



The Economic Effects of Federal Deregulation since January 2017: An Interim Report

The Council of Economic Advisers
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Executive Summary

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Since January 2017, there has been a historic effort to reduce costly regulation, while protecting workers, public health, safety, and the environment. The Council of Economic Advisers (CEA) estimates that after 5 to 10 years, this new approach to Federal regulation will have raised real incomes by \$3,100 per household per year. Twenty notable Federal deregulatory actions alone will be saving American consumers and businesses about \$220 billion per year after they go into full effect. They will increase real (after-inflation) incomes by about 1.3 percent. Many of the most notable deregulatory efforts in American history, such as the deregulation of airlines and trucking that began during the Carter Administration, did not have such large aggregate effects.

This new approach to regulation not only reduces or eliminates costly regulations established by prior administrations but also sharply reduces the rate at which costly new Federal regulations are introduced. The ongoing introduction of costly regulations had previously been subtracting an additional 0.2 percent per year from real incomes, thereby giving the false impression that the American economy was fundamentally incapable of anything better than slow growth. Now, new regulations are budgeted and kept to a minimum.

The new regulatory approach also significantly reduces consumer prices in many markets—such as those for prescription drugs, health insurance, and telecommunications—while it prevents price increases in other markets. It removes mandates from employers (especially smaller businesses), and it removes burdens that would have eliminated many small lenders from the marketplace. These deregulatory actions are raising real incomes by increasing competition, productivity, and wages and by reducing the prices of consumer goods, while maintaining regulatory protections for workers, public health, safety, and the environment.

Introduction

Since January 2017, the Trump Administration has made a historic effort to reduce costly regulation, while protecting workers, public health, safety, and the environment. The CEA previously looked at regulation across countries, finding that, all else being equal, countries that deregulated experienced more economic growth (CEA 2018a). We then related cross-country regulatory indexes to regulatory developments in the United States and estimated that the Trump Administration’s new regulatory approach would increase U.S. gross domestic product (GDP) by 1.0 to 2.2 percent over a decade.

This report provides alternative estimates of the aggregate economic effects of deregulation by examining specific Federal rules and accounting for the unique circumstances of the industries targeted by the rules, in addition to the rules and industries similarly analyzed in previous CEA reports.¹ Our analysis employs an economic framework that situates each industry in a larger economy that includes market distortions from taxes, imperfect competition, and other sources. As of this interim report, we have conducted industry-specific analyses for 20 deregulatory actions.

The Trump Administration uses regulatory cost caps to reduce the cumulative burden of Federal regulation. In addition to regulation-specific cost-benefit tests, the cost caps induce agencies to view all their regulations as a portfolio, which is more congruent with the experiences of the households and businesses subject to them. While pursuing their agency-specific missions, the regulatory cost caps provide the framework for agencies to evaluate regulatory costs, to consider deregulatory actions, and to set priorities among new regulatory actions.

The CEA uses a pragmatic, streamlined approach to analyze the costs that regulatory actions impose on consumers, small businesses, and other economic actors. This approach requires estimates of a small set of key parameters that describe the market that is primarily affected by the regulatory action in question. We follow a standard approach in cost-benefit analysis and rely on revealed preferences in markets (OMB 2003). For example, the price-elasticity of demand—which shows how consumers change their consumption in response to a price change—reflects the value consumers place on the good or service, relative to their next-best alternatives. For this reason, the price-elasticity of demand serves as one of the “sufficient statistics” to analyze the impact of a policy change on consumer welfare within the regulated industry (Chetty 2009).² Detailed applications, and a sensitivity analysis, of our

¹ The CEA previously released research on some of the topics covered in this report; the text that follows builds on these reports (CEA 2019a, 2019b).

² Our analysis is not as detailed as the regulatory impact analyses that Federal agencies conduct to comply with Executive Order 12866 (OMB 2003). This report is independent of the rulemaking process. Instead, this report contributes to the CEA’s mission, as established by Congress in the Employment Act of 1946, to offer objective economic advice based on economic research and empirical evidence. Our analysis is consistent with the

approach are shown in our earlier reports (CEA 2019a, 2019b), as well as in the appendices to this report.

To account for effects outside the regulated industry, the analysis again takes a streamlined approach that does not require a fully detailed model of the economy (known as a structural general equilibrium model), but instead relies on an implementable formula that provides a good approximation of the excess burden that a regulatory action imposes on the markets for labor and capital (Goulder, Parry and Williams 1999; Parry, Williams, and Goulder 1999; Goulder and Williams 2003; Dahlby 2008; CEA 2019b). For example, anticompetitive regulation reduces the demand for labor and capital in the regulated industry and thereby reduces the aggregate quantities of those production factors. Marginal excess burdens in labor and capital markets are translated into an additional increment to aggregate output by dividing them by our 48 percent estimate of the marginal tax wedge, which is broadly interpreted to include implicit taxes and imperfect competition.³ This formula captures general equilibrium interactions that would be left out of an analysis that only considered the impact of the regulatory action in the primary market. The tax rate and marginal excess burden are discussed further in appendix II's sensitivity analysis.

