosting economic growth, and it consists of regulatory reform. Unfortunately, though, this low-hanging fruit is guarded by “dragons”—the interest groups that benefit from the status quo—and thus not easily plucked.

## ENTRY BARRIERS VERSUS GROWTH

In the following sections, I examine four major examples of regressive regulation: (a) excessive monopoly privileges granted under copyright and patent law; (b) protection of incumbent service providers under occupational licensing; (c) restrictions on high-skilled immigration; and (d) artificial scarcity created by land-use regulation. In all four examples, current government policy works to create explicit barriers to entry. In the first two cases, the restriction is on entry into a product market: businesses are not allowed to sell products that are deemed to infringe on a copyright or patent, and individuals are not allowed to sell their services without a license. In the other two cases, actual physical entry into a geographic area is being limited: on the one hand, immigration into the country; on the other, the development and purchase or rental of real estate.

Before looking at these specific instances of regressive regulation, it is useful to review the currently available evidence on how government-created entry barriers affect growth. When economists talk about such barriers, they are typically referring to regulations that pertain to entering a product market, whether through starting a new business or expanding a firm's product line. But the geographic entry barriers raised by immigration and zoning laws also work indirectly to burden new business formation, as well as imposing other costs that interfere with the growth process in ways analogous to product market restrictions. So the economic literature on barriers to entry is relevant to all of the examples of regressive regulation considered here.

Modern growth theory, beginning with the pioneering work of Robert Solow and continuing with more recent "endogenous growth" models, makes clear that the ultimate source of economic growth is innovation: the development of new products and production methods that increase the level of output per given unit of capital and labor inputs.<sup>10</sup> Of course, the mere introduction of new products and

methods is only the first step; innovation's full effect comes as the new products and methods diffuse throughout the economy. Introduction and diffusion together make for the process of "creative destruction": new ideas originate and spread, old ways of doing things are displaced, and resources are reallocated from less to more productive combinations of capital and labor. Economists' best measure of this process is TFP growth, or growth in output per unit of capital and labor.

Entry barriers do their main damage by interfering with creative destruction. By hampering the formation and growth of new businesses, they impede both the introduction of new products and production methods and the reallocation of resources that accompanies the diffusion of innovations. For, as recent research shows, the birth and death of firms both contribute significantly to overall productivity growth. According to analysis by University of Maryland economist John Haltiwanger, wide variations in productivity exist among firms in the same industry—and even among different establishments in the same firm. Moreover, these variations exhibit a clear pattern. Closing establishments are less productive than continuing establishments. New establishments, meanwhile, vary widely in productivity: those that fail quickly tend to exhibit low productivity, whereas surviving new establishments are generally more productive than continuing establishments.<sup>11</sup>

Thus, the effect of "net entry" (entries minus exits)—otherwise known as creative destruction—is to raise the average level of productivity within an industry. Establishments with below-average productivity close and are replaced by above-average new establishments. Further research by Haltiwanger and colleagues shows that this dynamic is a significant contributor to overall productivity growth. In manufacturing, they found that net entry directly accounted for approximately 25 percent of sectorwide TFP growth during 1977–87.<sup>12</sup> For retail trade, meanwhile, net entry accounted for virtually all labor productivity growth during 1987–97.<sup>13</sup> Here, the main

“Entry barriers do their main damage by interfering with creative destruction.”

“Economic research strongly supports the general idea of reducing entry barriers as a strategy for boosting growth rates.”

engine of productivity growth was the replacement of single-unit firms (mom-and-pop retailers) by new establishments of national chains (e.g., Walmart).

Besides net entry, aggregate productivity growth is driven by rising productivity within continuing firms and establishments, as well as changes in market share among those continuing units when more-productive businesses grow at the expense of less-productive rivals. Both of these other channels for productivity growth may also reflect the indirect impact of net entry, as competitive pressure from new firms stimulates existing enterprises to up their game.

It should therefore, come as no surprise that government-created entry barriers depress economic performance. A number of cross-country studies<sup>14</sup> over the past couple of decades have found that policy barriers to entry, along with other restrictions on product market competition, reduce the growth of both overall GDP per capita<sup>15</sup> and TFP<sup>16</sup> in particular. Another study finds that product market regulation is associated with a reduction in innovative activity (as measured by the ratio of business research and development (R&D) spending to output),<sup>17</sup> while still others conclude that entry barriers and similar forms of regulation depress both total investment<sup>18</sup> and total employment.<sup>19</sup>

Economic research thus strongly supports the general idea of reducing entry barriers as a strategy for boosting growth rates. First, such regulatory reform can induce an ongoing increase in the growth rate by raising the rate of productivity growth—that is, accelerating both innovation and the reallocation of resources that accompanies the diffusion of innovation. In addition, dismantling entry barriers can yield a one-time increase in the level of economic output by raising the levels of total investment and employment. Because achieving those new levels takes time, the growth rate will rise temporarily during the transition. For present purposes, where we are concerned with improving the U.S. economy’s growth prospects over the next decade

or two, both level and rate changes can produce higher growth within the relevant time horizon.

But the central aim of the reform strategy proposed here is to raise the growth rate indefinitely by intensifying the creative destruction caused by innovation and reallocation. The urgency of taking up this task is underscored by accumulating evidence of a long-term decline in American business dynamism. Specifically, research by John Haltiwanger and colleagues has found declines since the 1980s in the rate of new business formation, the share of total employment accounted for by young firms, gross job creation and destruction, dispersion of firm growth rates, and the volatility of firm-level growth rates. Although the causes of these declines remain unclear, signs point to the troubling possibility that creative destruction itself is slowing down. In particular, analysis of the manufacturing sector from 1980 to 2010 shows a drop in the responsiveness of establishment-level growth rates to establishment-level shocks in TFP. In other words, the reallocation of resources from low- to high-productivity firms is less robust than in the past. If this is true of the economy as a whole, then innovations are diffusing less rapidly and pervasively—bad news for productivity growth.<sup>20</sup>

Having reviewed the general case for boosting growth by dismantling government-created barriers to entry, I now turn to examining the particular examples of regressive regulation previously mentioned. All constitute major barriers to innovation and the reallocation of resources that allows innovations to scale up and achieve their full productivity-enhancing effects. So regardless of whether the vigor of American creative destruction has actually been fading in recent years, the regulatory reform agenda proposed here has the potential to make creative destruction considerably more effective than it is today. In addition, reforming these regressive regulatory policies can further boost growth by expanding employment and upgrading the skill level of the labor force. In short, there is ripe fruit ready for plucking.

## INTELLECTUAL PROPERTY

Many people might find it puzzling to see copyright and patent laws listed as examples of growth-inhibiting regulatory excess. After all, copyrights and patents are known as “intellectual property rights,” and the protection of property rights is generally regarded as the legal foundation for free markets. How can fulfillment of such a core government function be seen as regulatory overkill? Meanwhile, the whole point of copyrights and patents is to increase the returns to certain kinds of innovation. How can strengthening the incentives to innovate possibly be bad for growth?

It’s true that copyright and patent laws create and enforce certain types of property rights—specifically, rights with respect to making use of particular kinds of ideas. But it’s also true that they do so through a regulatory system that modifies and curtails traditional rights in tangible property. Awards of copyrights and patents grant temporary monopoly privileges that prevent everyone else from using their property in certain ways—namely, in ways that are deemed to make improper use of copyrighted or patented ideas. Those privileges are then freely transferable. Thus, copyrights and patents give their owners property rights in much the same way that taxi medallions do.

The case of taxi medallions should make clear that regulatory policies don’t necessarily support free markets simply because they feature tradable property rights. Unlike the policy of restricting competition in taxis, there are serious moral and practical reasons for restricting competition in using copyrighted and patented ideas. However, those reasons are not nearly as strong as those who offer them suppose—and certainly not strong enough to justify many aspects of the policy status quo. For those excessive protections granted by contemporary copyright and patent law, the analogy with taxi regulation is exact: in both cases, entry is blocked and competition stifled, and in both cases, the results are misallocated resources and growth-reducing hindrances to innovation and its diffusion.

Defenders of intellectual property contend that copyright and patent laws don’t simply create property rights out of thin air. Rather, they recognize and vindicate underlying moral claims by artists and inventors to the fruits of their labor—claims directly analogous to Lockean claims of natural right to crops that one has sown, tended, and harvested on previously unoccupied land. Reasonable people can and do disagree about the strength of these claims and the aptness of the Lockean analogy: views range from total denial of intellectual property claims to insistence that they be accorded the same recognition as tangible property claims (e.g., intellectual property rights should not be temporary but enforceable in perpetuity). For my own part, I concede that moral claims over one’s intellectual creations do carry real weight. However, the argument that those claims entitle artists and inventors to enforceable legal rights runs into problems.

After all, many forms of creative expression generally receive no copyright protection—for example, jokes, culinary dishes, clothing designs, furniture, and automobile bodies. What is the meaningful distinction between these intellectual creations and those that can be copyrighted? If these can be copied with impunity, why is it unjust to allow copying of other works?

Meanwhile, it is generally agreed that scientific discoveries should not be patentable: a distinction is drawn between inventions, which are novel creations of inventors, and discoveries of natural phenomena, which preexist their discoverers. This critical distinction, however, doesn’t hold up well under scrutiny. Unlike novels or songs, which are truly unique creative works that would never have existed but for their authors, all technological innovation boils down to discoveries of physical phenomena—namely, that certain techniques work to achieve certain ends. In this regard, it is noteworthy how commonly new inventions are developed more or less simultaneously by two or more inventors working completely independently.<sup>21</sup> Indeed, a survey of patent infringement cases finds that only rarely do

“The case of taxi medallions should make clear that regulatory policies don’t necessarily support free markets simply because they feature tradable property rights.”

“The costs imposed by copyright and patent laws have been escalating rapidly in recent years.”

they involve intentional copying of someone else's patent; rather, in the majority of cases, the alleged infringer came up with the idea on his own and was not even aware of the patent in question.<sup>22</sup> What exactly is the moral basis of denying the later inventor the fruits of his labors?

In addition to moral considerations, there are practical reasons in favor of copyright and patent protection. It is on these grounds that the Constitution grants Congress the power to issue copyrights and patents: “To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.”<sup>23</sup> Because ideas are nonrivalrous (one person's use of an idea does not diminish others' ability to use that same idea) and nonexcludable (once an idea is made public, its originator has no control over who else has access to it), producers of ideas have serious disadvantages (relative to producers of tangible goods) in making money from their intellectual creations. Copyrights and patents remedy this disadvantage by granting temporary monopolies to producers of ideas, thus raising the returns to innovation.

In the parlance of modern welfare economics, copyright and patent laws are regulatory responses to market failure. By allowing producers of ideas to recoup more of the value they create, they “internalize” some of the “externalities” associated with artistic creation and technological innovation, thereby better aligning both resource allocation and incentives with maximization of economic welfare. Or at least that's the idea.

The reality, however, is rather more complicated. Yes, insofar as copyrights and patents boost the incomes of innovators, they raise the returns to innovation and thereby push in the direction of higher growth. But copyrights and patents impose costs as well as confer benefits. First, they raise the prices of protected goods—often many times higher than the market price would have been—and thereby saddle the consumers of those products with a deadweight loss. Meanwhile, innovation does

not occur in a vacuum: innovators frequently make progress by borrowing and adapting the ideas of others. By raising the prices of copyrighted and patented products and limiting access to the underlying ideas, copyright and patent laws can inflate the costs of innovation and, to that extent, retard the growth of productivity and output.

Unfortunately, the costs imposed by copyright and patent laws have been escalating rapidly in recent years. Here are some of the more troubling developments:

**EXTENSION OF COPYRIGHT TERMS.** In 1998 the Sonny Bono Copyright Term Extension Act lengthened the periods of copyright protection to life plus 70 years for individuals and 95 years from publication for corporations (up from life plus 50 years and 75 years, respectively). Recent research, however, suggests that the optimal copyright term is only about 15 years—with a 99 percent probability that the optimal term is 38 years or less.<sup>24</sup> After all, the overwhelming majority of copyrighted works have no commercial value after 75 years (a typical period of copyright protection when the term was life plus 50 years). Accordingly, it's hard to imagine that extending the term another 20 years—and thus creating the minute chance that your distant heirs will enjoy an extra couple of decades of royalty checks—would give someone today any additional incentive to create expressive works. Furthermore, the act's extension was retroactive, applying to existing copyrighted works as well as new ones. Clearly, it is impossible to change incentives with respect to works that are already created! Retroactive extension thus amounted to nothing more than a straight-up wealth transfer from consumers—and would-be adapters and remixer—to copyright holders.

**ELIMINATION OF COPYRIGHT FORMALITIES.** To receive copyright protection, authors formerly needed to register with the copyright office and place a copyright notice on their works. With the Copyright Act of 1976, Congress eliminated these formalities so that protection is granted automatically as soon as a work is written down or recorded. Between automatic protection and greatly extended copyright terms, vast num-

bers of “orphan works” now exist whose copyright holders are unknown and unreachable.<sup>25</sup> These works can’t be safely reproduced and disseminated because nobody knows whose permission to get first. Although mass digitization holds out the possibility of making virtually everything ever published accessible with a few keystrokes, millions of works continue to languish in limbo simply because of uncertainty over who owns the rights to them.

**CRIMINALIZATION OF COPYRIGHT ENFORCEMENT.** Traditionally, legal exposure from copyright infringement meant vulnerability to civil lawsuits filed by aggrieved private individuals or firms. Increasingly, however, copyright enforcement is taking the form of criminal prosecutions by the federal government. Penalties have been stiffened dramatically: the maximum fine has soared from \$1,000 in 1975 to \$250,000 today, and the maximum prison term has risen from one year to five years. And since the Pro-IP Act of 2008, the federal government has stepped up use of civil asset forfeiture in its enforcement actions, seizing website domains allegedly used by copyright infringers and freezing defendants’ funds so they can’t afford to defend themselves. These hardball tactics create a chilling effect because defendants are intimidated into settling rather than face jail time and expropriation. As a result, the practical boundaries of copyright protection are being expanded inappropriately by overzealous prosecutors.<sup>26</sup>

**HOSTILITY TO NEW TECHNOLOGY.** The rise of new technologies for disseminating and accessing information is one of the great marvels of our age, but copyright law is regularly used to ban or throttle such technologies in the name of preventing copying. Back in 1984, copyright interests’ efforts to strangle the videocassette recorder (VCR) industry in its crib failed by only one vote, as the Supreme Court ruled 5–4 that VCR manufacturers were not liable when the devices were used for illicit copying.<sup>27</sup> Alas, the copyright lobby has met with greater success more recently. The 1998 Digital Millennium Copyright Act makes it illegal to circumvent “digital rights manage-

ment” technologies—effectively, digital locks—that are used by manufacturers, publishers, and copyright holders to prevent copying. It’s because of the DCMA that you can’t make copies of a DVD or convert it into a playable file on your computer. Significantly, circumvention is illegal even when the copying that’s being facilitated constitutes legal “fair use”; accordingly, the DCMA’s anti-circumvention provisions represent a major de facto expansion of copyright restrictions.<sup>28</sup> Meanwhile, under the authority of the Pro-IP Act, the federal government regularly brings criminal copyright cases against file-sharing websites for enabling illicit copying. It’s hard to overstate how perverse these developments are: the supposed purpose of intellectual property law is to encourage creativity and innovation, yet now it is being used to criminalize technological progress.

