The Growth Potential of Deregulation

The Council of Economic Advisors

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Summary

Excessive regulation is a tax on the economy, costing the U.S. an average of 0.8 percent of GDP growth per year since 1980. This taxation by regulation has increased sharply in recent years, with approximately 500 new economically significant regulations created over the last eight years alone. Through a thorough review of the literature, the Council of Economic Advisers (CEA) finds that deregulation will stimulate U.S. GDP growth.

Introduction

Government regulatory action often originates with the best of intentions. Indeed, society is better off with regulations that prevent toxic waste dumping, outlaw child labor, and protect endangered species, for example. Over the past few decades there has been a proliferation of regulation, ranging from the severe to the silly, including diktats over dogwalkers' licenses and children's lemonade stands. While regulation does often serve the public interest, excessive regulations can be defined as redundant or poorly-designed and create unnecessary costs with few economic benefits. Limiting excessive regulations ensures the continued benefits of regulation while decreasing the costly effects of regulation as a whole.

Regulations serve as an additional tax on the U.S. economy, often making beneficial economic transactions more expensive or preventing them outright. Economic theory teaches that when a good is taxed, there is less of it. Regulations have the same effect. In some cases, this is desired – regulating excessive highway speeds serves as a tax on unsafe driving. However, in other cases this can have unintended effects. For example, rent control regulations tax property owners and serve as a disincentive to upgrade apartments and improve the housing stock. Minimum wage regulations tax employers and discourage them from hiring workers. Regulations mandating minimum health insurance benefits act as a tax on premiums, preventing some from affording any health care coverage at all. While it is often difficult to disentangle the isolated effects of taxes and regulation on firm relocation decisions, they jointly contribute to the outsourcing of U.S. jobs. Specifically, environmental regulations have been found to have adverse effects on trade, employment, and the location of industry (Dechezleprêtre and Misato Sato 2017).

Though each well-intended rule aims to enhance social welfare, it is crucial to separate the intention of a given regulation from its actual impact on the economy. The restrictions imposed by excessive regulations create unnecessary costs that are borne by families and business owners alike and lower U.S. GDP growth.

This report reviews the economic literature on regulation. Section I discusses the extent and proliferation of U.S. Federal regulations. Section II discusses the costs of these regulations. Section III discusses the positive impact of deregulation on Americans' personal prosperity and on overall economic growth.