The economic effects of regulation can be summarized in several ways, such as the costs to businesses, nationwide costs, nationwide benefits, or national incomes. The CEA employs three nationwide outcome concepts in this report: costs savings, net benefits, and real income. The distinction between the first two arises because a single regulation can create costs for one segment of the population while it creates a benefit for other segments. We refer to the aggregate of these as the “net cost” of the regulation, which (aside from sunk startup costs) is equal to the “net benefit” of overturning the regulation. We refer to the “cost savings” of overturning the regulation as the costs imposed on the segment of the population that was harmed by the regulation.⁴ Real income is similar to GDP, except that real income subtracts

economic principles that guide cost-benefit analysis, including our focus on the key concepts of willingness to pay and opportunity cost. Another report (CEA 2019b) provides an additional discussion of our approach; and still another report (CEA 2019a) provides a detailed discussion of the methods used to conduct prospective cost-benefit analyses of three of the deregulatory actions considered in this report. Our approach complements agencies' completed analyses and fills in gaps, for example, when a regulatory impact analysis was not able to quantify costs or benefits, or when a regulatory impact analysis was not required. Note that, consistent with standard practice, shifts of resources between industries are not counted as a cost or benefit or real income effect except to the extent that market prices indicate that the industries put different values on those resources.

³ An aggregate increase in a factor of production by 1 unit increases output by its marginal product (*MP*), but the entire output exceeds the net benefit (i.e., marginal excess burden) because the production factor has a marginal opportunity cost of supply. The net aggregate benefit of that 1 unit is $0.48 * MP$, where 0.48 is the marginal tax wedge. The additional output is therefore the net aggregate benefit divided by 0.48. Appendix II includes a sensitivity analysis that uses a range of values for this parameter.

⁴ The CEA's concept of cost savings is analogous to the revenue savings from eliminating a Federal program whereas the net benefit would be the difference between revenue savings and the forgone benefits of the program's expenditures.

depreciation and reflects the effects of international terms of trade on the purchasing power of U.S. residents, which is an important result of one of the larger deregulatory actions. GDP and real income, which can differ from welfare or “utility,” subtract the opportunity costs of the nation’s labor and capital as well as environmental and other nonpecuniary costs. As used in this report, all these concepts refer only to domestic benefits, costs, and incomes.

The primary subject of this report is the impact of regulation and deregulation on nationwide real income. In contrast, guided by the Office of Management and Budget (OMB 2003), Federal agencies and OMB’s Office of Information and Regulatory Affairs (OIRA) prepare and discuss related calculations of the benefits and costs of Federal regulations. However, agencies’ OMB/OIRA regulatory impact analyses do not typically calculate effects on GDP or nationwide real incomes. GDP and real income are of independent interest because they are important parts of national accounting, and are included in the budget forecasts made by OMB, the Medicare Trustees, and the Congressional Budget Office, to name a few agencies.⁵ Moreover, economists and journalists routinely use GDP and real income as familiar metrics of the performance of the economy (Brynjolfsson, Eggers, and Gannamaneni 2018).

This report also estimates the net benefits of deregulatory actions. Some regulatory actions trade private goods for public goods, such as environmental quality. With public goods and other situations where private markets may fail, it is necessary to carefully consider the benefits and costs of regulatory actions. Even if the original regulatory action addressed a private market failure, a deregulatory action is still warranted when the regulatory cost savings outweigh the forgone regulatory benefits.⁶ GDP and real income capture the value of private goods production, but these measures do not capture the value of public goods or other important nonpecuniary effects. However, when including nonpecuniary costs and benefits that are not part of real income, we estimate that the deregulatory actions have a net benefit of more than \$2,500 per household per year, compared with the previous trend of growing regulatory costs.⁷ This gain stems from implementation of the President’s deregulatory agenda and a better balance between the cost of regulations and their societal benefits.

We sampled deregulatory actions for industry-specific analyses. When applicable, we also examined the corresponding regulatory action in the previous Administration. The actions were sampled from four broad categories.⁸ The first category consists of the statutes passed by Congress and signed by President Trump. The second category consists of the 16 Federal rules

⁵ Estimates of the welfare effects of deregulation are therefore not enough by themselves to know, among other things, how GDP forecasts should be revised to account for the economic impact of deregulation.

⁶ The concept of market failure plays a central role in cost-benefit analysis, but the existence of a market failure does not guarantee that the original regulatory action’s benefits outweighed its costs. Market failure is a necessary but not sufficient condition for that conclusion. In practice, it is not clear that many of the 20 deregulatory actions we consider overturned regulations that addressed market failures.

⁷ Throughout this report, all dollar amounts are in 2018 dollars unless noted otherwise.