**EXPLOSIVE GROWTH IN PATENTS ISSUED.** Over the past three decades, the number of patents issued by the U.S. Patent and Trademark Office has skyrocketed—from 61,620 in 1983 to 109,414 10 years later, to 186,591 another decade later, to 302,150 in 2013. What could explain this nearly fivefold increase?<sup>29</sup> After all, no evidence exists of a corresponding upsurge in innovative activity; total U.S. R&D expenditures have held steady in the range of 2.5 to 3 percent of GDP throughout this period. What has changed is U.S. patent law: standards for patentability have been lowered, and the scope of patentable “inventions” has expanded to include, among other things, computer software (already protected by copyright), methods of doing business, and parts of the human genome.<sup>30</sup>

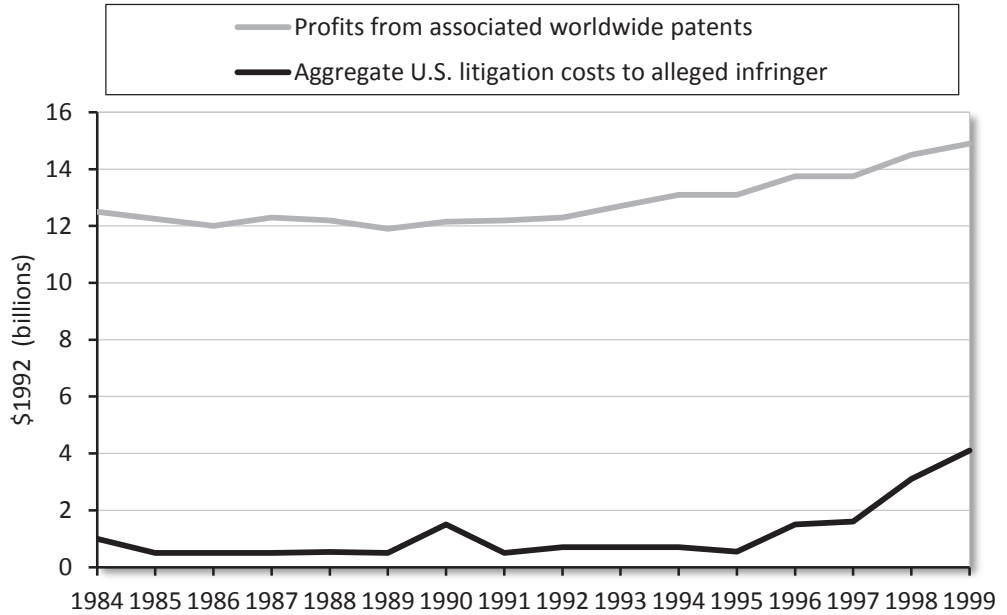
If patents truly incentivize innovation in the way that supporters claim, the shift to stronger and more expansive patent protection should have been accompanied by an upsurge in technological breakthroughs. Yet the most comprehensive measure of innovation, TFP growth, offers no evidence of a patenting dividend: after a temporary spike from 1996 to 2004, TFP growth has sunk back to the low rates typical during the 1970s and 1980s even as the number of new patents issued every year continues to soar.

“The rise of new technologies for disseminating and accessing information is one of the great marvels of our age, but copyright law is regularly used to ban or throttle such technologies.”

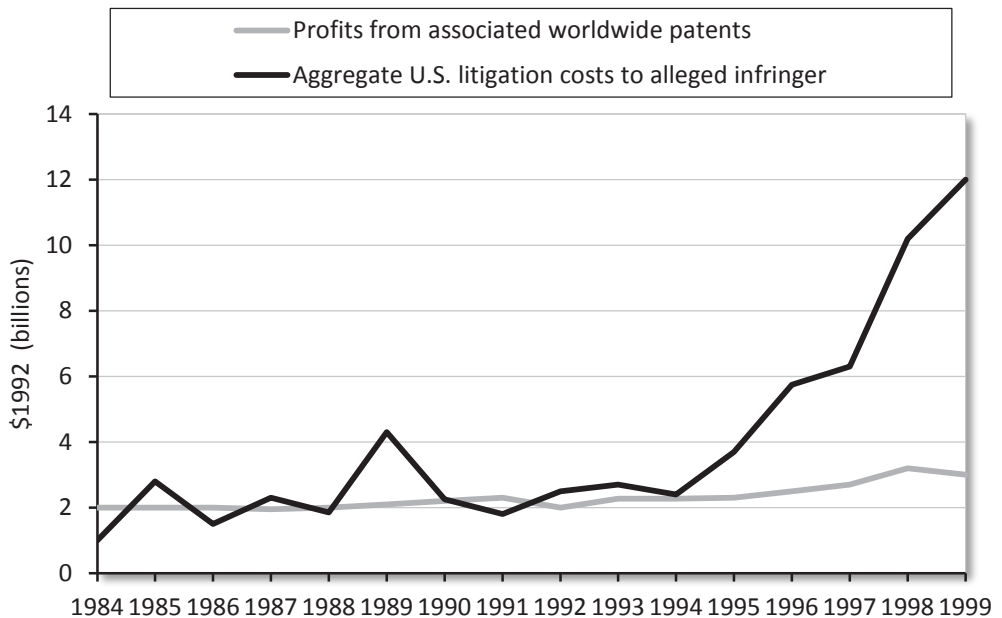
“Outside the chemical and pharmaceutical industries, American public companies would apparently be better off if the patent system didn’t exist.”

**Figure 3**  
**Aggregate Profits from Patents and Aggregate Litigation Costs for U.S. Public Firms**

**A. Chemical and pharmaceutical firms**



**B. Firms in other industries**



Source: James Bessen and Michael J. Meurer, *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk* (Princeton: Princeton University Press, 2008), Figure 6.5, p. 139.



Indeed, more fine-grained analysis offers good reason to believe that the patenting explosion has been harmful for many innovators. Research by James Bessen and Michael Meurer compared the estimated value of public companies' patent portfolios to the estimated cost of defending patent cases during the 1980s and 1990s (see Figure 3). In particular, they divided the public companies they studied into two groups: chemical and pharmaceutical firms, on the one hand, and all other firms, on the other. For both groups, the cost of defending patent cases began rising sharply in the mid-1990s. But for chemical and pharmaceutical firms, the value of their patent holdings remained clearly greater than those litigation costs: approximately \$12 billion in value compared with roughly \$4 billion in costs as of 1999. For all other industries, however, the situation was reversed: by 1999, litigation costs had soared to around \$12 billion, whereas the total value of their patent holdings was only \$3 billion. In other words, outside the chemical and pharmaceutical industries, American public companies would apparently be better off if the patent system didn't exist.<sup>31</sup>

A major part of the problem lies in the differences between chemical and pharmaceutical patents, on the one hand, and most other kinds of patents, on the other. For the former group, the scope of patents is clearly and precisely delineated by chemical formulas. Accordingly, it is relatively straightforward for subsequent innovators to discover whether their new products are covered by any existing patents. By contrast, the scope of other kinds of patents—especially new-style patents for software or business methods—is described by abstract language that is invariably open to differing interpretations. This vagueness in the boundaries of “intellectual property,” combined with the immense number of patents in force at any one time, make it virtually impossible for downstream innovators to be sure whether the new products they are developing are infringing on someone else's patents. Consequently, the U.S. patent system—conceived of as a catalyst for technological progress—has now become a vast

and treacherous minefield through which innovators must pass at their peril.

**RISE OF “PATENT TROLLS.”** The dysfunctions of the patent system have been exacerbated in recent years by the rise of so-called patent assertion entities, better known as “patent trolls.” Patent trolls are firms that neither manufacture nor sell products, but instead specialize in amassing patent portfolios for the purpose of initiating infringement lawsuits. According to a 2013 White House report, lawsuits by patent trolls tripled between 2010 and 2012 alone, as the share of total patent infringement suits initiated by such firms rose from 29 percent to 62 percent.<sup>32</sup> That's right: most patent infringement suits are now brought by firms that make no products at all and whose chief activity is to prevent other companies from making products. A 2012 study found that the direct costs of defending patent troll suits (i.e., lawyers' and licensing fees) came to \$29 billion in 2011. To put that figure in context, it amounts to more than 10 percent of total annual R&D expenditures by U.S. businesses.<sup>33</sup> The threat of such predatory behavior has given rise to the practice of “defensive patenting”—seeking patents for one's own products or amassing portfolios of others' patents in the hope of protecting oneself from litigation. In one high-profile example, Google spent \$12.5 billion in 2011 to acquire Motorola Mobility, in large part to acquire Motorola's portfolio of 17,000 patents in an effort to defend Google's Android operating system. The move didn't work out especially well: Google subsequently sold off Motorola in two chunks for a combined sum of \$5.26 billion.<sup>34</sup> Such diversions of time and resources into defending against legal attacks are now all too common.

Although the excesses of copyright and patent protection are bad for consumers and for long-term growth, the current system does succeed marvelously in effecting massive wealth transfers to its privileged beneficiaries. Think of today's great corporate empires in media, entertainment, software, and pharmaceuticals, and the vast private fortunes amassed by the leaders of those industries, and you will see the potency of contemporary

“Most patent infringement suits are now brought by firms that make no products at all and whose chief activity is to prevent other companies from making products.”

“There is broad agreement among economists and policy experts that copyright and patent laws are now overreaching.”

copyright and patent law in redistributing wealth upward.

Proposals for copyright and patent law reform vary in their ambition, ranging up to and including complete abolition. Support for radical change remains a distinctly minority position, but there is broad agreement among economists and policy experts that these laws are now overreaching. Because the purpose here is to identify the (intellectually, at least) low-hanging fruit of pro-growth reform possibilities, below I identify a handful of proposals that collectively advance the moderate objective of reining in the vast expansion of copyright and patent law’s reach during the past couple of decades. Restoration of an earlier status quo, rather than radical change, is the aim of these suggested policy moves.

- *End criminal liability for copyright infringement.* Reproducing copyrighted works without permission isn’t violent, it isn’t dangerous, and—the politically useful metaphor of intellectual property notwithstanding—it isn’t really theft. Civil liability is perfectly adequate to defend the legitimate interests of copyright holders. Criminalization of copyright is overkill, threatening not only innovation but also (with the growing use of civil asset forfeiture) the rule of law.
- *End any liability for noncommercial copying.* The quest to maintain a complete ban on unauthorized copying is quixotic in the Internet age. It’s doomed to fail, and pursuing the impossible has led copyright law astray into its current anti-technology bias and reliance on increasingly draconian enforcement. By contrast, stopping the commercial use of pirated material by, say, movie theaters or publishing houses or websites remains entirely practicable. Copyright infringement should be redefined to focus exclusively on commercial use, whereas all copying and sharing by individuals should be considered fair use.
- *Reduce copyright terms.* No intellectual justification exists for the current copy-

right term of life plus 70 years. The term of the original Copyright Act of 1790—14 years, plus an option to renew for another 14 years—is perfectly adequate, but a reduction of any amount would mark a welcome step in the right direction.

- *End patent protection for software and business methods.* The recent expansion of patent law into these new areas imposes heavy costs on innovation with no apparent benefits. This experiment should be declared a failure and ended.

## HIGH-SKILLED IMMIGRATION

The most straightforward way to increase economic output is simply to add more inputs used in production—namely, capital and labor. In particular, adding more workers to the American labor force is as easy as doing nothing. Untold millions of foreigners would like to live and work here, and currently the U.S. government goes to considerable lengths to keep most of them out. To expand the labor force, and thereby total GDP, one need only reduce the legal barriers to immigration now in place and then let nature take its course.

Although allowing in more immigrants, regardless of their productive potential, would surely increase aggregate U.S. GDP, it is less clear that doing so would result in the higher GDP per capita that makes improved living standards possible. Consider the nearly 30 percent of America’s foreign-born population that comes from Mexico: some 40 percent lack a high school diploma, and only 5 percent have a bachelor’s degree. Unsurprisingly, given their low educational attainment (as well as lack of English-language skills), Mexican immigrants earn considerably less than native-born Americans: \$23,810 in 2010, compared with \$42,238.<sup>35</sup> Furthermore, the children and grandchildren of Mexican immigrants lag considerably behind native-born Americans in both educational attainment and earning. Admitting such relatively unproductive workers, even as it boosts overall output, directly reduces the average output per worker.<sup>36</sup>

Despite this direct downward pressure on average output per worker, the ultimate effect of even low-skilled immigration can still be to boost productivity. How is this possible? It's the principle of comparative advantage at work domestically: admitting lots of low-skilled immigrants can free up higher-skilled workers to specialize in more productive pursuits. And according to research by Giovanni Peri, exactly this dynamic has been at work in the United States: examining the 50 states and the District of Columbia between 1960 and 2006, he finds that more immigration has been associated with higher TFP and that evidence points to efficient task specialization as an important causal mechanism.<sup>37</sup>

Notwithstanding these intriguing findings, the effect of low-skilled immigration on productivity has not been thoroughly researched, and thus any conclusions must remain tentative. Even if Peri's results do accurately characterize the effects of U.S. immigration in recent decades, it is unclear whether expanding low-skilled immigration above current levels would produce the same results. At some point, the downward pressure on average output per worker caused by more relatively unproductive foreign-born workers would presumably overwhelm the output increases generated for native workers by task specialization.

No such caveats are necessary, however, when assessing the effect of high-skilled immigration. Admitting more of the world's most talented and productive workers into the American labor force is an unambiguous plus—not only for aggregate output, but also for productivity and thus GDP per capita.