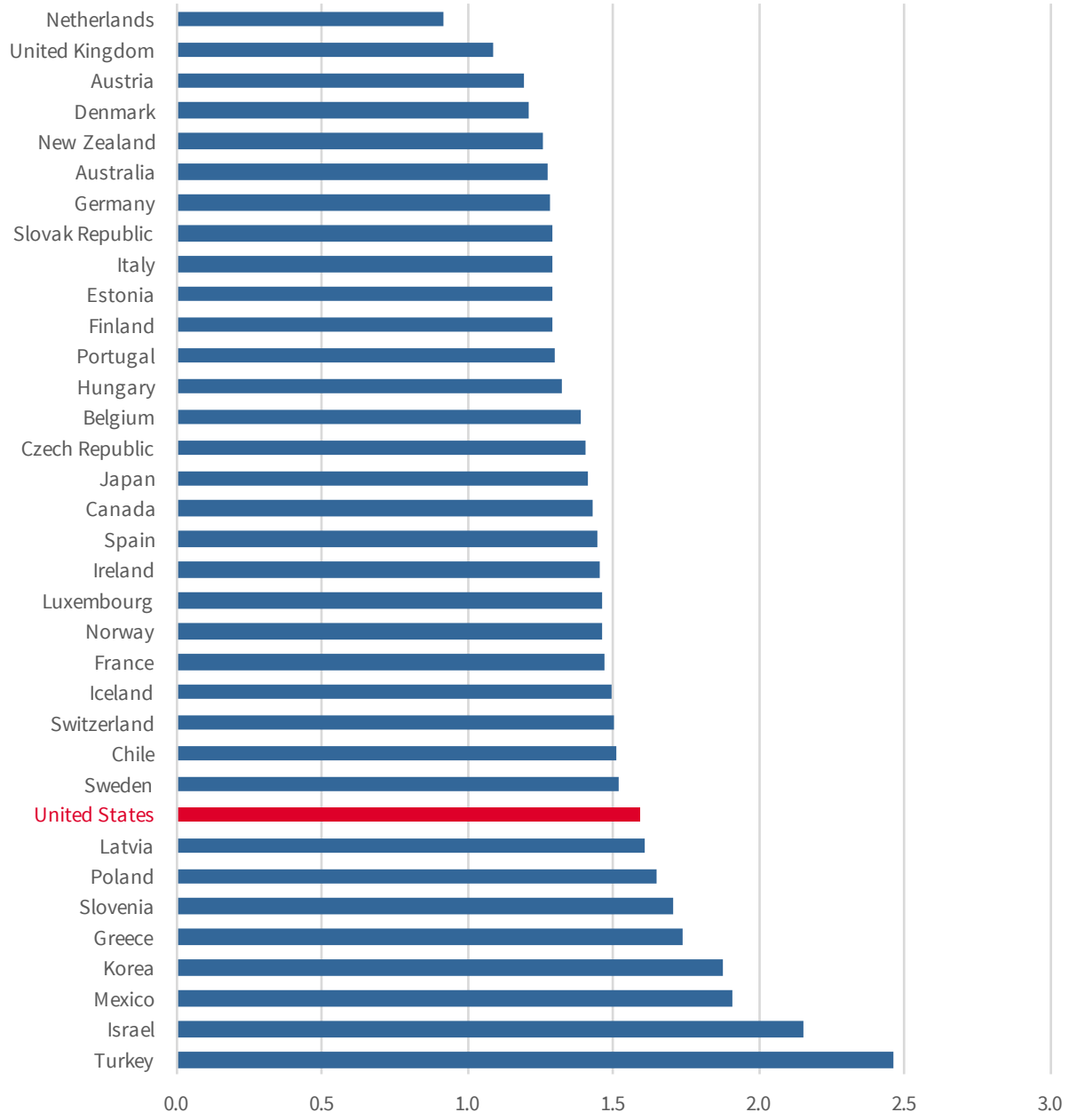
I. The Extent of Existing Regulations

There are several useful methods for evaluating the extent of U.S. regulations, including measures developed by the Organization for Economic Cooperation and Development (OECD), the number of pages or instances of regulation in Federal regulation documents, and

the number of economically significant actions proposed by government agencies. All of these metrics show that U.S. regulations have increased over time.

First, OECD calculations place the United States as 27th out of 35 countries in product market regulation behind France, Chile, and the Czech Republic (Koske et al. 2015; see Figure 1). This measures a country's success at setting product market regulation that encourages competition and ensures a level playing field among firms.

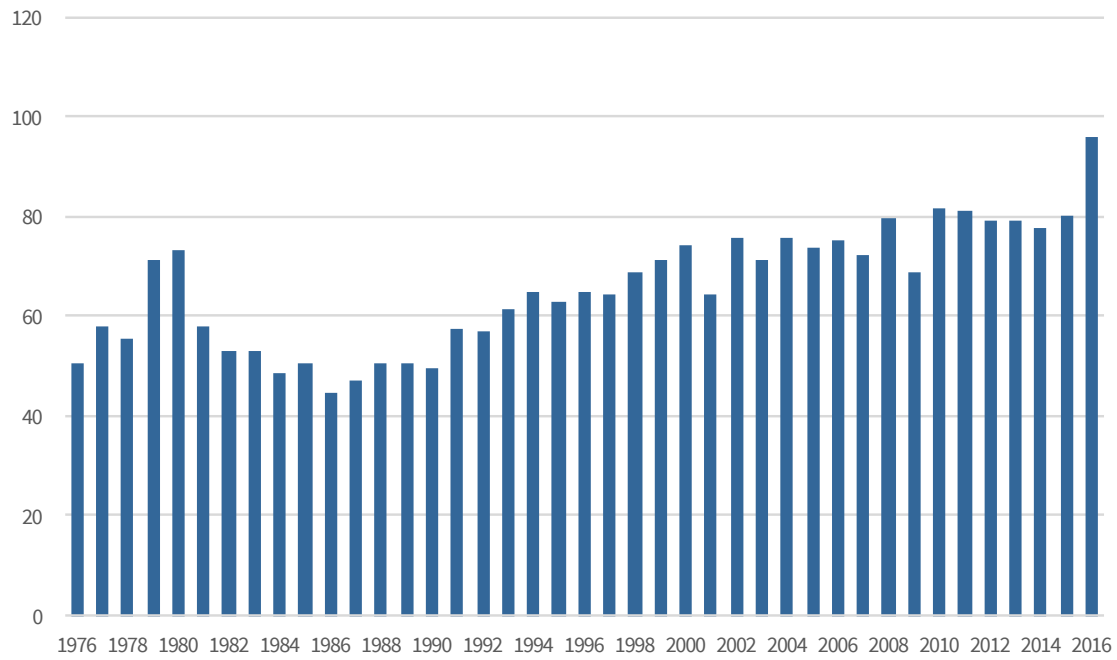
Figure 1: Product Market Regulations in 2013 (35 OECD Countries)
(Index scale from 0 to 6 from least to most restrictive)