⁸ In statistical terms, the categories are strata, and the overall population of interest consists of all economically important Federal regulatory actions taken since January 2017. Also see appendix I of this report.

or guidance overturned under the Congressional Review Act (CRA) since January 2017.⁹ The third category consists of the rules in the fiscal year (FY) 2018 Regulatory Budget (i.e., the rules covered by Executive Order 13771 and finalized during that fiscal year, of which there are 261), as well as the rules so far in the FY 2019 Regulatory Budget (OMB 2018).¹⁰ The fourth category consists of agency guidance documents and rulemaking by independent agencies.

Because the purpose of this report is to estimate the aggregate economic effect of all new regulatory and deregulatory actions, as opposed to the effect of an “average” deregulatory action, we designed a sampling procedure to identify the likely largest actions in terms of economic impact. From the first category/stratum, we selected sections of two important new Federal laws enacted during the Trump Administration: the 2017 Tax Cuts and Jobs Act; and the 2018 Economic Growth, Regulatory Relief, and Consumer Protection Act. From the second category, we selected three employment rules that affect a large number of workers as well as the top four economic regulatory actions in terms of number of comments received from the public. From the third category, we selected the top six regulatory actions from FY 2018 in terms of the number of comments received from the public.

Although we do not yet have comment totals for FY 2019, we selected four regulatory actions from the FY 2019 Regulatory Budget that we expect to be among the comment leaders. Three of these contribute to both our estimate of the cost savings from deregulation since 2017, and our estimate of the costs of the growing regulatory state before that.¹¹ A fourth regulatory area with heavy commenting, and potentially large costs imposed by the previous Administration, relates to emission and fuel economy standards for automobiles. To be conservative, we do not include any cost savings from deregulatory actions in this area.¹²

Finally, our sample of regulatory actions includes important guidance at the Food and Drug Administration (FDA) regarding the approval of generic drugs, as well as a rule from the Federal Communications Commission (FCC) that received millions of comments from the public. All the comment leaders for FY 2017 and FY 2018 were deregulations rather than regulations, and most of them have an economically significant nationwide impact.¹³ And while we have not measured the economic impact of hundreds of other FY 2017 and FY 2018 Federal

⁹ For each rule, Congress passed a resolution of disapproval that was signed by President Trump, thereby overturning the rule.

¹⁰ A number of the 16 rules disapproved under the CRA were part of the FY 2017 Regulatory Budget.

¹¹ These are the Joint-Employer proposed rule (RIN 3142-AA13) from the National Labor Relations Board (NLRB), and the Joint Employer proposed rule (RIN 1235-AA26) from the Department of Labor (DOL). Because our analysis does not separate the effects of the DOL guidance and the NLRB proposed rule on joint employers, technically we have also selected the NLRB rule, even though it is not part of any year’s Regulatory Budget. The Fiduciary Rule (RIN 1210-AB82) is in the FY 2019 budget, but its temporary predecessor rule (82 *FR* 31278) also appears in the FY 2018 Regulatory Budget, with many comments.

¹² The Trump Administration has not yet finalized a rule establishing fuel-economy or emissions standards for automobiles. The CEA plans to estimate its economic effects after such a rule is finalized.

¹³ The top 10 commented rules from each of the FY 2017 and FY 2018 budgets were all deregulatory actions. Most rules in the Regulatory Budget receive no comments.

rules, the aggregate cost savings reported for the other rules in the *Federal Register* are in the direction of additional cost savings.¹⁴

Because the preparation of this report occurred long enough after some of the regulatory or deregulatory actions to adequately measure relevant market outcomes, the CEA could also deviate from the regulatory impact analyses that accompany economically significant rulemaking by relying more heavily on retrospective analysis. For two of the actions, the CEA obtained data from both before and after deregulation to test the hypothesis that deregulation reduces consumer prices and to measure the size of the effects. For two others, the CEA obtained data from both before and after a regulation became effective that is used to measure the impact of regulation on market prices or quantities. A fifth deregulatory action has both regulatory and deregulatory precedents that are used to measure effects.

Consumer Savings on Internet Access

Deregulation frequently reduces consumer prices by enhancing competition and productivity. To show how this happens, we begin with two examples from the broadband or Internet service provider (ISP) industry, which includes wireless smartphone service as well as home Internet service over cables, telephone lines, fiber optics, and satellites.

Before 2016, ISPs were permitted to, and often did, use and share customer personal data, such as Internet browsing history, unless the consumer “opted out” of data sharing. With so many consumers staying with the default sharing option, ISPs could earn revenue both from subscriber fees, which are tracked by the industry’s consumer price index (CPI), and from using or sharing customer data. Equivalently, the receipt of customer data allowed ISPs to earn the same profits with a lower subscriber fee. In effect, consumers paid for part of their subscription in money and another part by providing personal data.