In particular, there is abundant evidence that such immigrants are disproportionately entrepreneurial and innovative. In a 1999 study, AnnaLee Saxenian documented the extraordinary role of immigrants in the rise of Silicon Valley. As of 1990, foreign-born workers made up one-third of the scientists and engineers in Silicon Valley's technology industries. (Note that in 1990 people born in foreign countries constituted 7.9 percent of the total U.S. population.) Almost two-thirds of these workers came

from Asia, and the majority were Indian or Chinese. These workers were highly educated: 32 percent of Indians and 23 percent of Chinese working in the Valley held advanced degrees, compared with only 11 percent of native-born whites. Moreover, foreign-born workers weren't just working as professionals and managers: they were also disproportionately likely to be creating and leading new high-tech companies. As of 1998, 24 percent of Silicon Valley technology companies founded since 1980 had a CEO who was of either Indian or Chinese origin.<sup>38</sup> (Note that immigrants made up 11.1 percent of the population as of 2000.)

Since Saxenian's path-breaking study, she and other researchers have expanded upon her findings by looking beyond the geographical confines of Silicon Valley. In 2007, Saxenian along with coauthors examined a large sample of engineering and technology companies founded between 1995 and 2005. They found that 25.3 percent of these companies had at least one foreign-born founder. Those companies founded over the course of a decade had combined sales of \$52 billion in 2005 and employed nearly 450,000 workers.<sup>39</sup> In a follow-up study of those immigrant founders, Saxenian and coauthors documented how highly educated they are: 96 percent have bachelor's degrees and 74 percent have a master's degree or PhD.<sup>40</sup> Another follow-up study by Saxenian, Vivek Wadhwa, and Daniel Siciliano looked at high-tech firms founded between 2006 and 2012 and found that 24.3 percent of them had at least one immigrant founder.<sup>41</sup> Meanwhile, in a pair of studies commissioned by the National Venture Capital Association and published in 2006 and 2013, Stuart Anderson of the National Foundation for American Policy examined venture capital-backed public companies. For companies that went public between 1990 and 2005, Anderson determined that 25 percent of these innovative companies had at least one immigrant founder; for such companies that went public between 2006 and 2012, the share with a foreign-born founder was one-third.<sup>42</sup> (Note that immigrants made up 12.9 percent of the U.S. population in 2010.)

“Admitting more of the world's most talented and productive workers into the American labor force is an unambiguous plus.”

“U.S. immigration policy is not especially welcoming to highly skilled immigrants.”

**Table 1**  
**Percentage of PhDs Issued to Foreign Students at U.S. Universities in Key Science and Technology Fields (2011)**

Field in Which Degree Was Awarded	Percentage of U.S. PhDs Issued to Foreign Students
Electrical engineering	65.1
Industrial engineering	61.1
Civil engineering	60.5
Mechanical engineering	56.9
Materials engineering	56.5
Chemical engineering	53.8
Computer science	50.2
Mathematics and statistics	46.5
Physics	44.4
Aerospace engineering	44.0
Other engineering	43.9
Chemistry	40.7

Source: National Science Foundation; Webcaspar; National Center for Educational Statistics IPEDS Completion Survey.

Notwithstanding the disproportionate contributions immigrants make to entrepreneurship and innovation, U.S. immigration policy is not especially welcoming to highly skilled immigrants. Instead, the main focus of policy is on reuniting family members; only limited spaces are made available to immigrants on the basis of employment or other economic considerations. Of the approximately 1 million permanent resident visas, or green cards, issued by the United States every year, approximately 15 percent, or 150,000, are employment based (by contrast, family-based visas make up 60 percent of the total).<sup>43</sup> Meanwhile, these visa allotments must cover not only highly skilled immigrants but also their spouses and children, so only about 70,000 green cards, or 7 percent of the total, go to individuals who qualify on the basis of their work skills or other economic value.<sup>44</sup>

In addition to this small fraction of permanent resident visas, the United States admits foreign workers under a number of temporary work visas—most important, the H-1B visa for

workers with specialized skills. H-1B visas are for three years and can be renewed for another three. Approximately 135,000 H-1B visas are granted annually (including renewals), and the total population of H-1B visa holders at any given time numbers around 650,000.<sup>45</sup> Compared to the total U.S. labor force of roughly 160 million, these 650,000 temporary workers amount to a proverbial drop in the bucket—a mere 0.4 percent of the work force. Meanwhile, H-1B visas are subject to some onerous restrictions that significantly reduce their attractiveness to talented foreign workers. First, the visas are tied to employment with the worker’s sponsoring firm; if she wants to change jobs, her new employer will have to sponsor her for a new H-1B visa. Furthermore, although H-1B visas entitle their holders to bring their spouses and children, spouses are not allowed to work in the United States.

Meanwhile, the United States also grants temporary visas to foreigners who want to study in the United States. As of 2008, the

estimated population of foreign students and their families stood at 590,000.<sup>46</sup> In particular, American universities currently attract large numbers of foreign students—particularly in the so-called STEM fields (science, technology, engineering, mathematics) so important to high-tech innovation. As shown in Table 1, 65 percent of the PhDs in electrical engineering granted by U.S. universities in 2011 went to foreign students, as did 54 percent of the PhDs in chemical engineering, 50 percent of the PhDs in computer science, 44 percent of the PhDs in physics, and 41 percent of the PhDs in chemistry. The corresponding figures for master’s degrees are quite similar.<sup>47</sup> As of 2009, approximately 150,000 foreigners with temporary visas were in the United States as full-time graduate students in science, engineering, and health-related fields.<sup>48</sup>

It is a widely noted curiosity that the United States expends considerable resources on training foreign nationals in technology-related fields—only to show many of them the door when they complete their studies.<sup>49</sup> Current policy reserves only about 40,000 visas a year for immigrants with advanced degrees and their families (under the so-called EB-2 visa, one of five employment-based visa categories). Furthermore, only 7 percent of these visas can go to nationals of any one country, regardless of that country’s size. Accordingly, Indian and Chinese immigrants now face wait times of six years or more for an EB-2 visa. Backlogs are even worse for Indians and Chinese waiting for EB-3 visas that cover skilled workers and professionals more generally.<sup>50</sup>

In light of the relative indifference of current policy to admitting highly skilled immigrants, there are many different ways that immigration rules could be amended to make the United States more welcoming to the world’s best and brightest.<sup>51</sup> A number of positive steps were included in the most recent attempt at “comprehensive” immigration reform (i.e., reform that addresses both legal and undocumented immigration), the Border Security, Economic Opportunity, and Immigration Modernization Act that passed the

Senate in June 2013. First, the bill eliminated some family-based visas (for siblings and married adult children) as well as the “diversity” visa (awarded by lottery to 50,000 immigrants every year, most of whom come from countries that don’t send many immigrants to the United States) and created instead a new point system for awarding 120,000 permanent resident visas annually (rising over time to a maximum of 250,000). Under this system, immigrants would receive points for educational attainment, work experience, age, length of residence in the United States, and other factors, and visas would be granted to immigrants with the most points. This system would proceed on two separate tiers for highly skilled and less-skilled immigrants, respectively, with 50 percent of these merit-based visas reserved for each tier.

The Senate immigration bill also liberalized the current system for awarding employment-based green cards. The global cap of 140,000 visas annually would be maintained, but spouses and children of immigrants would no longer count against the cap. Country-specific caps would also be eliminated. And visas for certain highly skilled immigrants would no longer count against the cap, effectively allowing unlimited immigration for people deemed to have extraordinary ability, outstanding professors and researchers, PhD holders, multinational executives, physicians who have completed foreign residency requirements, and recipients of advanced degrees in STEM disciplines from U.S. universities. In addition, a new EB-6 visa, capped at 10,000 per year, would be available for qualified entrepreneurs who have created at least five jobs and either obtained \$500,000 in investments or reached \$750,000 in annual revenue during the past two years.

The Senate bill also expanded the availability of temporary work visas for highly skilled foreign nationals. The primary cap for H-1B visas would have been raised from 65,000 to 115,000 per year (and eventually as high as 180,000), although at the same time, wage requirements and employers’ obligations to

“The United States expends considerable resources on training foreign nationals in technology-related fields—only to show many of them the door when they complete their studies.”

“All quantitative restrictions on high-skilled immigration are suspect.”

recruit U.S. workers would be made more restrictive. The bill also created a new nonimmigrant visa for entrepreneurs, good for three years and renewable thereafter. These visas would be available for foreigners who have employed at least three people and either secured at least \$100,000 in investments or generated \$250,000 in annual revenue during the past two years.<sup>52</sup>

All these provisions in the 2013 Senate bill represent commendable progress (with the exception of tightening requirements for awarding H-1B visas), but they by no means exhaust the possibilities for reform. All quantitative restrictions on high-skilled immigration are suspect, so the simplest and most effective move is to grant permanent residency immediately to all college graduates who want to live and work here. Failing that, the more available channels exist for highly skilled workers to come here, the better. One widely discussed possibility is to create an auction system for visas: these visas would go to the highest bidders, assuming minimum bid amounts are exceeded and other basic qualifications are met (e.g., no criminal record).<sup>53</sup> Another, more novel idea is to allow states to grant temporary work visas on their own, thus inducing states to compete with each other for global talent in much the same way they now compete for global capital.<sup>54</sup>

Opening up the United States to more highly skilled immigrants would not just help boost entrepreneurship, innovation, and growth. In addition, it would help reduce the regressive slant of existing policy. Our current immigration system has allowed a huge influx of low-skilled workers in recent decades: the number of high school dropouts in the country has increased by roughly a third since 1980 as a result of immigration. Although economists continue to debate the question, credible evidence indicates that low-skilled immigration puts modest downward pressure on the employment and wages of native-born high school dropouts—even as immigration unquestionably benefits more highly skilled Americans through lower prices for goods and services.<sup>55</sup> Exposing native-born professionals, managers, and entre-

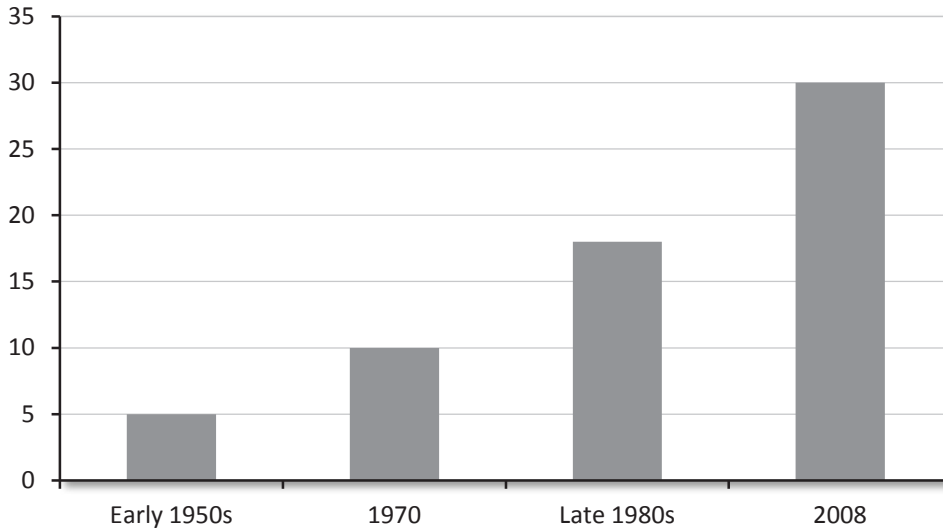
preneurs to more foreign-born competition in the labor market would push in the direction of evening the scales. The kinds of reforms discussed above would thus make U.S. immigration policy both more growth-friendly and less regressive in its distributional consequences.

## OCCUPATIONAL LICENSING

In its most recent budget, unveiled on February 2, 2015, the Obama administration included a small \$15 million grant to states “for the purpose of identifying, exploring, and addressing areas where occupational licensing requirements create an unnecessary barrier to labor market entry or labor mobility and where interstate portability of licenses can support economic growth and improve economic opportunity.”<sup>56</sup> As Betsey Stevenson, a member of the president’s Council of Economic Advisers, explained, “We would like all states to ask whether licensing requirements meet a cost-benefit test.”<sup>57</sup>

It is a modest step, to be sure. But any move toward greater critical scrutiny of occupational licensing is welcome news, because this particular species of entry barrier has been proliferating rapidly in recent decades. In 1970, only about 10 percent of U.S. jobs were subject to licensing at the state level—up from a mere 5 percent in the early 1950s. By the 1980s, the figure had climbed to almost 18 percent, and by 2008, it had reached nearly 30 percent. (See Figure 4.) In 2003 the Council of State Governments determined that more than 800 occupations were licensed in at least one state, and the number is unlikely to have gone down since then.<sup>58</sup> In addition, more licensing requirements are imposed at the federal and local levels. Everybody is familiar with the state licensing of doctors and lawyers, but other commonly regulated occupations (subject to licensing in at least 30 of the 50 states and the District of Columbia) include cosmetologists (licensed in 51 jurisdictions), manicurists (50), barbers (50), preschool teachers (49), athletic trainers (46), massage therapists (39), makeup artists (36), and auctioneers (33). Other regulated occupations in-

**Figure 4**  
**Percentage of Jobs Subject to Occupational Licensing**



Source: Morris M. Kleiner, *Licensing Occupations: Ensuring Quality or Restricting Competition?* (Kalamazoo, MI: W. E. Upjohn Institute for Employment Research, 2006); and Morris M. Kleiner, "Occupational Licensing: Protecting the Public Interest or Protectionism?" W. E. Upjohn Institute for Employment Research Policy Paper no. 2011-009, July 2011, [http://research.upjohn.org/up\\_policypapers/9/](http://research.upjohn.org/up_policypapers/9/).

clude animal breeders (licensed in 26 jurisdictions), taxidermists (26), gaming dealers (24), animal trainers (20), sign-language interpreters (16), bartenders (13), landscape contractors (13), funeral attendants (9), upholsterers (7), interior designers (4), and florists (1).<sup>59</sup> If this list hasn't yet awakened the reader's sense of the absurd, recall the occasional stories about local regulation in which police shut down children's lemonade stands or teenagers' snow shoveling for lack of proper licenses.<sup>60</sup>

Occupational licensing is justified on the grounds of consumer protection: by setting minimum qualifications to ply a particular trade, the government can weed out the incompetent and unethical and ensure that consumers aren't ripped off or physically harmed. But basic economic theory makes clear that, at best, licensing helps some consumers at the expense of others. Assuming (and, as is shown a bit later, this assumption has little empirical basis) the criteria used to screen applicants are well designed to distinguish between competent, reputable service providers and bad apples, the effect of licensing will be to raise

the overall quality of supply. It does not follow, however, that licensing will thereby also raise overall consumer welfare. After all, restricting supply can be expected to raise prices, which means that some consumers will no longer be able to afford the service in question. Accordingly, the best that occupational licensing can accomplish is to benefit some consumers at the expense of others: some more quality-conscious (and presumably higher-income) consumers are better off, but some more price-conscious (and presumably lower-income) consumers are worse off.<sup>61</sup> Even if it works as well as it can, occupational licensing is thus regressive in its distributional consequences.