Source: OECD; Koske et al. (2015)

Second, several metrics for gauging government regulatory activity indicate an increase since 1975. This includes the number of pages in the Federal Register and in the Code of Federal Regulations (CFR). The Federal Register reflects the flow of new regulations, while the CFR reflects the stock of existing regulations. While the number of pages is not a perfect proxy for the extent of regulation, it provides a straightforward indicator of the restraints facing U.S. consumers and businesses. Figure 2 shows the flow of new yearly regulations in the Federal Register from 1976 to 2016. In 2016, there were approximately 45,000 more pages in the Federal Register than 40 years prior, an increase of about 90 percent.[1]

Figure 2: Flow of New Regulation: Pages in the Federal Register, 1976-2016
(Number of pages, thousands)



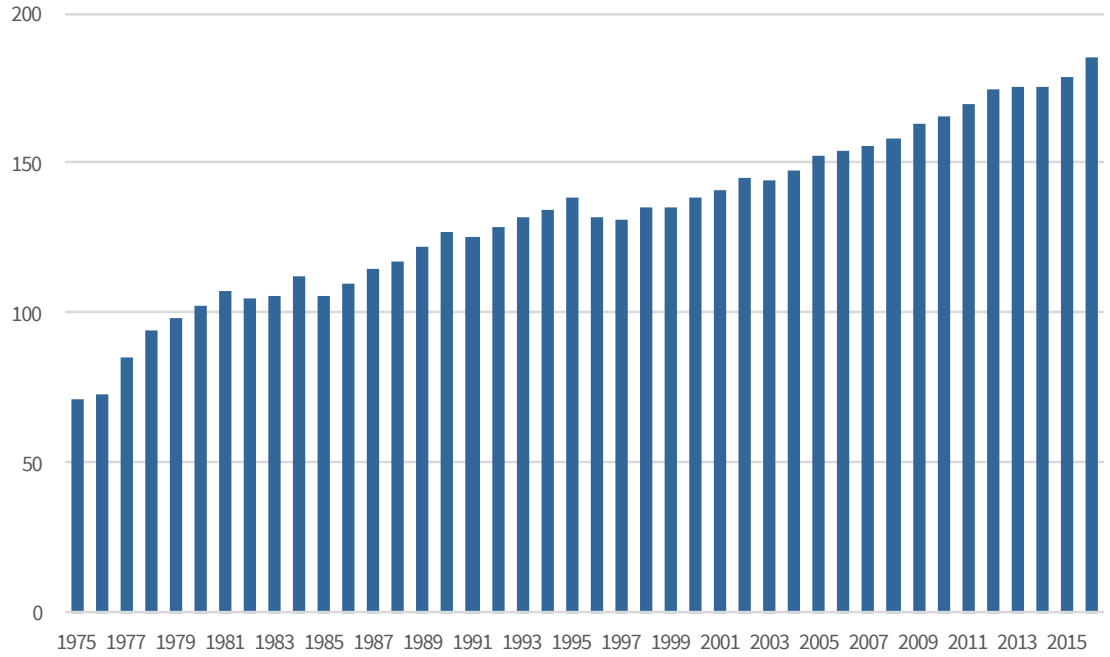
Source: GW Regulatory Studies Center

[1] Figure 1 likely overstates the number of pages as obsolete or long ignored regulations simply stay on the books and are not officially removed. But for all practical purposes, they are unenforced.

Given that creation of new regulations has outpaced the elimination of old ones, the existing stock of regulations on the books has increased over time. Figure 3 depicts the growth of the CFR, which increased 160 percent from 1975 to 2016.

Figure 3: Stock of Existing Regulation: Pages in the Federal Code of Regulations, 1975-2016