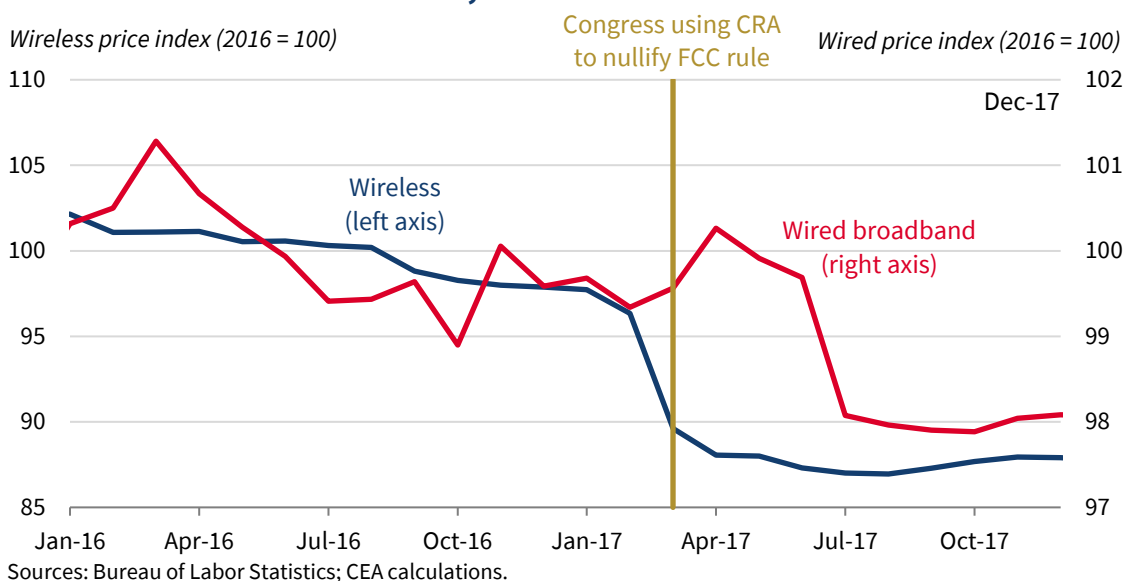
In 2016 the FCC proposed and finalized a broadband privacy rule requiring ISPs to default consumers to paying in money only, thus prohibiting the opt-out system and instead requiring the opt-in system. This rule, which was likely anticipated well before 2016 as the FCC was moving ISPs under the stricter “Title II” regulation (see below), was to go into effect on January 3, 2017. In 2017, Congress passed and President Trump signed a resolution of disapproval under the Congressional Review Act to overturn the 2016 FCC rule and prevent future Administrations from adopting similar rules. The 2017 deregulatory action assured

¹⁴ Some analysts have concluded that many regulatory impact analyses reported in the *Federal Register* omit important resource and opportunity costs of regulation (Harrington, Morgenstern, and Nelson 2000; Belfield, Bowden, and Rodriguez 2018), which holds on average in our sample. An example is the 2016 rule restricting short-term limited duration health insurance while asserting that “this regulatory action is not likely to have economic impacts of \$100 million or more in any one year” (81 *FR* 75322), whereas the CEA (2019a) found the annual costs to exceed \$10 billion (100 times the upper bound cited by the rule). This suggests that estimates of the costs savings from deregulation based on the *Federal Register* would be understated, although not necessarily relative to the cost additions of regulations.

market participants that the ISP market would proceed with low subscriber fees. By overturning the 2016 rule, the 2017 action restored the FCC’s pre-2016 regulatory approach to protect customer privacy. Consumers with privacy concerns may opt out and request that their ISPs not share their data.¹⁵

Overturning the FCC’s opt-in rule resulted in lower prices for wired and wireless Internet service, as shown by the CPIs graphed in figure 1. Wireless service prices fell at the same time that Congress was considering the resolution of disapproval and wired Internet prices fell a couple of months later. Both these declines are about \$40 per subscriber over the life of the subscription, which is similar to independent estimates of the per-subscriber cost of obtaining personal data consent from retail customers that are the basis for our quantitative analysis.¹⁶

Figure 1. Wireless and Wired ISP Price Cuts Close to the CRA’s Nullification of the FCC Rule, 2016–17



¹⁵ In 2013, AT&T introduced its Internet Preferences Program, which gave consumers the choice to opt out of data sharing. If consumers opted in and allowed data sharing, they received the lowest available subscription rate, which was at least \$29 per month lower. Media reports suggest that the vast majority of consumers opted in; i.e., they were willing to allow data sharing in order to qualify for the lower subscription rate.

¹⁶ Staten and Cate (2003) report results from a credit card issuer that tried an opt-in program for personal customer information, and found that it cost an average of about \$37 (converted to 2018 prices) per customer in terms of mailings and phone calls to obtain opt-in from their customers. Amortized over a 24-month wireless contract and over a wired Internet contract lasting 60 months—that is, about 4.0 percent and 1.0 percent of the retail price, respectively. Assuming that costs are passed through retail price according to the 60 percent markup rate measured by Goolsbee (2006) for the broadband industry, we predict retail price effects of 6.5 percent and 1.6 percent, respectively. The actual price drops shown in figure 1 are 7.0 percent and 1.6 percent, respectively.