Meanwhile, licensing regimes and the requirements they impose are all too often highly arbitrary. If the existence of occupational licensing were really a response to underlying market failures (e.g., information asymmetries) that made consumers especially vulnerable to abuse, you would expect to see the same types of occupations regulated in state after state. In reality, the scope of occupational licensing is all over the place: although more

“The best that occupational licensing can accomplish is to benefit some consumers at the expense of others.”

“Empirical studies discover little or no connection between occupational licensing and better service for consumers.”

than 800 different occupations are licensed at the state level, the highest number of occupations licensed in any one state is 177 (California takes this dubious prize).<sup>62</sup> This fact strongly suggests that factors other than industry characteristics are determining who gets regulated.

Similarly, if licensing requirements were really highly relevant to supplier quality, you would expect to see similar requirements across states for any widely licensed occupation. In fact, the stringency of regulation varies wildly within industries. Take manicuring, for example, licensed in 49 states and the District of Columbia. The average number of days of required education and training nationwide is 87, but actual requirements range from 163 days of education and training in Alabama to only 9 days in Iowa and 3 days in Alaska.<sup>63</sup> Here again, factors besides consumer protection seem to be driving the level of regulation. Along these lines, one interesting study looked at variations in pass rates for state bar exams and found that pass rates are highly correlated with potential supply, so that states with more people trying to pass the bar tend to have tougher exams.<sup>64</sup>

Furthermore, the variation in regulatory stringency across industries looks arbitrary as well. You might expect that the strictest regulation would be reserved for industries in which potential consumer harms are the worst. How then to explain the fact that cosmetologists must complete an average of 372 days of education and training before getting their license while emergency medical technicians, who frequently deal with matters of life and death, must on average complete only 33 days?<sup>65</sup>

It should come as no surprise, then, that empirical studies discover little or no connection between occupational licensing and better service for consumers. A study of dentistry by University of Minnesota economist Morris Kleiner found no evidence that patients in states with stricter regulation experienced improved outcomes—whether as measured by dental exams of new Air Force recruits, complaints filed with state licensing boards, or malpractice insurance rates.<sup>66</sup> Other research by

Kleiner has failed to establish any link between licensing and better outcomes for either mortgage brokerage or child-care services.<sup>67</sup> An examination of schoolteachers found that imposition of state testing requirements did not improve the quality of teachers as measured by their educational backgrounds.<sup>68</sup> A study of Louisiana’s licensing of florists conducted an interesting experiment: 25 floral arrangements from Louisiana and 25 arrangements from neighboring and unregulated Texas, all randomly selected, were examined by a randomly selected panel of 8 florists from Texas and 10 from Louisiana. The judges gave virtually identical scores to the Texas and Louisiana arrangements; moreover, the licensed Louisiana florists and unlicensed Texas florists differed little in their ratings.<sup>69</sup> Another study found that Florida’s relaxation of licensing restrictions on roofers following Hurricanes Frances and Katrina did not reduce the quality of roofing services—despite the fact that asymmetric information problems, frequently cited to justify licensing, could be expected to be especially severe in a postcrisis environment.<sup>70</sup>

Occupational licensing may not offer much in the way of consumer protection, but it succeeds admirably as protectionism—shielding incumbent firms from competition and thereby boosting their incomes at consumers’ expense. According to Kleiner and Princeton economist Alan Krueger, occupational licensing is associated with 18 percent higher wages.<sup>71</sup> This boost in pay is the result of restricting supply: for occupations licensed in some states but not others, employment growth is 20 percent lower in the restrictive states.<sup>72</sup> Nationwide, total employment is down by as many as 2.85 million jobs because of licensing. And consumers, instead of being protected, are stuck with the bill: prices for licensed services are inflated anywhere from 5 percent to 33 percent, with the cost to consumers amounting to some \$203 billion a year.<sup>73</sup>

Occupational licensing is thus regressive in its impact on both consumers and producers. For consumers, it raises prices and reduces options, imposing a regressive tax that hits



lower-income, price-conscious consumers the hardest. And those higher prices frequently benefit high-income professionals—think doctors, dentists, and lawyers—who are able to inflate their incomes even further by squelching competition. Indeed, it appears that licensing’s boost to earnings is biggest for relatively high-paying jobs. As Kleiner notes, this means that licensing works to increase income inequality. “Since occupational licensing appears to increase earnings, on average, for persons in high income occupations relative to persons in low income ones,” Kleiner writes, “this state and local policy may serve to exacerbate income dispersion in the United States.”<sup>74</sup>

Even as it fattens rewards at the top, licensing stifles opportunities for employment, small business ownership, and upward mobility for lower-income Americans by erecting barriers to entry in a whole host of less-skilled occupations. In particular, licensing narrows the job choices open to people who didn’t graduate from college: 43 percent of people in licensed occupations are required to have a college degree, but only 32 percent of Americans have one.<sup>75</sup>

Unsurprisingly, these barriers created by licensing can be especially daunting for members of ethnic minorities. For example, a study of teacher testing found that it did nothing to improve the quality of teachers as measured by their educational background—but it did lead to fewer Hispanic teachers.<sup>76</sup> And a study of the licensing of manicurists found that English proficiency requirements reduced the number of Vietnamese manicurists per capita, as well as the number of manicurists overall.<sup>77</sup>

In addition to redistributing the pie in regressive fashion, occupational licensing works to shrink the pie’s growth by thwarting innovation and dynamism. Any policy that, like licensing, systematically impedes entrepreneurship and competition can be counted on to stymie innovation. Shielded from outside competition, licensed service providers are much more likely to stick with established ways of doing things long after more competitive sectors of the economy have moved on: think of the med-

ical profession’s trapped-in-amber reliance on paper and often handwritten records.

And when outsiders threaten the status quo with new kinds of services or new ways of organizing service provision, industry incumbents frequently seek to shut down such competition as illegal. Today, the most visible example of this phenomenon consists of the desperate attempts of the taxi industry to stop the spread of ridesharing offered by innovative firms such as Uber and Lyft. Other recent examples include efforts by dentists to outlaw new, low-cost teeth-whitening clinics and similar campaigns by state bar associations against LegalZoom’s provision of cheap online legal assistance.

The appropriate direction for reform in this policy area is as obvious as it is strewn with political obstacles. In the vast majority of cases, mandatory licensing is doing far more harm than good and should be discontinued. Voluntary certification—whether by private bodies or by a government agency—can equip consumers with the information they need to make informed purchases while leaving willing buyers and sellers to do business as they see fit. Market-based quality assurance by third parties has been around a long time: think Underwriters Laboratories or the Good Housekeeping Seal. And in recent years, the proliferation of online rating services—from Angie’s List to Yelp—makes the case for mandatory licensing weaker than ever.

Increasing recognition of occupational licensing’s costs in recent years has led to some scattered reform efforts at the state level. Opposition by industry groups, however, has been predictably fierce. In Florida, a 2011 deregulation bill would have eliminated licensing for a number of occupations, including athlete agents, auctioneers, ballroom dance studios, hair braiders, interior designers, and talent agencies. The bill passed the state house of representatives comfortably, but a lobbying effort led by interior designers succeeded in killing the legislation in the state senate. In 2012, Michigan’s Office of Regulatory Reinvention, created the year before by Governor Rick Snyder, issued a report calling for the elimination of

“Even as it fattens rewards at the top, licensing stifles opportunities for employment, small business ownership, and upward mobility for lower-income Americans.”

“Truly meaningful reform will require a more systematic approach that subjects all a state’s licensing laws to scrutiny and potential regulatory relief.”

licensing for 18 different occupations. In 2014, the state legislature succeeded in passing bills to deregulate 8 occupations: auctioneers, carnival workers, dieticians and nutritionists, immigration clerical assistants, interior designers, ocularists, and school solicitors. Legislation in Indiana backed by Governor Mike Pence targeted 13 different occupations for deregulation, but after passing the state senate in 2013, the bill died in the house. That same year, Pence vetoed measures that would have extended licensing to several health care–related occupations.<sup>78</sup>

As interest builds in the problems caused by occupational licensing, it is reasonable to hope that state-level reform efforts can build additional momentum and eventually power through the entrenched opposition by vested interests. Although eliminating licensing for specific, low-employment occupations with especially weak cases for regulation offers probably the best chance for quick, tangible progress, truly meaningful reform will require a more systematic approach that subjects all a state’s licensing laws to scrutiny and potential regulatory relief. One interesting approach has been proposed in Minnesota: in 2012, legislation was introduced that established a statutory right to engage in a lawful occupation free of licensing unless (a) the government can demonstrate a compelling interest in protecting public health and safety, and (b) occupational licensing is the least restrictive means (compared to, say, regular inspections, imposition of bonding requirements, registration, or voluntary certification) of advancing that compelling interest. This statutory right could then be asserted as a defense in any administrative or judicial proceeding to enforce a state licensing law.<sup>79</sup>

In addition to reform activity in the states, developments at the federal level are creating other opportunities to roll back licensing’s barriers to entry. In 2010, the Federal Trade Commission charged the North Carolina Board of Dental Examiners with violating federal antitrust law by issuing a series of cease-and-desist letters to unlicensed providers of teeth-whitening services. Normally, government actions are immune from antitrust law

under the “state action” doctrine, but the FTC argued that no immunity existed in this case because the regulatory board in question was composed mostly of practicing dentists and elected by other practicing dentists and therefore should be considered a private actor. The Fourth Circuit Court of Appeals agreed with the FTC, and in February 2015, the U.S. Supreme Court upheld the Fourth Circuit by a 6–3 margin.<sup>80</sup> With this ruling, the way is now open for a more aggressive use of antitrust law against similarly structured occupational licensing schemes elsewhere.<sup>81</sup>

Meanwhile, thanks to a 2013 decision by the Fifth Circuit Court of Appeals, the constitutionality of at least some occupational licensing laws is now in question. Under Louisiana law, only licensed funeral directors can sell caskets to the public. A Benedictine abbey that sought to sell simple, inexpensive wooden caskets challenged the law, and the Fifth Circuit found in the monks’ favor.<sup>82</sup> In recent decades, state economic regulation has generally passed constitutional muster under a lax “rational basis” test, but the Fifth Circuit held that protecting a domestic industry from competition did not constitute a legitimate state interest and that the restriction on casket sales was not rationally related to legitimate state interests in consumer protection or public health and safety. But in 2004, in a similar case involving Oklahoma’s regulation of casket sales, the 10th Circuit Court of Appeals ruled differently, finding that economic protectionism is “the favored pastime of state and local government” and thus a legitimate state interest.<sup>83</sup> Given this clear conflict between the circuits, the Supreme Court could weigh in to resolve the matter. If the Court were to do so and side with the Fifth Circuit, constitutional challenges to occupational licensing laws on economic liberty grounds could become much more common.

Could Congress play a role in reducing licensing’s barriers to entry? Considerations of federalism militate against any sweeping preemption of state regulatory authority, but state-level occupational licensing does impinge significantly on interstate commerce: in

particular, the patchwork of widely differing licensing regimes can impose heavy burdens on interstate migration by people in regulated occupations.<sup>84</sup> Given the strong federal interest in ensuring the free movement of goods, services, capital, and people within the country, Congress could engage in limited preemption to mitigate licensing's impact on migration. Specifically, Congress could mandate that, for selected major occupations that are widely licensed, anyone with a valid license from any state would then be entitled to perform that job in all other states.<sup>85</sup> Alternatively, Congress could preemptively authorize interstate compacts for mutual recognition of occupational licenses (for example, a 24-state compact already exists for nursing licensure).

Congress could also use the power of the purse to promote licensing reform in the states. As mentioned at the beginning of this section, the Obama administration has included in its latest budget a \$15 million grant to states to fund reviews of their licensing policies. This is fine as far as it goes, but more could be done along similar lines. For example, Congress could appropriate a modest amount to fund competitive grants—along the lines of the Race to the Top initiative in education—for states that undertake liberalization of their licensing laws. Apart from creating financial incentives for reform (or at least mitigating the financial disincentives arising from the prospective loss of licensing fees), such an initiative would aid the cause of reform simply by casting a federal spotlight on the issue. The kind of naked protectionism so common in occupational licensing has thrived under cover of obscurity: in the past, few paid any attention to licensing other than the narrow interests that stood to profit from it. Forcing licensing's beneficiaries to publicly defend their privileges will in many cases make clear just how indefensible those privileges really are.

## LAND-USE REGULATION

Comprehensive controls on land use through zoning and other restrictions emerged

in the United States early in the 20th century and became endemic as the century progressed. The theoretical justification for zoning is that it coordinates orderly economic development by geographically segregating conflicting and possibly incompatible land uses. What the common law of nuisance dealt with after the fact, zoning can prevent from ever arising through prudent regulation.

In practice, however, the rise of zoning had little to do with the prevention of physical nuisances. Rather, the driving impetus was the protection of property values in neighborhoods of single-family homes from the threat of nearby nonconforming uses—whether in the form of industrial or commercial facilities or high-density apartments. The suburbanization of America led to the zoning of America, with land-use controls operating as a kind of surrogate for home value insurance.<sup>86</sup>

From the beginning, zoning exerted a powerful influence on the location and character of housing supply within a given metropolitan area. That, after all, was the whole point. But up until around 1970, zoning does not appear to have affected the growth of aggregate housing supply across such areas. Housing may have been artificially restricted in some affluent suburbs, but more concentrated growth in development-friendly communities kept overall housing supply in the larger region responsive to growth in demand.

Harvard economist Edward Glaeser, together with colleagues, has led the way in amassing evidence of how things have changed since 1970. The first clue is the growing gap between house prices and construction costs. Between 1950 and 1970, house prices grew in line with construction costs: real house prices per square foot rose 35 percent over the period while inflation-adjusted construction costs per square foot increased by 28 percent. Between 1970 and 2000, by contrast, house prices shot up by 72 percent while construction costs actually declined by 3 percent. The divergence has been especially dramatic in America's big coastal cities: while real construction costs in Boston and San Francisco rose by 6.6 percent

“The rise of zoning had little to do with the prevention of physical nuisances.”