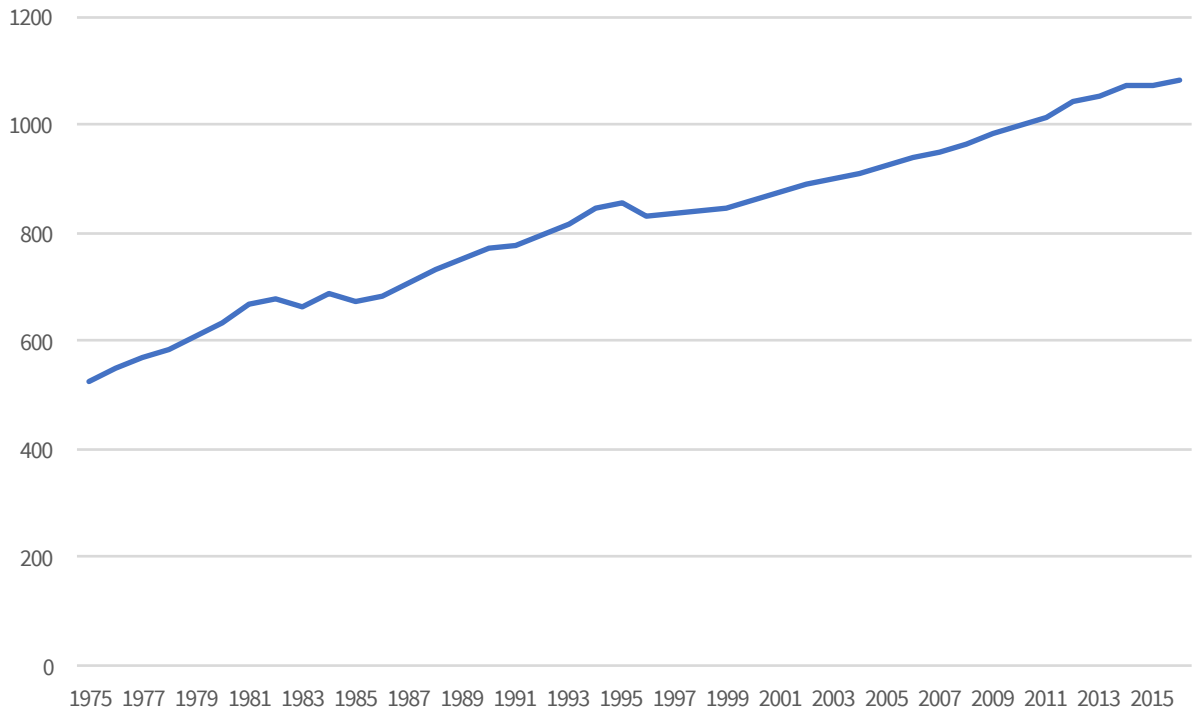
(Number of pages, thousands)



Source: Federal Register

Due to measurement issues in using the Federal Register and CFR, the Mercatus Center at George Mason University publishes a data set that parses the CFR and counts the prevalence of the words “shall,” “must,” “may not,” “required,” and “prohibited.” The frequency of these words acts as a proxy for restrictions. From 1975 to 2016, the number of restrictions measured using this dataset increased 107 percent, reflecting similar growth in regulation to the growth estimated using the Federal Register and slightly below the growth estimated using the CFR (see Figure 4).

Figure 4: Count of Restrictive Words in the Federal Code of Regulations, 1975-2016
(Thousands)