On the aggregate level, we estimate the effect of overturning the opt-in rule to be a net savings (including a subtraction for the cost to consumers of providing personal data and an addition for producer surplus) of about \$11 billion per year.¹⁷ Overturning the rule also encourages the aggregate supplies of capital and labor (CEA 2019b) as well as competition in online advertising and other markets where consumer data are valuable. We estimate that these effects would create additional net benefits of \$5 billion per year and corresponding additional real income of about \$11 billion per year, which is small compared with total activity in those other markets but significant compared with the regulated market.¹⁸

Before the Trump Administration, another FCC rule adopted in 2015 restricted the vertical pricing arrangements of ISPs—that is, monetary transactions between ISPs and the providers of Internet content such as Netflix and Yahoo.¹⁹ The 2015 rule also imposed government oversight on communication services, making it difficult for these companies to quickly respond to competition and provide new goods and services on the market. These vertical pricing and other restrictions are being removed by the FCC through its “Restoring Internet Freedom” order, returning to regulating ISPs under Title I of the Communications Act.

Previous research shows that vertical pricing restrictions in broadband significantly reduce the quantity and quality of services received by broadband consumers.²⁰ Hazlett and Caliskan (2008), for example, looked at “open access” restrictions that were applied to U.S. Digital Subscriber Line service (DSL) but not Cable Modem (CM) access. They found that three years after restrictions on DSL services were relaxed, in 2003 and 2005, U.S. DSL subscriptions grew about 31 percent relative to the trend, while U.S. CM subscriptions increased slightly relative to the trend. Average revenue per DSL subscriber fell, while average revenue per CM subscriber was constant (although quality increased). At the same time, DSL and CM subscriptions in Canada, which was not experiencing the regulatory changes, did not increase

¹⁷ We estimate that broadband industry revenue (wired and wireless combined) would be \$202 billion per year under the FCC rule. We estimate that the consumers providing personal data as a result of the overturning of the FCC rule do so at an aggregate annual cost of \$1.5 billion, offsetting an aggregate annual savings in subscription fees of \$11 billion as well as an addition to producer surplus.

¹⁸ See also Goulder and Williams (2003) and Dahlby (2008). Throughout this report, as in our other reports (CEA 2019a, 2019b), we use a 0.5 marginal cost of public funds to approximate the extra-industry net costs of an industry’s regulation, except when we estimate those costs to be primarily outside the United States (see especially figure 2 and the associated discussion).

¹⁹ Both the vertical pricing restrictions and the opt-in requirement are linked to the alternative regulatory frameworks that the FCC has variously proposed for ISPs: Title I versus Title II of the Communications Act. However, vertical pricing restrictions and the opt-in requirement are economically distinct and were also implemented by separate rulemaking (see, respectively, 81 *FR* 8067 and 81 *FR* 87274).

²⁰ See also Becker, Carlton, and Sider (2010, 499), who conclude that regulating vertical pricing in broadband “interfere[s] with the development of business models and network management practices that may be efficient responses to the large, ongoing, and unpredictable changes in Internet demand and technology, . . . [which] is likely to harm investment, innovation, and consumer welfare.” Flexible contracting between customer and supplier is generally expected to increase productivity because of the complementary relationship between the two, in contrast to contracts between two suppliers of the same good that have the potential to increase market power.

relative to the trend. Applying these findings to ISPs in the years 2017–27, we find that, by removing vertical pricing regulations, the Trump Administration’s “Restoring Internet Freedom” order will increase real incomes by more than \$50 billion per year and consumer welfare by almost \$40 billion per year.

Consumer and Small Business Savings on Healthcare

Deregulation is also reducing prices for healthcare. Figure 2 shows an inflation-adjusted index of retail prescription drug prices compared with its previous trend growth. Prescription drug prices had outpaced general inflation for decades; but in the past two years, they have fallen more than 11 percent below the previous trend as of May 2019, and below general inflation. In 2018, prescription drug prices even declined in nominal terms over the calendar year for the first time since 1972. Much of this is the result of the Trump Administration’s efforts at the FDA, such as its 2017 Drug Competition Action Plan and 2018 Strategic Policy Roadmap, to enhance choice and price competition in the biopharmaceutical markets. Under these policies, the FDA has approved a record number of generic and new brand name drugs to compete against existing drugs (CEA 2018b).²¹ We estimate that the results of these actions will save consumers almost 10 percent on retail prescription drugs, which results in an increase of \$32 billion per year in the purchasing power of the incomes of Americans (including both consumers and producers).²²

The Trump Administration has also taken deregulatory actions in other healthcare markets, such as insurance. Previously published CEA reports provided analyses of four healthcare deregulatory actions: the process improvements at the FDA reflected in figure 2 and three actions deregulating health insurance for individuals and small groups (CEA 2019a, 2019b).²³ These four actions, which remove restrictions and alleviate some of the costs of Federal policies introduced during the years 2010–16, are by themselves expected to increase average real incomes by about 0.5 percent, or an average of about \$700 per household per