“The regressive nature of zoning begins with its animating purpose: to protect homeowners’ property values at the expense of access to housing for everybody else.”

and 5.6 percent, respectively, house prices shot up by 127 percent in Boston and 270 percent in San Francisco.<sup>87</sup>

Can improvements in the quality of new homes explain the gap? To investigate, Glaeser compared trends in home prices overall to trends in repeat sales (which hold home quality constant) and found that changes in quality can explain at most a quarter of the increase in house prices nationwide. In high-price cities, quality improvements have been even less of a factor.<sup>88</sup>

The next clue is that the appreciation in house prices relative to costs has been occurring even as the rate of new construction has declined. Looking at a sample of 102 metropolitan areas, Glaeser found that the median rate of new construction (new homes divided by initial housing stock) fell from a robust 40 percent during the 1950s to only 14 percent during the 2000s. This decline has been especially dramatic in high-price coastal cities. In the 1950s, the housing stock grew by more than 20 percent in New York, over 30 percent in San Francisco, and almost 60 percent in Los Angeles; in the 2000s, on the other hand, the rate of new construction in all three metropolitan areas fell well below 10 percent.<sup>89</sup>

The conventional explanation for skyrocketing home prices on the coasts is that land for new housing construction is scarce. These cities have many amenities that make them desirable places to live, the thinking goes, but they are already heavily built up so there is not much potential for further expansion of the housing supply. But if the conventional wisdom were true, one would expect to find that metropolitan areas with the highest home prices also have the highest densities (residents per square mile). Yet as Glaeser found, very little relationship exists between house prices and density. For example, densities are comparatively low in many parts of Boston despite very high house prices, and although prices have climbed rapidly in recent decades, density hasn’t increased much.<sup>90</sup>

One additional clue comes from comparing the prices of land, depending on whether it sits

under a house or simply extends the lot of another house. The former can be estimated by backing construction costs out of house prices to infer the price of the land; the latter can be estimated by comparing the sale prices of similar homes located on different-sized lots. Interestingly, the former calculation yields land values about 10 times greater than those generated by the latter calculation.<sup>91</sup> This striking disparity suggests that the price of a house actually consists of three elements: not just construction costs and the value of the land, but also the value of the right to build on that land.

It is the escalating value of that third element—which Glaeser calls the “regulatory tax”—that has been driving up housing prices in many of America’s big urban areas. And the rate of the regulatory tax has been climbing because of the progressive tightening of land-use restrictions. According to Glaeser’s calculations, the regulatory tax caused by land-use controls varies widely across the country. In a review of 21 different urban areas, Glaeser found that the regulatory tax is minimal in 10 of them. But in Baltimore, Boston, and Washington, D.C., it climbs to roughly 20 percent. In Los Angeles and Oakland, it surpasses 30 percent. And in Manhattan, San Francisco, and San Jose, the regulatory tax has reached roughly 50 percent.<sup>92</sup>

The regressive nature of zoning begins with its animating purpose: to protect homeowners’ property values at the expense of access to housing for everybody else. In other words, it transfers wealth from the less affluent to the more affluent (given that homeowners generally have both higher incomes and higher net worth than renters<sup>93</sup>). Zoning’s exclusionary means then add insult to the injury of its regressive end: zoning accomplishes its objectives by keeping poor people away from rich people. That insult, in turn, results in further injury to disadvantaged communities: evidence points unsurprisingly to a connection between zoning and residential segregation along both ethnic and socioeconomic lines.<sup>94</sup> And such segregation is a major factor in perpetuating disadvantage from one generation to the next.<sup>95</sup>

The regressive impact of land-use restrictions is thus clear enough. But how exactly are these geographic barriers to entry bad for growth? Even if zoning restrictions are growing progressively worse in big urban areas, the United States remains a largely empty country. So if people are priced out of building or living in one location, alternatives always exist. Yes, zoning alters where people choose to live, but how does the location of America's population affect prospects for innovation and growth?

It turns out that most of our country is empty for a very good reason: people derive great value from concentrating together in urban areas. First, proximity reduces transportation costs, so producers benefit from being close to their suppliers and customers. Second, more people living in one place means deeper and more diverse markets for both products and labor. With a large enough urban population, niche markets that appeal to only a small fraction of consumers become profitable to serve. Employers have a better pool of potential workers to draw from, while workers have greater choice in prospective employers. And third, people living and working close to one another can take advantage of "information spillovers": cities expand opportunities for exchanging ideas and information, thereby facilitating both innovation and the accumulation of human capital.

Economists call these benefits of urban density, which combine economies of scale and network effects, "economies of agglomeration." And the weight of the evidence suggests that these agglomeration effects are powerful indeed. According to a 1996 paper by Stanford's Robert Hall and Antonio Ciccone of Universitat Pompeu Fabra in Barcelona, doubling urban density—in other words, moving from Atlanta to Dallas, or from Dallas to Chicago—raises average labor productivity by approximately 6 percent. Productivity varies widely across the United States: output per worker in the most productive states is more than 50 percent higher than in the least productive state. According to Hall and Ciccone, more than half the variation in state-level pro-

ductivity can be explained by differences in density.<sup>96</sup> More recent research confirms the strong connection between agglomeration and output.<sup>97</sup>

Interestingly, a 2011 paper published by the Federal Reserve Bank of New York found that the impact of density on productivity now varies significantly with human capital levels.<sup>98</sup> Specifically, in cities with a human capital stock one standard deviation above the mean, the productivity-boosting impact of extra density doubles; meanwhile, for cities with a human capital stock one standard deviation below the mean, the productivity boost from density disappears. It appears then, that in a contemporary information economy, the biggest agglomeration effects come from information spillovers: bring a lot of smart, talented people together in one place, and the resulting interactions and connections accelerate the discovery and spread of valuable new ideas.

Zoning and other restrictions thus retard growth by artificially suppressing density and the agglomeration effects that result from it. Moreover, the harm caused by land-use regulation in the United States today is exacerbated by the specific pattern of its incidence: controls tend to be strictest in the cities with the highest per capita incomes. Accordingly, inflated housing costs are encouraging Americans to move away from the country's most productive places.

Throughout history, human migration has followed a familiar pattern: people move in search of greater opportunities, which means they tend to move from poorer areas to richer ones. That pattern used to hold in the United States: the cities that incubated the great productivity gains of the industrial era grew by leaps and bounds as they did so. But for the past couple of decades, migration flows in the United States have gone in the opposite direction: away from the richer coastal cities and toward the poorer exurbs of the Sunbelt. Between 1870 and 1950, New York City's population grew over 700 percent, Chicago's climbed over 1,100 percent, and Detroit's population skyrocketed by over 2,200 percent. Consider

“Inflated housing costs are encouraging Americans to move away from the country's most productive places.”

“Why move away from higher and faster-growing wages? The answer is clear: housing costs.”

**Table 2**  
**Moving Away from Growth**

	Gainers	Losers
Population, 2009	36,480,650	35,292,270
Net domestic migration, 2000–2009	3,281,424	-2,892,662
Average wage per job, 2000–2009	\$47,539	\$64,228
Gain in average wage per job, 2000–2009	\$10,973	\$13,786

Source: Ryan Avent, *The Gated City* (Amazon Digital Services, Kindle Edition, 2011).

Note: Gainers: Phoenix, Riverside, Atlanta, Dallas, Las Vegas, Tampa, Charlotte, Houston, Austin, Orlando.

Losers: New York, San Francisco, San Jose, Boston, Washington, D.C.

by contrast the more recent experience of San Jose, California—the heart of Silicon Valley. Between 1995 and 2000, at the height of the dizzying Internet boom, 100,000 more Americans moved out of the San Jose metro area than moved in.

In his book *The Gated City*, Ryan Avent of *The Economist* refers to this inversion of traditional migration patterns as “moving to stagnation.” As shown in Table 2, Avent documented this phenomenon by comparing two groups of American cities, which he labeled as “gainers” and “losers.” For the gainers, he identified the 10 metropolitan areas with population above 1 million that enjoyed the largest domestic in-migration between 2000 and 2009: Phoenix, Riverside, Atlanta, Dallas, Las Vegas, Tampa, Charlotte, Houston, Austin, and Orlando. And for the losers, he selected the five metropolitan areas with populations above 1 million that boasted the highest average wages in 2000: New York, San Francisco, San Jose, Boston, and Washington, D.C. These two groups are roughly comparable in size: in 2009, the combined population of the gainers came to 36.5 million while that of the losers totaled 35.3 million. And between 2000 and 2009, the losers lost almost as many out-migrants on net as the gainers welcomed in-migrants: there were 3.3 million net in-migrants to the gainers and 2.9 million net out-migrants from the losers.

These strikingly unusual patterns of population movement represent a flight from opportunity. In 2009, the average wage in

the losers was \$64,228, compared with only \$47,539 in the gainers. And even as Americans were moving away from them, the loser cities were increasing their wage advantage: average wages grew by \$13,786 in those five cities between 2000 and 2009, compared with only \$10,973 in the 10 gainer cities.<sup>99</sup>

Why move away from higher and faster-growing wages? The answer is clear: housing costs. The rise of the Sunbelt has been a major demographic story of the post-World War II era, but the plot of the story has taken a big twist in recent decades. As Edward Glaeser has documented, between 1950 and 1980, population gains in the Sunbelt were propelled primarily by above-average productivity growth. Since 1980, however, the rapid growth in the Sunbelt’s housing supply—and thus its growing advantage in offering affordable housing—is the main factor behind the region’s continuing attractiveness.<sup>100</sup>

The macroeconomic impact of “moving to stagnation” is significant. Of course not everybody wants to live and work in America’s big coastal cities, but clearly more people want to live there than currently do. That’s why housing prices in those cities are rising so sharply, as people bid up the price of artificially scarce real estate. Those cities are the primary engines of American economic growth, but they are being deprived of the fuel they run on: people and the precious human capital they carry between their ears. Accordingly, growth is lower than it otherwise would be if the hous-

ing supply in America's most productive cities could respond to demand.

Recent research suggests that the effect on growth is substantial. According to a new study by Enrico Moretti of the University of California, Berkeley, and Chang-Tai Hsieh of the University of Chicago, the increasingly inefficient spatial allocation of labor between 1964 and 2009 reduced aggregate economic output by an average of 0.3 percentage points a year. According to their calculations, reducing land-use controls in the most restrictive U.S. cities to the level of the median city would boost overall U.S. output by 9.5 percent.<sup>101</sup>

Is there any way to resist the rise of NIMBYism (from "not in my back yard") and its pernicious effects on innovation and growth? At the root of the problem is the fact that the majority of American households own homes, and for the overwhelming bulk of those households, their home is by far their largest financial asset. With such undiversified portfolios, homeowners are predictably and understandably sensitive to anything that may threaten the value of their biggest asset.

Moreover, although allowing housing supply to respond to demand generates large overall gains, new development also imposes costs that are borne disproportionately by neighbors—including the temporary headaches caused by construction and the ongoing burdens of added traffic congestion. The question of who should bear these costs has no obvious right answer, and up to a point, existing homeowners have a reasonable basis for insisting it shouldn't be them.

Accordingly, any effort to liberalize land use in America's big urban areas must contend with determined opposition from politically powerful interests. Moreover, the specific procedures of land-use policy channel the clash of interests in a way that further amplifies the power of the NIMBY lobby. Changes in zoning are typically made one at a time, development by development or lot by lot. On any particular zoning decision, therefore, the neighbors who oppose development are fully energized and invested, while the stakes are frequently

too low for developers or pro-development politicians to put up much of a fight or even get involved.

With these facts concerning the political economy of land-use regulation in mind, the priorities for policy reform are twofold. First, there needs to be some established mechanism for sharing the gains from new development with adversely affected interests—in other words, buying off the opposition, ideally in a way that doesn't add to housing costs. Second, decisionmaking procedures need to be altered to mobilize and energize diffuse pro-development interests.

David Schleicher, a law professor at George Mason University, has advanced three promising reform proposals that combine to accomplish both objectives.<sup>102</sup> To mollify opposition to development, he suggests a two-pronged approach. First, he proposes a system of temporary property tax rebates to adversely affected neighbors, funded from the extra tax proceeds that the city will receive as a result of the development. Today, developers often try to buy off opposition through community benefits agreements and other exactions, but these expedients act as a tax on development and thus drive up housing costs. The compensation in Schleicher's proposal is funded from a different source: the city's fiscal gains from the new development.

As a kind of insurance policy in the event that a particular development imposes unanticipated costs, Schleicher proposes a special political remedy. When the negative effects of a development exceed certain measurable thresholds, affected interests would have the right to propose a remedy that the city council is then forced to vote up or down. The combination of tax breaks on the front end and political insurance on the back end would go a long way toward softening NIMBY opposition.

Finally, to ensure more effective representation of pro-development interests in land-use decisions, Schleicher has put forward the idea of a municipal zoning budget. Under such a scheme, the city government would decide every year on a target for how much the over-

**“Reducing land-use controls in the most restrictive U.S. cities to the level of the median city would boost overall U.S. output by 9.5 percent.”**

“Opposition to regressive regulatory controls has brought together politicians and policy experts across the political spectrum.”

all housing stock should increase. Until the target is reached, so-called downzonings that impose additional restrictions on parcels of land would be disallowed; after the target is reached, any downzonings would have to be balanced by offsetting rezonings that reduce restrictions elsewhere. With this kind of arrangement, pro-development forces would confront their opposition on much more favorable terms. Now the overall growth rate of housing citywide would get voted on rather than being left to emerge as the unintended consequence of individual zoning decisions. This vote would mobilize pro-development interests throughout the city in a way that the current process of making zoning decisions seriatim never could. Furthermore, this system would prevent restrictive backsliding by neutralizing the effects of downzoning. (Along similar lines, Edward Glaeser has advocated use of historic preservation budgets to impose needed discipline on this increasingly popular form of land use regulation.<sup>103</sup>)

## CONCLUSION

At first blush, the four policy areas discussed above seem completely unrelated. They cover highly disparate subject matters, they are administered at different levels of government, and they feature widely varying forms of regulatory apparatus. Notwithstanding all these obvious differences, there are also deep and important similarities. All the policy areas feature regulations that erect explicit barriers to entry—whether in the economist’s sense of barriers to market entry, or in the literal sense of barriers to geographic entry. Copyright and patent laws and occupational licensing limit who can engage in particular kinds of commercial activity; immigration laws and zoning regulations limit who can enter or do business within a designated geographic area.

Moreover, all these entry barriers undermine economic growth by restricting vital inputs to innovation. Copyright and patent protections restrict the recombination of ideas that is the essence of innovation by making

some ideas artificially inaccessible. Immigration laws restrict the inflow of highly skilled individuals who are disproportionately entrepreneurial and innovative. Occupational licensing restricts the formation of new businesses, which frequently are the vessels for new products or new production methods. And zoning restricts urban density, a vital catalyst for the innovative recombination of ideas.

Finally, all these policy domains have similar distributional consequences: all of them redistribute income and wealth to the well-off and privileged. Copyright and patent laws pinch consumers for the benefit of huge corporations. Immigration laws expose America’s lowest-skilled workers to intensifying competition from foreign-born workers while shielding high-skilled workers from equivalent competitive pressures. Occupational licensing boosts the earnings of protected incumbents by restricting supply, especially in higher-income professions. And zoning gives windfall gains to wealthy landowners.