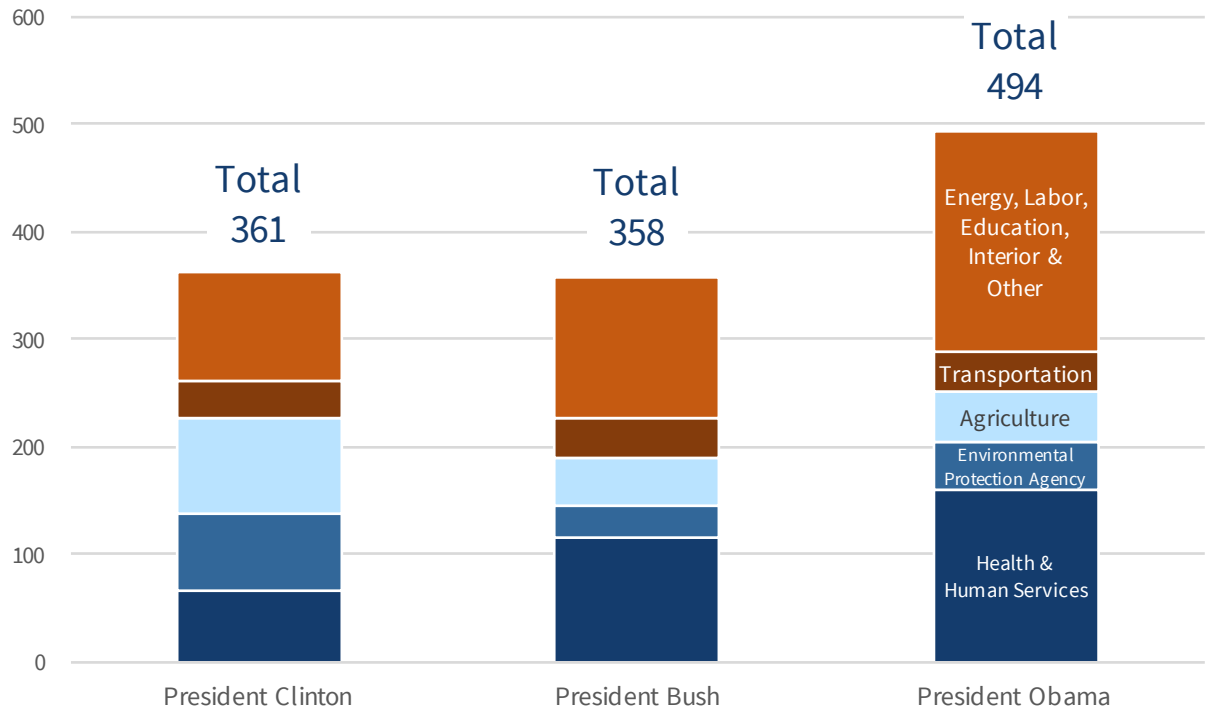


Source: Mercatus Center

Third, the number of "economically significant" rules issued by Federal agencies serves as an indicator of the current regulatory burden. Executive Order (EO) 12866 defines "economically significant" rules as those estimated to have an annual effect of $100 million or more. Under the Obama Administration, the government promulgated 494 new rules deemed "economically significant," and under the W. Bush Administration, the government issued 358 such rules. Under the Clinton Administration, those agencies issued 361 such rules (see Figure 5).

Figure 5: Economically Significant Rules Issued by Select Agencies across Administrations

(Number)



Source: GW Regulatory Studies Center

II. Evaluating the Current Regulatory Burden

In 2012, the total cost of Federal regulations to the U.S. economy was estimated at $2.03 trillion (in constant 2014 dollars) by Crain and Crain (2014) as part of a study for the National Association of Manufacturers (NAM). Equaling 12 percent of U.S. GDP, this metric considers both the direct and indirect costs of complying with regulations, such as performing mandated operations and updates, hiring compliance officers, and the alternative use of funds – that is, other ways money could have been spent on firm growth.

The Office of Management and Budget (OMB) – which only evaluated 0.4 percent of all final rules – estimated in 2016 that major Federal regulations imposed annual costs of $74 to $110 billion (in constant 2014 dollars). For OMB to evaluate a rule, it must be expected to cost over $100 million and have already been evaluated by the agency. OMB notes that their estimates are not a complete accounting of all the costs and benefits of all the regulations issued by the Federal government. It is then likely that the total cost of regulation in 2016 is closer to Crain and Crain's estimates for 2012.

The burden of regulation can have an outsized impact on small businesses. In particular, the cost per employee of complying with regulations was higher for small firms ($11,724) than it was for firms with over 100 employees ($9,083), meaning that small firms disproportionately bear the cost of complying with regulations (Crain and Crain 2014). Rather than encouraging business development and investment, excessive regulation disproportionately discourages small business growth through the higher burden of regulation.

Distributional Impact

Across households, the burden of government regulation falls most heavily on low-income Americans, who spend a larger proportion of their income on heavily regulated goods including transportation, gasoline, utilities, food, and heath care (Goldstein and Vo 2012; McLaughlin 2016). Chambers and Collins (2016) find that a 10 percent increase in total regulations leads to a 0.687 percent increase in consumer prices, with the poorest households experiencing the highest overall levels of inflation and price volatility. Low-income households also experience a disproportionate burden of the health and safety regulations, a large proportion of which protect against low-probability events (Thomas 2012).

Increasing regulation, particularly entry regulations, can also increase income inequality. McLaughlin and Stanley (2016) suggest that entry regulations may force individuals into fields that do not utilize their skills, resulting in lower income, or encourage individuals to operate illegally within their preferred occupation. This phenomenon can be understood using a common metric of economic inequality, the Gini coefficient. McLaughlin and Stanley show that a one standard deviation increase in the number of procedures required to start a business increases a country's Gini coefficient by 1.5 percent and the share of income going to the top 10 percent of earners by 5.6 percent.

Cost of Compliance

Regulations place an administrative burden on businesses by increasing resources spent on compliance, thus diverting time from more productive activities. Put simply, the number of hours devoted to paperwork in order to comply with regulation acts as tax on production.

Analysis by the CPB Netherlands Bureau for Economic Policy Analysis (2004) found that reducing the administrative burden for businesses within the EU led to a significant gain in economic efficiency by boosting investment and increasing production and labor productivity. The analysis found that reducing administrative costs by 25 percent had an initial effect of increasing real GDP by 1 percent. The long-run effect was larger, with an increase in real GDP of 1.4 percent attributed to higher savings, more investment, and additional capital. When increased production results in more research and development spending, the long-run effect is 1.7 percent for the 25 EU members.