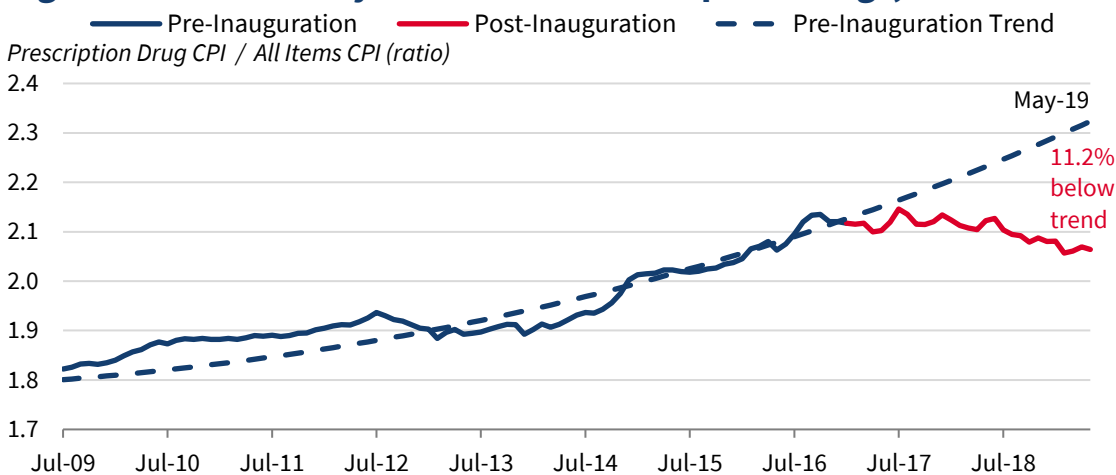
²¹ Another indicator of the quantitative importance of new FDA procedures is the July 2017 crash of the stock price of at least one foreign generic drug maker, which analysts attributed to “greater competition as a result of an increase in generic drug approvals by the U.S. FDA.” <https://finance.yahoo.com/news/teva-stock-plummets-18-rough-135334052.html>.

²² The 10 percent assumes that 1 standard deviation below the pre-2017 trend is due to factors other than deregulation. Retail prescription drug expenditure of \$326 billion per year is measured from Roehrig (2018). Note that prices may have fallen even more than shown in figure 2, because in 2016 BLS changed its formula from geometric to Laspeyres, which is a change that increases the measured rate of inflation (CEA 2018b).

²³ The three health insurance actions are (1) reducing, through the Tax Cuts and Jobs Act of 2017, the individual mandate penalty to zero owed by consumers who did not have federally approved coverage or an exemption; (2) permitting, via a June 2018 rule, more small businesses to form Association Health Plans (AHPs) to provide lower-cost group health insurance to their employees; and (3) expanding, through an August 2018 rule, short-term, limited-duration insurance (STLDI) plans.

year.²⁴ Among those who benefit from the deregulatory actions are an estimated 1 million consumers who will save on their individual health insurance policy premiums by switching to less-regulated short-term plans, with savings that may exceed 50 percent.²⁵ Also included are small businesses, which may see substantial premium savings from obtaining access to cheaper large-group health insurance coverage.

Figure 2. Inflation-Adjusted CPI for Prescription Drugs, 2009–19



Sources: Bureau of Labor Statistics; CEA calculations.

Note: The CPI covers retail transactions, which are about three-fourths of all prescription drug sales. Inflation adjustments are calculated using the ratio of the CPI of prescription drugs relative to the CPI-U for all items. The pre-Inauguration expansion trend in annual growth rates is estimated over a sample period from July 2009 through December 2016, with 2017-18 projected levels then reconstructed from projected growth rates.

Employment Regulations

Unlike large companies, small businesses do not typically have a team of in-house lawyers and regulatory compliance staff, making understanding and complying with regulations particularly onerous. Of the small businesses surveyed monthly by the National Federation of Independent Business (NFIB) between 2012 and the election of President Trump, a plurality of

²⁴ This average includes zeros for households not affected by the four deregulatory actions. For the purposes of calculating real income effects, we do not count parts of the net benefit that are consumer hassle costs because those costs are traditionally excluded from GDP even while they are genuine costs from a consumer’s point of view. Similarly, we treat the revealed preference value of public health insurance as part of “net benefits” but not GDP or real income, which traditionally are assigned those values according to cost rather than revealed preference value. As a result, the GDP effect of the health insurance deregulations is less than the net benefit, while the opposite tends to occur for other deregulations.

²⁵ Part of the premium savings comes from the fact that the short-term plans restricted by the Obama Administration have different characteristics than the individual plans regulated by the Affordable Care Act. Because cost-of-living indices such as the Consumer Price Index are the dual of cost-benefit analyses, the CEA’s (2019a) analysis shows how the Trump Administration’s deregulatory actions reduced health insurance prices significantly, even after adjusting for differences in plan characteristics. See also CEA (2019a) for sources on short-term plan premiums.

surveyed businesses selected “government requirements and red tape”—that is, regulations—as their single most important problem 45 percent of the time they were asked. Though a plurality of small businesses have never selected regulations as their single most important problem since President Trump’s election, regulations remain an important problem.