In all likelihood because of these underlying similarities, none of these policy areas have become zones of ideological or partisan conflict. To be sure, proper policy is vigorously debated in all these areas, but the contending sides are not divided along left-right or Republican-Democratic lines. In striking contrast to the polarization and gridlock that now dominate most national policy debates, opposition to regressive regulatory controls has brought together politicians and policy experts across the political spectrum.

Thus, in the field of intellectual property, Nancy Pelosi (D-CA) joined forces with Darrell Issa (R-CA) and Ron Paul (R-TX) to oppose the Stop Online Piracy Act, a failed legislative effort to toughen criminal penalties for copyright violations.<sup>104</sup> Among policy experts, leading critics of copyright and patent law excesses include progressives Lawrence Lessig and Dean Baker and libertarians Tom Bell and Jerry Brito.

With regard to high-skilled immigration, a number of bipartisan reform bills have been introduced in recent years. To take a recent example, in January 2015 a group of six senators,



including Orrin Hatch (R-UT), Mark Warner (D-VA), and Marco Rubio (R-FL), introduced the Immigration Innovation Act to boost the numbers of both temporary and permanent visas for highly skilled workers. And among policy experts, scholars from the libertarian Cato Institute and the progressive Center for American Progress supported the most recent comprehensive immigration legislation passed by the Senate in 2013.

As to occupational licensing, I have already mentioned how the Obama administration's latest budget contains a provision to nudge states toward reform. Meanwhile, in July 2014, Rep. Paul Ryan (R-WI) released a widely discussed plan for combating poverty. And in the section on regulatory reform, Ryan singled out occupational licensing laws as prime examples of the "regressive regulations" that too often constrict economic opportunity for the least advantaged.<sup>105</sup> Among policy experts, Alan Krueger of Princeton University, who served as chairman of the Council of Economic Advisers under President Obama, is a leading critic of these regulatory restrictions, while the libertarian Institute for Justice has a long track record of challenging and overturning licensing rules in court.

Zoning is a local issue that has long been thought to have only local consequences, so to date it has not attracted much attention from Washington policymakers. Among policy experts, though, the pattern of support for reform across ideological dividing lines holds here as well. Edward Glaeser, who in addition to teaching at Harvard is affiliated with the libertarian-leaning Manhattan Institute, is among the nation's leading critics of current land-use regulation. Another prominent critic is Matthew Yglesias of *Vox*, who wrote his book *The Rent Is Too Damn High* while he was working for the Center for American Progress.<sup>106</sup>

It's not simply the case that one can find policy experts on both sides of the ideological spectrum who support reform of these regressive regulatory policies. More than that, it's very difficult to find disinterested policy experts anywhere on the spectrum who support

the status quo. Certainly, there are strong defenders of both intellectual property protection and zoning, but even in their ranks you will find recognition that current policies are seriously flawed. Thus, the economist Carl Shapiro, a prominent supporter of patents generally, has written, "[While] there is no doubt that the patent system taken as a whole plays an important role in spurring innovation, the general consensus is that the U.S. patent system is out of balance and can be substantially improved."<sup>107</sup> In similar fashion, the economist William Fischel, who has written sophisticated defenses of zoning, acknowledges that its exclusionary impact has increased since 1970 and that the "social and economic costs" of contemporary land-use regulation are "not trivial."<sup>108</sup> As far as high-skilled immigration restrictions and occupational licensing are concerned, it is difficult to find any scholar who has anything nice to say about the current state of either.

This combination of qualities—negative impact on entrepreneurship and innovation, absence of political polarization, and an intellectual consensus in favor of reform—makes regressive regulation an especially inviting target for any campaign to enact pro-growth policy reforms. For all who are interested in better long-term U.S. economic performance, this is the low-hanging fruit. Reforming these policies is something that we know will make a positive difference, and by "we" I mean the vast bulk of disinterested experts. Yes, it is true that plucking this fruit won't be easy, because the interest groups that benefit from the status quo are politically powerful, well organized, and highly motivated. This is the "guarded by dragons" part of the story. But knowing clearly what needs to be done, however difficult it might be, is an advantage that should not be underestimated.

Of course, there are many other possible targets for pro-growth policy reforms to set their sights on. In late 2014, the Cato Institute hosted a special online forum on reviving growth, in which 51 of the nation's top economists and policy experts were asked to identify

“It’s very difficult to find disinterested policy experts anywhere on the spectrum who support the status quo.”

“The idea of a left-right coalition to push deregulation may sound farfetched, but it is not without precedent.”

one or two policy changes that could trigger faster economic growth—whether temporarily through a one-time change in the level of output, or indefinitely through accelerating the growth rate.<sup>109</sup> It is noteworthy that intellectual property law, immigration policy, occupational licensing, and zoning all receive prominent mention. But their proposals fan out in many different directions as well. The ideas put forward in this forum show the wide range of possible forms that experts across the political spectrum believe pro-growth reform can take.

Putting aside ideas still on the drawing board, many big policy battles with important implications for growth are already raging in Washington. The never-ending wrangling over tax policy, resolving the long-term fiscal imbalance, the future of health care reform after the Affordable Care Act, the future of financial regulation after Dodd-Frank—here, often while pursuing other objectives, policymakers are confronting issues whose resolution will have a significant impact, for better or worse, on the U.S. economy’s future prospects. Everyone interested in a brighter growth outlook has a stake in the outcome of these big showdowns.

That said, pursuing an agenda of curbing regressive regulation would allow us to open a new front in the policy fight. Unlike the all-too-familiar policy disputes now ongoing, a campaign against regressive regulation would feature issues new to the national policy spotlight—most especially in the case of occupational licensing and zoning, because they occur at the state and local levels and thus are typically ignored by Washington. Meanwhile, the organizing rubric of regressive regulation packages together disparate issues in a novel way and can thereby impart new energy to reform efforts in each of its constituent policy domains.

This new front would look very different from the other, ongoing policy debates. Instead of the opposing forces being arrayed along the left-right axis, here the contest pits an expert consensus across the political spectrum against the interest groups who profit

from existing policy. Instead of yet another left-right fight, this time the contest could be framed as a choice between the public interest and vested interests.

The idea of a left-right coalition to push deregulation may sound farfetched, but it is not without precedent. Consider the country’s last major episode of pro-market regulatory reform in the late 1970s and early 1980s. During that brief period, price-and-entry regulation of airlines, trucking, and railroads was systematically dismantled; price controls on oil and natural gas were lifted; interest-rate caps for checking and savings accounts were removed; and the AT&T monopoly was ended, paving the way for competition in long-distance telephony. Those too young to remember can be forgiven for associating all of this with Ronald Reagan, but in fact Democrats and progressives played a major role. Jimmy Carter signed the legislation that deregulated airlines, trucking, railroads, and natural gas. On Capitol Hill, Edward Kennedy led the fight for airline deregulation, ably assisted by his aide Stephen Breyer. Yes, the rise of Chicago-school economics and especially the law-and-economics movement supplied momentum for these sweeping policy changes, but so did the activism of Ralph Nader.

History never repeats itself, but sometimes it rhymes. As in the 1970s, the U.S. economy today is delivering disappointing results. Back then the problem was “stagflation”; today we worry about a “great stagnation.” And once again, the shifting currents of political debate are bringing together unlikely allies with a common interest in reviving prosperity and a common hostility to the entrenched interests that stand in the way. With luck, contemporary reformers can follow their predecessors’ good example.

## NOTES

1. See Thomas F. Siems, “The Long Slog: Economic Growth Following the Great Recession,” *Financial Insights* 2, no. 4, Federal Reserve Bank of Dallas, November 29, 2013, <http://dallasfed.org/>

assets/documents/banking/firm/fi/fi1304.pdf.

2. Brink Lindsey, “Why Growth Is Getting Harder,” Cato Institute Policy Analysis no. 737, October 8, 2013.

3. *Ibid.*, Figure 7, p. 16.

4. *Ibid.*, Table 3, p. 17. For the original sources, see Robert J. Gordon, “Revisiting U.S. Productivity Growth over the Past Century with a View of the Future,” National Bureau of Economic Research Working Paper 15834, March 2010; Dale W. Jorgenson, Mun S. Ho, and Jon D. Samuels, “Economic Growth in the Information Age: A Prototype Industry-Level Production Account for the United States, 1947–2010,” (paper presented at the National Bureau of Economic Research Conference on Research in Income and Wealth, Cambridge, MA, July 15–16, 2013); John Fernald, “Productivity and Potential Output before, during, and after the Great Recession,” Federal Reserve Bank of San Francisco Working Paper 2012-18, September 2012; Congressional Budget Office, “The Budget and Economic Outlook: Fiscal Years 2013 to 2023,” February 2013, <https://www.cbo.gov/publication/43907>; Minutes of the Federal Open Market Committee, June 18–19, 2013, <http://www.federalreserve.gov/newsevents/press/monetary/20130710a.htm>.

5. See Scott Winship, “What Has Happened to the Incomes of the Middle Class and Poor? Part Three: The Bronze Age,” *Economic Policies for the 21st Century*, Manhattan Institute, November 6, 2013), <http://www.economics21.org/research/what-has-happened-incomes-middle-class-and-poor-part-three-bronze-age>. By contrast, the Congressional Budget Office, using a different deflator to account for inflation and making no adjustment for the fall in average household size, found that median market income rose only 19 percent between 1979 and 2007. Congressional Budget Office, “Trends in the Distribution of Household Income between 1979 and 2007,” October 2011, <http://www.cbo.gov/publication/42729>.

6. A somewhat cheerier picture emerges when

bonuses and noncash benefits (namely, health insurance premiums paid by the employer) are included, and an arguably more accurate adjustment for inflation is made. Such tinkering, however, does not affect the point made here about the relative strength of wage growth during the late 1990s.

7. See Congressional Budget Office, “The 2014 Long-Term Budget Outlook,” July 2014, p. 3, [http://www.cbo.gov/sites/default/files/45471-Long-TermBudgetOutlook\\_7-29.pdf](http://www.cbo.gov/sites/default/files/45471-Long-TermBudgetOutlook_7-29.pdf).

8. See, for example, Jagadeesh Gokhale, “The Connection between Wage Growth and Social Security’s Financial Condition,” Cato Institute Policy Analysis no. 607, December 10, 2007, <http://www.cato.org/publications/policy-analysis/connection-between-wage-growth-social-securitys-financial-condition>.

9. I owe this turn of phrase to Rep. Paul Ryan (R-WI), whose anti-poverty plan unveiled in July 2014 includes reforms of “regressive regulations” that disproportionately affect low-income households. See Paul Ryan and House Budget Committee Majority Staff, “Expanding Opportunity in America: A Discussion Draft from the House Budget Committee,” July 24, 2014, [http://budget.house.gov/uploadedfiles/expanding\\_opportunity\\_in\\_america.pdf](http://budget.house.gov/uploadedfiles/expanding_opportunity_in_america.pdf).

10. Growth can also be boosted temporarily by increasing the amount of inputs used in production. But once the increase in inputs stops, the level of output will eventually stabilize and thus the growth rate will subside. And any increase in inputs will stop sooner or later because of the law of diminishing returns. At some point, the marginal product of one more worker or one more piece of equipment will equal its marginal cost, at which point no net addition to output occurs.

11. See John Haltiwanger, “Job Creation and Firm Dynamics in the United States,” in *Innovation Policy and the Economy*, ed. Josh Lerner and Scott Stern, vol. 12 (Chicago: University of Chicago Press, 2012), pp. 17–38.

12. Lucia Foster, John Haltiwanger, and C. J. Krizan, "Aggregate Productivity Growth: Lessons from Microeconomic Evidence" in *New Directions in Productivity Analysis*, ed. Edward Dean, Michael Harper, and Charles Hulten (Chicago: University of Chicago Press, 2001), pp. 303–72.
13. Lucia Foster, John Haltiwanger, and C. J. Krizan, "Market Selection, Reallocation, and Restructuring in the U.S. Retail Sector in the 1990s," *Review of Economics and Statistics* 88, no. 4 (2006): 748–58.
14. For a useful overview of the relevant literature, see Fabio Schiantarelli, "Product Market Regulation and Macroeconomic Performance: A Review of the Cross-Country Evidence," Boston College Working Paper 623, August 4, 1988.
15. See Simeon Djankov, Caralee McLiesh, and Rita Ramalho, "Regulation and Growth," *Economics Letters* 92, no. 3 (2006): 295–401; Norman V. Loayza, Ana María Oviedo, and Luis Servén, "Regulation and Macroeconomic Performance," World Bank Policy Research Working Paper no. 3469, September 2004; and Kees Koedijk and Jeroen Kremers, "Market Opening, Regulation and Growth in Europe," *Economic Policy* 11, no. 23 (1996): 443–67.
16. See Giuseppe Nicoletti and Stefano Scarpetta, "Regulation, Productivity, and Growth," World Bank Policy Research Working Paper no. 2944, January 2003; Koedijk and Kremers, "Market Opening, Regulation, and Growth in Europe." For findings that product market regulation reduces the level of TFP (as opposed to the TFP growth rate), see Romain Bouis, Romain Duval, and Fabrice Murtin, "The Policy and Institutional Drivers of Economic Growth across OECD and Non-OECD Economies," Organisation for Economic Co-operation and Development, Economics Department Working Paper no. 843, February 14, 2011; Stefano Scarpetta, Philip Hemmings, Thierry Tresselt, and Jaejoon Woo, "The Role of Policy and Institutions for Productivity and Firm Dynamics: Evidence from Micro and Industry Data," Organisation for Economic Co-operation and Development, Economics Department Working Paper no. 329, April 23, 2002. For a finding that reductions in product market regulation lead to higher labor productivity growth, see Michele Cincera and Olivia Galgau, "Impact of Market Entry and Exit on EU Productivity and Growth Performance," European Economy, European Commission, Directorate-General for Economic and Financial Affairs, Economic Paper no. 222, February 2005.
17. See Andrea Bassanini and Ekkehard Ernst, "Labour Market Institutions, Product Market Regulation, and Innovation," Organisation for Economic Co-operation and Development, Economics Department Working Paper no. 316, January 16, 2002.
18. See Rachel Griffith and Rupert Harrison, "The Link between Product Market Reform and Macro-economic Performance," European Commission, Directorate-General for Economic and Financial Affairs, Economic Paper no. 209, August 2004; Alberto Alesina, Silvia Ardagna, Giuseppe Nicoletti, and Fabio Schiantarelli, "Regulation and Investment," National Bureau of Economic Research Working Paper no. 9560, March 2003.
19. See Griffith and Harrison, "The Link between Product Market Reform and Macro-economic Performance"; Giuseppe Nicoletti, Andrea Bassanini, Ekkehard Ernst, Sébastien Jean, Paul Santiago, and Paul Swaim, "Product and Labour Markets Interactions in OECD Countries," Organisation for Economic Co-operation and Development, Economics Department Working Paper no. 312, December 14, 2001.
20. See Steven J. Davis and John Haltiwanger, "Labor Market Fluidity and Economic Performance" (paper presented at Federal Reserve Bank of Kansas City's economic policy symposium "Re-Evaluating Labor Market Dynamics," Jackson Hole, WY, August 21–23, 2014); Ryan Decker, John Haltiwanger, Ron Jarmin, and Javier Miranda, "The Role of Entrepreneurship in U.S. Job Creation and Economic Dynamism," *Journal of Economic Perspectives* 28, no. 3 (2014): 3–24; Ryan