Using Bureau of Labor Statistics (BLS) data on compliance officer wages, CEA estimates that businesses spent $16.8 billion in 2015 on compliance officers' salaries – a real increase of 171 percent since 2000, with compliance costs growing 6.87 percent each year on average. This estimate does not account for diverted workflow or lost productivity due to compliance, suggesting the full cost is much higher. In 2000, completing paperwork for Federal regulation cost an estimated $236 billion (up from $143 billion in 1980) (Hopkins 1995). Given the increase in regulation since 2000, the cost of paperwork is likely higher now. Assuming the same proportion of compliance officers' salaries out of total paperwork cost, the cost of paperwork increased to $881 billion in 2015.

There is evidence that compliance costs not only affect production but also financing. In response to the high costs of administration and compliance, some firms may choose to forego more regulated public capital markets and remain in less regulated private ones. Doidge, Karolyi and Stulz (2017) show that, beginning in 1996, the number of publicly listed firms has been declining. The empirical results suggest that this decline is due to a combination of the increased costs and the emergence of cheaper alternative sources of capital, such as private equity firms. Given the high cost to businesses (especially small businesses), the United States has the potential to increase economic growth through reductions in administrative costs by limiting unnecessary regulation.

Regulatory Delays

Regulations in the pharmaceutical sector often serve as a tax on drug development and innovation. The Prescription Drug User Fee Acts (PDUFA) provides an example of how speeding up regulatory agencies' approvals can reduce the burden of regulation on a market that accounts for 20 percent of consumer spending. The act mandated that the U.S. Food and Drug Administration's (FDA) meet performance goals and allowed drug manufacturers to compensate the FDA for expedited review of drug applications.

PDUFA saved the equivalent of 1800 to 4000 lives and raised the combined benefit to producers and consumers by $14 to $31 billion (Philipson et al. 2008). Philipson et al. also analyzed U.S. sales of drugs and the FDA review and withdrawal times for those drugs, to estimate the benefits of associated changes in the potential speed-safety tradeoff induced by

PDUFA. Under the extreme assumption that all drug withdrawals after PDUFA were due to PDUFA, the authors' analysis finds that the adverse effects of the law was equal to 720 lives. Consequently, the benefits of a faster FDA greatly outweigh the maximum potential harm to safety of the act.

Decreased firm investment and policy uncertainty

Both existing regulations and uncertainty regarding the future of regulatory policy can negatively affect investment. Alesina et al. (2005) find that regulation in the product market typically serves as protection for incumbent producers and allows them to raise their prices above competitive rates. If burdensome enough, "red tape" can alter a firm's investment decisions by discouraging them from increasing production capacity. Removing these regulatory barriers-to-entry compels both incumbent and new firms to cut prices, and thereby raises output and investment. Regulation can also limit the return a firm can realize from a particular input, altering capital-labor decisions. For instance, Alesina, Battisti, and Zeira (2014) find that countries with more significant labor market regulations for low-skilled workers will result in greater technological development and automation in low-skilled sectors. In other words, overregulation of labor may inadvertently encourage employers to use cheaper machines instead of humans.

Alesina et al. (2005) compare OECD regulatory indices with investment rates as a share of capital stock for OECD countries between 1975 and 1998. In both 1975 and 1998, the United States was the least regulated country out of the authors' sample of OECD countries, pursuing strong deregulation policies during the period. The United Kingdom also encouraged deregulation during the same period, seeing a 78 percent and 69 percent decrease in the regulation of the utilities and communications sectors, respectively. Meanwhile, Italy, France, and Greece aggressively regulated their economies in the same time period. In the United States and United Kingdom, investment as share of capital stock more than doubled, increasing from 3.7 percent to 8.15 percent. This share decreased by 5 percentage points in Italy, France, and Germany in the same time period. Alesina et al.'s model suggests that if Italy, France, and Germany had imposed regulatory reform, they would have experienced growth in investment similar to that in the United States and the United Kingdom.

Uncertainty about future regulations can move investors to delay or abandon investments. Nishide and Nomi (2009) and Bernanke (1983) find that when regulation is associated with a threshold event (an event that may foreshadow changes to regulatory policy), firms often act assuming the worst possible regulatory outcome. One common threshold event is an election, during which investors will delay investment decisions until there are results, with investments proceeding more briskly under more business-friendly election outcomes. Hassett and Sullivan (2015) explain:

> "This result is in some sense obvious if the hypothetical election is tomorrow, a delay brings with it the benefit of avoiding the intentional for regent in the bad state, and the opportunity cost is zero if there is no revenue from operations between then and now to lose. If the election is a month away, then a firm contemplating a new investment would trade-off the value of the possible increase in profits between now and the election against the potential for regent on the day of the election. As elections become temporally farther in the future, and as interest rates increase, the more important the sales between now and the election become."