President Trump’s Department of Labor (DOL) and National Labor Relations Board (NLRB) have been working to eliminate a number of regulations that disproportionately burden small businesses, reduce worker productivity and real wages, and distort competition in the labor market. The NLRB, under the Obama Administration, permitted the creation of micro-unions and expanded the definitions of both joint employer and independent contractor which, among other things, would have categorized some franchisers as joint employers of their franchisee employees. DOL had also changed its guidance under certain statutes regarding joint employers and independent contractors.

Without the Trump Administration’s proposed deregulatory actions, thousands of small businesses, including franchisees and subcontractors, would no longer be able to compete against larger corporations, and millions of workers’ wages would have fallen due to the effect of these labor regulations. The CEA (2019b) estimates that, together, the Obama Administration’s DOL guidance and the NLRB standard related to joint employers would have created more than \$5 billion in annual net costs and reduced real incomes by about \$11 billion.

Federal rulemaking also plays a role in maintaining a level playing field for small businesses that are subject to State regulations. In 2015, DOL determined that Federal rulemaking was likely required in order to permit States to mandate private employers to administer payroll deductions, with proceeds to be invested in State-managed individual retirement accounts (IRAs), and automatically enroll their employees in those accounts. In the revealed preference framework, the fact that a number of small businesses did not voluntarily offer these plans strongly suggests that the costs of administering these plans exceeded the value they create for employees.²⁶ Nevertheless, a number of States are requiring all employers to automatically enroll employees, and legislation is pending before other State legislatures to require the same.²⁷ If employers are forced to comply, the administrative costs, or the penalty for noncompliance, reduce what can be paid out in employee compensation, which is why Congress and President Trump overturned previous DOL rulemaking designed to facilitate the State-level employer mandates.

²⁶ Between 39 million and 72 million people work for an employer that does not offer a retirement plan (AARP 2014; Panis and Brien 2015; and the final rule). Following the standard approach in labor economics (Lazear 1979, 1981; Mortensen 2010), we assume that the composition of employee compensation maximizes the joint surplus of employer and employee.

²⁷ See <https://olis.leg.state.or.us/liz/2015R1/Downloads/MeasureDocument/HB2960/Enrolled>.

The CEA uses the same economic framework for analyzing the IRA mandate that it used for health insurance mandates (CEA 2019a).²⁸ We assume that Federal rulemaking is relevant and will be affecting 10 million workers with an average annual IRA contribution of \$1,571 per year.²⁹ We estimate that each \$1,571 deposited in an IRA is, in present value terms, a transfer from the Federal Treasury to the worker of \$526. Because employers have to be forced to provide the accounts, we infer that there is some combination of marginal employer and employee costs of providing a retirement plan that equals or exceeds \$526 per worker per year. Conversely, this cost is bounded above by \$526 plus the annual per-worker fine for noncompliance, which we take to be \$250 per employee per year.³⁰ Following Harberger (1964), this makes the aggregate of the employer and employee costs \$6.5 billion per year.³¹ Adding in the deadweight cost of taxes, that is a net cost of \$10 billion per year, most of which is borne outside the State implementing the program. As a real income loss (i.e., ignoring factor-supply costs in the net cost calculation), it is \$13 billion per year.

In 2011, DOL proposed the costly “Persuader Rule” amendments to the Labor-Management Reporting and Disclosure Act that would potentially generate reporting requirements for consultants (including attorneys) when the employer posed labor law questions, even if the attorney or consultant did not communicate directly with employees.³² It was finalized and set to take effect in 2016, but was delayed due to ongoing litigation.³³ The Persuader Rule was rescinded by DOL in 2018.³⁴

²⁸ One difference is that the IRA mandates allow individuals to opt out without penalty. Our analysis assumes that some, but not all, workers affected by the rule will opt out. Research has found that automatic enrollment in retirement plans generates substantial inertia so that workers remain in plans that they would not have voluntarily chosen (Madrian and Shea 2001; Bernheim, Fradkin, and Popov 2015).

²⁹ “Since 2012, 40 States have studied proposals for State-facilitated savings programs or considered or adopted legislation to create them. At least 10 States enacted legislation to expand access to retirement savings for nongovernmental workers. California, Connecticut, Illinois, Maryland, and Oregon have all adopted auto IRA models” (NCSL 2018). As to the average contribution, the CEA notes that the Illinois pilot had 196 employees investing an average of \$392.86 per employee per quarter (about \$1,571 a year) (Hayden 2018).

³⁰ The Illinois fine is \$250 per employee a year (Hopkins 2015). California has a \$250 penalty 90 days after receiving a noncompliance notice and a \$500 penalty after 180 days (<http://laborcenter.berkeley.edu/pdf/2017/SB-1234-Fact-Sheet.pdf>). It is unclear whether and how often the State will send notices. It does not appear that Oregon has yet established its penalty.