- Decker, John Haltiwanger, Ron Jarmin, and Javier Miranda, "The Secular Decline in Business Dynamism in the U.S.," University of Maryland working paper, June 2014.
21. For the seminal article on this topic, see William F. Ogburn and Dorathy Thomas, "Are Inventions Inevitable? A Note on Social Evolution," *Political Science Quarterly* 37, no. 1 (1922): 83–98. For further interesting discussion, see Kevin Kelly, *What Technology Wants* (New York: Viking Adult, 2010), ch. 7.
22. See Christopher A. Cotropia and Mark A. Lemley, "Copying in Patent Law," *North Carolina Law Review* 87, no. 5 (2009): 1421–66.
23. U.S. Const., art. I, § 8.
24. Rufus Pollock, "Forever Minus a Day? Calculating Optimal Copyright Term," *Review of Economic Research on Copyright Issues* 6, no. 1 (2009): 35–60.
25. See Timothy B. Lee, "Save the Orphan (Works)," Cato Institute TechKnowledge no. 117, June 30, 2008.
26. See Timothy B. Lee, "How the Criminalization of Copyright Threatens Innovation and the Rule of Law," in *Copyright Unbalanced: From Incentive to Excess*, ed. Jerry Brito (Arlington, VA: Mercatus Center, 2012), pp. 55–73.
27. *Sony Corp. of America v. Universal City Studios, Inc.*, 464 U.S. 417 (1984).
28. See Christina Mulligan, "Free Expression under the DMCA," in *Copyright Unbalanced*, pp. 75–93.
29. "U.S. Patent Activity: Calendar Years 1790 to the Present," U.S. Patent and Trademark Office, [http://www.uspto.gov/web/offices/ac/ido/oeip/taf/h\\_counts.htm](http://www.uspto.gov/web/offices/ac/ido/oeip/taf/h_counts.htm).
30. See, for example, Adam B. Jaffe, "The U.S. Patent System in Transition: Policy Innovation and the Innovation Process," *Research Policy* 29 (2000): 531–57, <https://www2.bc.edu/~zlate/bio/tech/Jaffe2000.pdf>.
31. See James Bessen and Michael J. Meurer, *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators at Risk* (Princeton: Princeton University Press, 2008), Figure 6.5, p. 139.
32. Executive Office of the President, "Patent Assertion and U.S. Innovation," Council of Economic Advisers, National Economic Council and Office of Science and Technology Policy, June 2013, [http://www.whitehouse.gov/sites/default/files/docs/patent\\_report.pdf](http://www.whitehouse.gov/sites/default/files/docs/patent_report.pdf).
33. James Bessen and Michael Meurer, "The Direct Costs from NPE Disputes," Boston University School of Law Working Paper 12-34, June 25, 2012, [https://www.bu.edu/law/faculty/scholarship/workingpapers/documents/BessenJ\\_MeurerM062512revo62812.pdf](https://www.bu.edu/law/faculty/scholarship/workingpapers/documents/BessenJ_MeurerM062512revo62812.pdf).
34. Claire Cain Miller and David Gelles, "After Big Bet, Google Is to Sell Motorola Unit," *New York Times*, January 29, 2014, <http://dealbook.nytimes.com/2014/01/29/google-seen-selling-it-mobility-unit-to-lenovo-for-about-3-billion/>.
35. See U.S. Census Bureau, "The Foreign Born Population in the United States," [https://www.census.gov/newsroom/pdf/cspan\\_fb\\_slides.pdf](https://www.census.gov/newsroom/pdf/cspan_fb_slides.pdf).
36. It should be noted that since low-skilled immigrants from poor countries earn dramatically more in the United States, the effect of their relocation on global output per worker is unambiguously positive even if the effect on U.S. output per worker is negative.
37. Giovanni Peri, "The Effect of Immigration on Productivity: Evidence from U.S. States," *Review of Economics and Statistics* 94, no. 1 (2012): 348–58, <http://economics.ucdavis.edu/people/gperi/site/papers/data/paper-tables>.
38. AnnaLee Saxenian, "Silicon Valley's New Immigrant Entrepreneurs," Public Policy Institute

- of California, 1999, [http://www.ppic.org/content/pubs/report/R\\_699ASR.pdf](http://www.ppic.org/content/pubs/report/R_699ASR.pdf).
39. Vivek Wadhwa, AnnaLee Saxenian, Ben Rissing, and Gary Gereffi, "America's New Immigrant Entrepreneurs," Duke Science, Technology & Innovation Paper no. 23, January 4, 2007, [http://www.soc.duke.edu/GlobalEngineering/papers\\_newimmigrant.php](http://www.soc.duke.edu/GlobalEngineering/papers_newimmigrant.php).
40. Vivek Wadhwa, AnnaLee Saxenian, Ben Rissing, and Gary Gereffi, "Education, Entrepreneurship and Immigration: America's New Immigrant Entrepreneurs, Part II," Ewing Marion Kauffman Foundation Working Paper, June 2007, <http://www.kauffman.org/what-we-do/research/immigration-and-the-american-economy/education-entrepreneurship-and-immigration-american-new-immigrant-entrepreneurs-part-ii>.
41. Vivek Wadhwa, AnnaLee Saxenian, and Daniel Siciliano, "America's New Immigrant Entrepreneurs: Then and Now," Ewing Marion Kauffman Foundation Working Paper, October 2012, <http://www.kauffman.org/what-we-do/research/immigration-and-the-american-economy/americas-new-immigrant-entrepreneurs-then-and-now>.
42. Stuart Anderson and Michaela Platzer, "American Made: The Impact of Immigrant Entrepreneurs and Professionals on U.S. Competitiveness," National Venture Capital Association, November 2006, [http://www.nfap.com/researchactivities/studies/immigrant\\_entrepreneurs\\_professionals\\_november\\_2006.pdf](http://www.nfap.com/researchactivities/studies/immigrant_entrepreneurs_professionals_november_2006.pdf); Stuart Anderson, "American Made 2.0: How Immigrant Entrepreneurs Continue to Contribute to the U.S. Economy," National Venture Capital Association, June 2013, <http://www.nfap.com/pdf/American%20Made%202.0.Final.pdf>.
43. See U.S. Department of State, Bureau of Consular Affairs, "Visa Bulletin for September 2014," no. 72, vol. ix, <http://travel.state.gov/content/visas/english/law-and-policy/bulletin/2014/visa-bulletin-for-september-2014.html>.
44. See Demetrios G. Papademetriou, Doris Meissner, Marc R. Rosenbaum, and Madeleine Sumption, "Aligning Temporary Immigration Visas with US Labor Market Needs: The Case for a New System of Provisional Visas," Migration Policy Institute, July 2009, [http://www.bollettinoadapt.it/old/files/document/2461MPI\\_IMMI\\_GRAZIONE.pdf](http://www.bollettinoadapt.it/old/files/document/2461MPI_IMMI_GRAZIONE.pdf).
45. See David North, "Estimating the Size of the H-1B Population in the U.S.," Center for Immigration Studies, February 2011, <http://cis.org/estimating-h1b-population-2-11>.
46. Bryan C. Baker, "Estimates of the Resident Nonimmigrant Population in the United States: 2008," in *Population Estimates* (June 2010), Department of Homeland Security, Office of Immigration Statistics, [http://www.dhs.gov/xlibrary/assets/statistics/publications/ois\\_ni\\_pe\\_2008.pdf](http://www.dhs.gov/xlibrary/assets/statistics/publications/ois_ni_pe_2008.pdf).
47. See Anderson, "American Made 2.0."
48. See Ruth Ellen Wasem, "Immigration of Foreign Nationals with Science, Technology, Engineering, and Mathematics (STEM) Degrees," Congressional Research Service, November 26, 2012, <https://www.fas.org/sgp/crs/misc/R42530.pdf>.
49. For example, President Barack Obama made the following observation in his 2011 State of the Union address: "Others come here from abroad to study in our colleges and universities. But as soon as they obtain advanced degrees, we send them back home to compete against us. It makes no sense." Remarks by the President in State of Union Address, January 25, 2011, <http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address>.
50. See Stuart Anderson, "Waiting and More Waiting: America's Family and Employment-Based Immigration System," National Foundation for American Policy, October 2011, [http://www.nfap.com/pdf/WAITING\\_NFAP\\_Policy\\_Brief\\_October\\_2011.pdf](http://www.nfap.com/pdf/WAITING_NFAP_Policy_Brief_October_2011.pdf).
51. For a good review of reform options, see John E. Tyler and Peter F. Schuck, "U.S. Policy Regard-

- ing Highly Skilled Immigrants: Change Whose Time Has Come,” in *Rules for Growth: Promoting Innovation and Growth Through Legal Reform* (Kansas City, MO: Ewing Marion Kauffman Foundation, 2011), pp. 81–112, [http://www.kauffman.org/-/media/kauffman\\_org/research%20reports%20and%20covers/2011/02/rulesforgrowth.pdf](http://www.kauffman.org/-/media/kauffman_org/research%20reports%20and%20covers/2011/02/rulesforgrowth.pdf).
52. Border Security, Economic Opportunity, and Immigration Modernization Act, S. 744, 113th Cong. (2013–14), <https://www.congress.gov/bill/113th-congress/senate-bill/744>.
53. See the discussion in Tyler and Schuck, “U.S. Policy Regarding Highly Skilled Immigrants,” pp. 101–103.
54. See Brandon Fuller and Sean Rust, “State-Based Visas: A Federalist Approach to Reforming U.S. Immigration Policy,” Cato Institute Policy Analysis no. 748, April 23, 2014, <http://www.cato.org/publications/policy-analysis/state-based-visas-federalist-approach-reforming-us-immigration-policy>.
55. See Harry J. Holzer, “Immigration Policy and Less-Skilled Workers in the United States: Reflections on Future Directions for Reform,” Migration Policy Institute, January 2011, <http://www.migrationpolicy.org/research/US-immigration-policy-less-skilled-workers>.
56. Office of Management and Budget, “Middle Class Economics: Advancing Economic Opportunity and Mobility,” Fact Sheet on the President’s Budget, Fiscal Year 2016, p. 7, [http://www.whitehouse.gov/sites/default/files/omb/budget/fy2016/assets/fact\\_sheets/advancing-economic-opportunity-and-mobility.pdf](http://www.whitehouse.gov/sites/default/files/omb/budget/fy2016/assets/fact_sheets/advancing-economic-opportunity-and-mobility.pdf).
57. Eduardo Porter, “Job Licenses in Spotlight as Uber Rises,” *New York Times*, January 27, 2015, <http://www.nytimes.com/2015/01/28/business/economy/ubers-success-casts-doubt-on-many-job-licenses.html>.
58. Morris M. Kleiner, “Occupational Licensing: Protecting the Public Interest or Protectionism?” W. E. Upjohn Institute for Employment Research Policy Paper no. 2011-009, July 2011, [http://research.upjohn.org/up\\_policypapers/9/](http://research.upjohn.org/up_policypapers/9/); Morris M. Kleiner and Alan B. Krueger, “Analyzing the Extent and Influence of Occupational Licensing,” *Journal of Labor Economics* 31, no. 2, pt. 2 (2013): S173–202.
59. See Dick M. Carpenter II, Lisa Knepper, Angela C. Erickson, and John K. Ross, “License to Work: A National Study of Burdens from Occupational Licensing,” Institute for Justice, May 2012, <https://www.ij.org/licensetowork>.
60. See, for example, Associated Press, “Georgia Police Close Girls’ Lemonade Stand,” July 15, 2011, <http://www.foxnews.com/us/2011/07/15/georgia-police-close-girls-lemonade-stand/>; and Sergio Bichao, “Police Stop Teens Seeking Snow Shoveling Work,” *USA Today*, January 29, 2015, <http://www.usatoday.com/story/news/nation/2015/01/28/teens-seeking-snow-shoveling-cash-run-afoul-law/22454761/>.
61. See Carl Shapiro, “Investment, Moral Hazard, and Occupational Licensing,” *Review of Economic Studies* 53, no. 5 (1986): 843–62, <http://www.jstor.org/stable/2297722>.
62. See Adam B. Summers, “Occupational Licensing: Ranking the States and Exploring Alternatives,” Reason Foundation Policy Study no. 361, July 2007, <http://reason.org/news/show/occupational-licensing-ranking>.
63. See Carpenter et al., “License to Work.”
64. See Mario Pagliero, “The Impact of Potential Labor Supply on Licensing Exam Difficulty,” *Labour Economics* 25 (2013): 141–52.
65. See Carpenter et al., “License to Work.”
66. See Morris M. Kleiner and Robert T. Kudrle, “Does Regulation Affect Economic Outcomes? The Case of Dentistry,” *Journal of Law and Economics* 43, no. 2 (2000): 547–82. But for different results, see Arlene Holen, *The Economics of Dental*