In an empirical study, Julio and Yook (2012) find that domestic investment falls 5 percent during election years with foreign direct investment exhibiting similar behavior (Julio and Yook 2016). The empirical evidence suggests that regulation and the prospect of regulation act as a tax on firm investment, especially near threshold events – eliminating this uncertainty can prevent declines in investment.

Regulations as barriers to entry

Well-intended regulations can induce more harm than good by acting as barriers to entry, raising prices and thereby restricting transactions (by lowering output) and investment. These barriers can be explicit, as was the case of the U.S. peanut quota program. From 1949 to 2002, the USDA managed a peanut quota program that limited the number of peanuts a farmer could supply to the domestic market. This resulted in domestic prices artificially 50 percent higher than the world price. Artificially higher prices prevent transactions that otherwise would have occurred at market equilibrium. In this case, producers and consumers were priced out of the market, resulting in a deadweight loss of $34 million.

Prior to airline deregulation in 1978, the Civil Aeronautics Board (CAB) set fares with the intention of allowing airlines to earn a reasonable rate of return. This resulted in substantial cross-subsidization between large and small metropolitan areas, with airlines raising the price of flights between large areas above cost. After the dissolution of the CAB, airfares between major metropolitan areas declined 8.7 percent for long-haul flights and 14.5 percent over short-haul flights from 1976 to 1983. During the same period, flights between small cities rose 13.2 percent for short-haul flights and 50 percent for medium-haul flights. This represented a return to market pricing, allowing new entrants into both large and small markets and allowing new discount fares that benefited consumers in both large and small metropolitan areas. Overall, consumers experienced a close to 5 percent reduction in coach fares during the initial deregulatory period from 1976 to 1978 for an estimated gain to consumers of $18 billion annually.

Barriers to entry can also be implicit, requiring new businesses to devote massive amounts of time to enter a market, thereby increasing fixed costs. Higher fixed costs may be particularly harmful for new small firms as they cannot internalize fixed costs as easily as larger firms. For example, occupational regulation generally requires individuals to file registration paperwork, acquire certification, or receive licensure, often referred to as "the right to practice." All forms of occupational regulation involve costs, but licensure is typically the most intense form of regulation as governments (both State and Federal) evaluate the legal qualifications of a given worker.

In the United States, licensure has been found to increase wages by over 10 percent (Kleiner and Krueger 2013; Kleiner and Vorotnikov 2017). While increases in wages can be evidence of a strong economy, artificially raised wages can increase price of product to consumers. In order for businesses to avoid profit loss, higher prices become necessary to cover higher costs of production due to regulation and thus increased wages.

Licensing artificially increases wages in two ways. First, licensure limits the practice of an occupation to individuals with required levels of education or training who can then demand higher wages to compensate for higher levels of education or training. Second, government regulation of an occupation essentially eliminates – or at least discourages – all competition from unlicensed individuals, which can also artificially increase wages and thus prices for consumers.

For example, California's Board of Barbering and Cosmetology requires 1600 hours of education and hands-on training to take a licensing test for cosmetology. An additional 3200 hours of apprenticeship and 220 hours of related training is required for licensure. The education and training requirements allow those licensed to demand higher wages but have the adverse effect of raising the cost of earning licensure and entering the market. These costs appear in two forms: the monetary costs of licensing in the form of fees and education training, and the opportunity cost of the time devoted to the licensing process. The costs of practicing without a license are also quite high: California fines businesses $1000 for employing an unlicensed worker in a mobile unit. Workers then face increased costs whether or not they act within the bounds of a given regulation.

California is not the only State with occupational licensing laws. From the second half of the 20th century to 2008, the share of the workforce that was licensed grew fivefold. Including local and Federal licensed occupations increased the share of the workforce that was licensed from 25 percent to 29 percent (Kleiner and Krueger 2013). CEA analysis has shown that roughly two-thirds of the overall increase in licensing is due to more occupations requiring licenses rather than more workers joining these heavily licensed occupations (Furman 2015).

Various OECD measures of barriers to entry are negatively correlated with firm entry rates, demonstrating that product market regulation can create substantial barriers (Scarpetta et al. 2002; Brandt 2004; and Conway et al. 2006). State licensing can also create barriers to entry for out-of-state licensed practitioners, reducing mobility across State lines (Furman 2015). While this type of regulation may ensure product quality, the decreased competition raises mark-ups (Hoj et al. 2007). The elimination of occupational licensing and other regulations that serve as barriers to entry encourages greater competition and lowers prices to consumers.

III. Deregulation and Growth

A large portion of the research on the impacts of regulation examines specific regulations in separate industries such as health care, energy, or transportation. It is difficult to isolate the effect of the economy from industry-specific studies. For this purpose, economists have developed measures of the degree to which a country or sub-national government regulates, and then they assess the degree to which such measures are correlated with overall economic growth.

The evidence generated by economists from many such measures of the extent of a regulatory environment uses variation across countries and suggests that lower regulation increases economic growth. One set of country-level measurements of regulation comes from the World Bank. Using the World Bank's Doing Business Index, Djankov et al. (2006) estimate that a country that embarked on an episode of deregulation that moved a country from the most-regulated quartile to the least-regulated quartile could expect to increase its annual rate of growth by 2.3 percentage points. Another set of country-level measurements of regulation comes from the OECD. Alesina et al. (2005) augment the OECD's data with their own to find that regulation explains why some OECD countries experience higher rates of growth than their OECD peers. They note that during the second half of the 1990s, the United States experienced 4.3 percent average GDP growth, while Germany, Italy, and France only saw a 2 percent average GDP growth. They find that a stricter regulation of markets has prevented faster growth in many European countries especially in the 1990s, of rapid technological innovation.

Examining U.S. State and local regulation reveals other effects of regulation on growth. Hsieh et al. (2017) studied the impact of restrictions on housing in U.S. cities. They estimate that relaxation of land-use restrictions in the cities of New York, San Jose, and San Francisco (to match those of the median U.S. city) would have increased growth in aggregate GDP per worker from 0.80 to 1.49 percent per year between 1964 and 2009. In other words, U.S. GDP in 2009 would be 8.9 percent higher had these three cities had housing supply regulations equivalent to those of an average U.S. city. Local housing restrictions reduce output growth

because they raise housing prices and limit the ability of workers to move to high-productivity cities from other cities.

In another study, Coffey et al. (2016) estimates that if we held fixed the number of industry-relevant regulations at levels observed in 1980, the U.S. economy would have been about 25 percent larger (roughly $4 trillion) in 2012. According to the study, the cumulative effects of regulation have slowed economic growth in the United States by an average of 0.8 percent per year since 1980. This amounts to a loss of approximately $13,000 per capita.

Ciccone and Papaioannou (2007) find similar effects by examining how differences in the ease of starting a business in a country influences business formation. To measure the burden imposed by regulation across countries, these authors construct a proxy for the "red tape" of regulation, reflecting the time it takes to start a new business in that country. They find that an industry in a country with less "red tape" produces more entrants when global demand for that industry rises. This evidence suggests that regulations constitute impediments to a nation's capacity to adapt and compete in the global economy.

Other research exploits variation across OECD countries to examine the effect of regulations on growth and productivity. In a panel of OECD countries, Bourles et al. (2013) finds that regulation in advanced economies causes a decrease in productivity in the high-technology sectors of the economy. An analysis of OECD countries in Barone and Cingano (2011) suggests that less regulation leads to an increase in the value added to the economy by private firms. Nicoletti and Scarpetta (2003) find "empirical results [that] seem to suggest sizeable benefits from further progress in reforming the regulatory environment and in reducing the role of the state in business activities (50)" at least in part because of the productivity channel.

Additional evidence on how benefits of deregulation accrue to the owners of small businesses in particular comes from analysis at the individual country-level. Analyzing a period of deregulation in Portugal, Branstetter et al. (2014) document evidence of gains in employment and firm formation. They estimate that gains accrue disproportionately to small businesses and to businesses in brick-and-mortar "low technology sectors" like the agriculture, construction, and retail sectors. These results are consistent with a standard model of regulation as a fixed cost – the type of costs that larger firms can shoulder, but that drive small firms out of business or prevent them from entering in the first place. Small businesses suffer more from the costs of regulation, the results in Branstetter et al. (2014) show.

The experience of Portugal also demonstrates the benefits of deregulation for workers as well as business owners. Fernandes et al. (2014) document that deregulation in Portugal increased the returns to skill as well as the returns to the possession of a university degree. To deregulate, this evidence shows, is to unleash the economic potential of workers and producers alike.

Conclusion

Federal regulatory activity in the U.S. may have proliferated with the best of intentions, but the negative consequences of excessive, duplicative, or badly designed regulation are a tax on the U.S. economy. Past instances of deregulation have shown substantial gains to consumers and businesses in the economy. Deregulation can unleash the greater potential of the U.S. economy, spurring the innovation and economic growth necessary to keep the United States prosperous, and to empower its citizens with greater opportunities.

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