- Licensing*, U.S. Department of Health and Human Services, 1978.
67. See Morris M. Kleiner, *Stages of Occupational Regulation: Analysis of Case Studies* (Kalamazoo, MI: W. E. Upjohn Institute for Employment Research, 2013). For different findings regarding mortgage brokerage, see Lan Shi and Yan Zhang, “The Effect of Mortgage Broker Licensing on Loan Origination Standards and Defaults under the Originate-to-Distribute Model: Evidence from the U.S. Mortgage Market,” February 2013, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2220013](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2220013).
68. Joshua D. Angrist and Jonathan Guryan, “Teacher Testing, Teacher Education, and Teacher Characteristics,” *American Economic Review* 94, no. 2 (2004): 241–46.
69. Dick M. Carpenter II, “Blooming Nonsense: Do Claims about the Consumer Benefit of Licensure Withstand Empirical Scrutiny?” *Regulation* (Spring 2011): 44–47, <http://object.cato.org/sites/cato.org/files/serials/files/regulation/2011/4/regv34n1-8.pdf>.
70. David Skarbek, “Occupational Licensing and Asymmetric Information: Post-Hurricane Evidence from Florida,” *Cato Journal* 28, no. 1 (2008): 73–82, <http://object.cato.org/sites/cato.org/files/serials/files/cato-journal/2008/1/cj28n1-5.pdf>.
71. Kleiner and Krueger, “Analyzing the Extent and Influence of Occupational Licensing.”
72. Morris M. Kleiner, *Licensing Occupations: Ensuring Quality or Restricting Competition?* (Kalamazoo, MI: W. E. Upjohn Institute for Employment Research, 2006).
73. Morris M. Kleiner, “Reforming Occupational Licensing Policies,” Brookings Institution, Hamilton Project Discussion Paper 2015-01, January 2015, [http://www.brookings.edu/-/media/research/files/papers/2015/01/28%20reforming%20occupational%20licensing%20kleiner/reform\\_occupational\\_licensing\\_policies\\_kleiner\\_v4.pdf](http://www.brookings.edu/-/media/research/files/papers/2015/01/28%20reforming%20occupational%20licensing%20kleiner/reform_occupational_licensing_policies_kleiner_v4.pdf).
74. Morris M. Kleiner, “Occupational Licensing,” *Journal of Economic Perspectives* 14, no. 1 (2000): 196, <https://www.aeaweb.org/articles.php?doi=10.1257/jep.14.4.189>.
75. Kleiner and Krueger, “Analyzing the Extent and Influence of Occupational Licensing.”
76. Angrist and Guryan, “Teacher Testing, Teacher Education, and Teacher Characteristics.”
77. Maya N. Federman, David E. Harrington, and Kathy J. Krynski, “The Impact of State Licensing Regulations on Low-Skilled Immigrants: The Case of Vietnamese Manicurists,” *American Economic Review* 96, no. 2 (2006): 237–41.
78. For a useful summary of recent state-level reform activity, see Jenni Bergal, “A License to Braid Hair? Critics Say State Licensing Rules Have Gone Too Far,” *Stateline*, January 30, 2015, <http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2015/1/30/a-license-to-braid-hair-critics-say-state-licensing-rules-have-gone-too-far>.
79. Minnesota House of Representatives, HF 2002, 87th Legislature (2011–12), <https://www.revisor.mn.gov/bills/text.php?number=Hf2002&version=0&session=1s87>.
80. *North Carolina State Board of Dental Examiners v. Federal Trade Commission*, No. 13-534, (U.S., 2015), [http://www.supremecourt.gov/opinions/14pdf/13-534\\_19m2.pdf](http://www.supremecourt.gov/opinions/14pdf/13-534_19m2.pdf).
81. See Michael Hiltzik, “Supreme Court Ruling Puts State Regulatory Boards in Crosshairs,” *Los Angeles Times*, March 27, 2015, <http://www.latimes.com/business/hiltzik/la-fi-hiltzik-20150329-column.html#page=1>.
82. *St. Joseph Abbey v. Castille*, 712 F.3d 215 (5th Cir. 2013).
83. *Powers v. Harris*, 379 F.3d 1208 (10th Cir. 2004).
84. See Janna E. Johnson and Morris M. Kleiner,



- “Is Occupational Licensing a Barrier to Interstate Migration?” University of Minnesota Working Paper, 2014, <http://paa2015.princeton.edu/uploads/152473>.
85. For a discussion of this reform idea, see Kauffman Task Force on Entrepreneurship, “A License to Grow: Ending State, Local, and Some Federal Barriers in Key Sectors of the U.S. Economy” Ewing Marion Kauffman Foundation, January 2012, [http://www.kauffman.org/-/media/kauffman\\_org/research%20reports%20and%20covers/2012/02/a\\_license\\_to\\_grow.pdf](http://www.kauffman.org/-/media/kauffman_org/research%20reports%20and%20covers/2012/02/a_license_to_grow.pdf).
86. See William A. Fischel, “An Economic History of Zoning and a Cure for its Exclusionary Effects,” *Urban Studies* 41, no. 2 (2004): 317–40, <http://www.dartmouth.edu/~wfischel/Papers/02-03.pdf>.
87. See Edward L. Glaeser, Joseph Gyourko, and Raven E. Saks, “Why Have Housing Prices Gone Up?” National Bureau of Economic Research Working Paper no. 11129, February 2005, <http://www.nber.org/papers/w11129.pdf>.
88. Ibid.
89. Ibid.
90. See Edward L. Glaeser and Bryce A. Ward, “The Causes and Consequences of Land Use Regulation: Evidence from Greater Boston,” *Journal of Urban Economics* 65 (2009): 265–78, [http://scholar.harvard.edu/files/glaeser/files/the\\_causes\\_and\\_consequences\\_of\\_land\\_use\\_regulation\\_evidence\\_from\\_greater\\_boston\\_2009.pdf](http://scholar.harvard.edu/files/glaeser/files/the_causes_and_consequences_of_land_use_regulation_evidence_from_greater_boston_2009.pdf).
91. See Edward L. Glaeser and Joseph Gyourko, “The Impact of Building Restrictions on Housing Affordability,” *Federal Reserve Bank of New York Economic Policy Review* 9, no. 2 (2003): 21–39, <http://www.newyorkfed.org/research/epr/03v09n2/0306glae.pdf>.
92. See Edward L. Glaeser, Joseph Gyourko, and Raven Saks, “Why Is Manhattan So Expensive? Regulation and the Rise of Housing Prices,” *Journal of Law and Economics* 48, no. 2 (2005): 331–69, [http://repository.upenn.edu/cgi/viewcontent.cgi?article=1007&context=penniu\\_r\\_papers](http://repository.upenn.edu/cgi/viewcontent.cgi?article=1007&context=penniu_r_papers).
93. See Jesse Bricker et al., “Changes in U.S. Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances,” *Federal Reserve Bulletin* 100, no. 4 (2014), <http://www.federalreserve.gov/pubs/bulletin/2014/pdf/scf14.pdf>.
94. See Jonathan Rothwell and Douglas S. Massey, “The Effect of Density Zoning on Racial Segregation in U.S. Urban Areas,” *Urban Affairs Review* 44, no. 6 (2009): 779–806, <http://www.thecyberhood.net/documents/papers/uar09.pdf>; Jonathan Rothwell and Douglas S. Massey, “Density Zoning and Class Segregation in U.S. Metropolitan Areas,” *Social Science Quarterly* 91, no. 5 (2010): 1123–43. See also Matthew Resseger, “The Impact of Land Use Regulation on Racial Segregation: Evidence from Massachusetts Zoning Borders,” Harvard University, November 26, 2013, [http://scholar.harvard.edu/files/resseger/files/resseger\\_jmp\\_11\\_25.pdf](http://scholar.harvard.edu/files/resseger/files/resseger_jmp_11_25.pdf).
95. See, for example, David M. Cutler and Edward L. Glaeser, “Are Ghettos Good or Bad?” *Quarterly Journal of Economics* 112, no. 3 (1997): 827–72.
96. See Antonio Ciccone and Robert E. Hall, “Productivity and the Density of Economic Activity,” *American Economic Review* 86, no. 1 (1996): 54–70, <http://web.stanford.edu/~rehall/Productivity-AER-March-1996.pdf>.
97. See Morris A. Davis, Jonas D. M. Fisher, and Toni M. Whited, “Macroeconomic Implications of Agglomeration,” *Econometrica* 82, no. 2 (2014): 731–64; Morikawa Masayuki, “Economics of Density in Service Industries: An Analysis of Personal-Service Industries Based on Establishment-Level Data,” Research Institute of Economy, Trade and Industry Discussion Paper Series 08-E-023, July 2008; Timothy F. Harris and Yanis M. Ioannides, “Productivity and Metropolitan Density,” Discussion Paper Series, Department of Economics, Tufts University, May 15, 2000.
98. See Jaison R. Abel, Ishita Dey, and Todd M.

- Gabe, "Productivity and the Density of Human Capital," Federal Reserve Bank of New York Staff Report no. 440, March 2010 (revised September 2011), [http://www.newyorkfed.org/research/staff\\_reports/sr440.pdf](http://www.newyorkfed.org/research/staff_reports/sr440.pdf).
99. Ryan Avent, *The Gated City* (Amazon Digital Services, Kindle Edition, 2011).
100. See Edward L. Glaeser and Kristina Tobio, "The Rise of the Sunbelt," National Bureau of Economic Research Working Paper no. 13071, April 2007, <http://www.nber.org/papers/w13071.pdf>.
101. See Chang-Tai Hsieh and Enrico Moretti, "Why Do Cities Matter? Local Growth and Aggregate Growth," National Bureau of Economic Research Working Paper no. 21154, May 2015, <http://www.nber.org/papers/w21154>.
102. See David Schleicher, "City Unplanning," *Yale Law Journal* 122, no. 7 (2013): 1670–1737, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1990353](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1990353).
103. See Edward Glaeser, *Triumph of the City: How Our Greatest Invention Makes Us Happier, Smarter, Greener, Healthier, and Happier* (New York: Penguin Press, 2011), p. 162.
104. See Timothy B. Lee, "Strange Bedfellows: Nancy Pelosi, Ron Paul Join SOPA Opposition," *Ars Technica*, November 17, 2011, <http://arstechnica.com/tech-policy/2011/11/strange-bedfellows-nancy-pelosi-ron-paul-join-sopa-opposition/>.
105. Paul Ryan and House Budget Committee majority staff, "Expanding Opportunity in America."
106. Matthew Yglesias, *The Rent Is Too Damn High: What To Do About It, and Why It Matters More Than You Think* (New York: Simon and Schuster, 2012).
107. Carl Shapiro, "Patent Reform: Aligning Reward and Contribution," in *Innovation Policy and the Economy*, ed. Adam B. Jaffe, Josh Lerner, and Scott Stern, vol. 8 (Chicago: University of Chicago Press, 2008), p. 111, <http://www.nber.org/chapters/c5303.pdf>.
108. William A. Fischel, "An Economic History of Zoning and a Cure for Its Exclusionary Effects," *Urban Studies* 41, no. 2 (2004): 317–40.
109. Cato Institute, "Reviving Economic Growth: A Cato Online Forum," December 4, 2014, <http://www.cato.org/conference-forum/reviving-economic-growth>.





# Cato Institute

Founded in 1977, the Cato Institute is a public policy research foundation dedicated to broadening the parameters of policy debate to allow consideration of more options that are consistent with the traditional American principles of limited government, individual liberty, and peace. To that end, the Institute strives to achieve greater involvement of the intelligent, concerned lay public in questions of policy and the proper role of government.

The Institute is named for *Cato's Letters*, libertarian pamphlets that were widely read in the American Colonies in the early 18th century and played a major role in laying the philosophical foundation for the American Revolution.

Despite the achievement of the nation's Founders, today virtually no aspect of life is free from government encroachment. A pervasive intolerance for individual rights is shown by government's arbitrary intrusions into private economic transactions and its disregard for civil liberties.

To counter that trend, the Cato Institute undertakes an extensive publications program that addresses the complete spectrum of policy issues. Books, monographs, and shorter studies are commissioned to examine the federal budget, Social Security, regulation, military spending, international trade, and myriad other issues. Major policy conferences are held throughout the year, from which papers are published thrice yearly in the *Cato Journal*. The Institute also publishes the quarterly magazine *Regulation*.

In order to maintain its independence, the Cato Institute accepts no government funding. Contributions are received from foundations, corporations, and individuals, and other revenue is generated from the sale of publications. The Institute is a nonprofit, tax-exempt, educational foundation under Section 501(c)3 of the Internal Revenue Code.

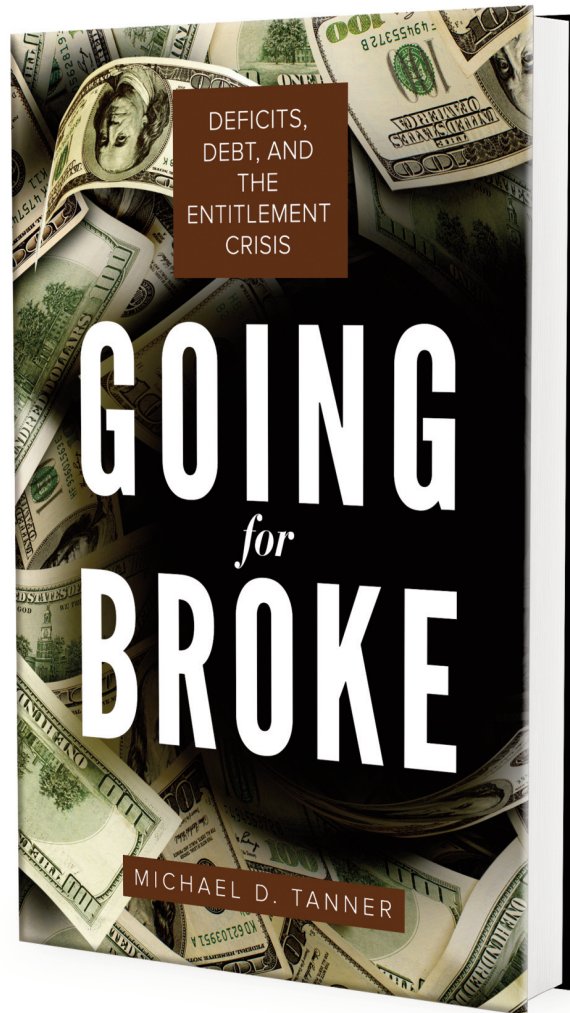
Cato Institute  
1000 Massachusetts Ave., N.W.  
Washington, D.C. 20001  
[www.cato.org](http://www.cato.org)





“A must-read book on  
America’s fiscal future: clear,  
compelling, and..terrifying.”

—DOUGLAS HOLTZ-EAKIN, *former Director of the Congressional Budget Office*



Our growing national debt has dropped out of the headlines recently—but that doesn’t mean the problem has gone away. Despite a national debt over \$18 trillion, politicians from both parties continue to avoid taking serious responsibility and action when it comes to the difficult decisions that must be made regarding Medicare, Medicaid, Social Security, and more. In *Going for Broke*, Michael Tanner provides a critical, in-depth analysis of these entitlement programs and lays out much-needed solutions for real reform. **HARDBACK: \$18.95 • EBOOK: \$12.99**

**CATO**  
INSTITUTE

AVAILABLE AT [CATO.ORG/STORE](http://CATO.ORG/STORE)  
AND BOOKSTORES NATIONWIDE.