³¹ It is often the case in cost-benefit analysis that a reduction in subsidy payments is merely a transfer that leaves social benefits unchanged; the benefits to taxpayers are exactly offset by the costs to the recipients who lose the subsidy. The tax subsidy to IRA deposits is properly treated as a transfer when the task is evaluating the effects of the subsidy—i.e., when comparing current policy with a hypothetical policy that has no tax subsidy for IRAs. But the purpose of this report is to evaluate the effect of relaxing restrictions on choices by employers and employees, not changing the tax subsidy rules for IRAs. See also CEA (2019a).

³² Cummings (2016) and 81 *FR* 15924.

³³ See *NFIB v. Perez* (2016). See also <https://www.washingtonpost.com/news/wonk/wp/2017/06/09/in-a-setback-for-unions-labor-department-moves-to-revoke-obama-era-persuader-rule/>.

³⁴ See <https://www.dol.gov/newsroom/releases/olms/olms20180717>.

Under the Persuader Rule, consultants (including attorneys) would have needed to file with DOL a Form LM-20, which becomes publicly available, reporting the amount of their fee and the type of advice provided.³⁵ As another example, persons attending an invited talk at their local Chamber of Commerce related to employment law would have had their names “likely disclosed to DOL and made [publicly] available.” In order to comply with the Persuader Rule, a practitioner of labor law might have had to “identify and segregate every increment of time billed to each of [their] clients for ‘labor relations advice or services’ even if the firm was not doing any ‘persuader’ consulting under the New Rule for that client currently.” The American Bar Association understood the Persuader Rule to require labor lawyers to violate their ethical duties to their clients (Brown 2016, 8–10), while some labor-law firms refused to take on any work that would fall under the Persuader Rule’s new reporting requirements.³⁶

Due to the large number of employers subject to the rule, the midpoint of the Furchtgott-Roth (2016) estimates show the rule to have ongoing compliance costs of \$5.4 billion per year combined for employers, attorneys, and consultants. Initial costs of the rule were estimated as \$3.6 billion. The CEA determined that 1 of the 18 components of the estimates may be overstated, and therefore adjusted the ongoing costs downward to \$4.9 billion per year in 2018 prices. The compliance costs come out of productivity and thereby have additional net annual costs of \$2.4 billion, as they reduce aggregate supplies of capital and labor. Appendix II presents a sensitivity analysis, with specific reference to cost estimates by DOL.

These and other rules introduced by DOL and the NLRB during the Obama Administration had anticompetitive effects on the labor market.³⁷ We do not attempt to parse the combined effects among the various rules and guidance, but instead allocate it entirely to the rules regarding joint employers and then avoid double-counting by omitting any competition costs of other NLRB or DOL regulations. Using the same deadweight cost coefficient and baseline tax rates that we have used for the other regulations, appendix II estimates a net efficiency cost of about \$8 billion per year and a reduction of real incomes by about \$17 billion per year as a result of anticompetitive provisions of the labor market regulations, including the joint employer amounts cited above. The combination of regulations cited in this section would have reduced real incomes by about \$45 billion per year (see also table 1 in appendix I), or an average of almost \$400 per household per year.

³⁵ This paragraph quotes or paraphrases Cummings (2016).

³⁶ See page 79 of the June 20, 2016, testimony in *NFIB v. Perez* (Federal case number 5:16-cv-66).

³⁷ See the CEA’s (2019b) analysis of how a broader definition of joint employer would reduce competition among employers in some industries, as well as 81 *FR* 15929.

Financial Regulations

The postcrisis banking reforms attempted to address the systemic risk created by large financial institutions. In the wake of the 2007–9 global financial crisis, Congress and regulators raised banks’ capital standards, imposed new stress tests, and bestowed new regulatory powers on bank regulators. Though these reforms were intended to reduce risks created by large financial institutions, the Dodd-Frank Act’s regulations imposed costly new regulatory requirements on small and mid-sized banks that did not pose a systemic risk.

Ultimately, Dodd-Frank’s overly broad regulations hurt lending to small businesses by unnecessarily burdening community and regional banks, which play an outsized role in supporting small businesses and local economies across the Nation. Per the Federal Deposit Insurance Corporation’s definition, community banks make up 92 percent of federally insured banks and thrifts and are responsible for 16 percent of total loans and leases. Community banks also held 42 percent of small loans to farms and businesses. And in 2014, there were 646 U.S. counties in which the only banking offices belonged to community banks, and another 598 counties where community banks held at least 75 percent of deposits. Together, these counties made up almost 40 percent of all U.S. counties.

The 2018 Economic Growth, Regulatory Relief, and Consumer Protection Act, also known as the “Crapo Bill,” signed by President Trump, removes the restrictions from smaller banks that were misapplied to them as part of prior efforts to alleviate the “too big to fail” banking problem. The CEA (2019b) posits that this act “recognizes the vital importance of small and midsized banks, as well as the high costs and negligible benefits of subjecting them to regulatory requirements better suited for the largest financial institutions. [It] is expected to reduce regulatory burdens and help to expand the credit made available to small businesses that are the lifeblood of local communities across the nation.”

Heightened consolidation among small banks (those with assets less than \$1 billion) followed Dodd-Frank, with the number of institutions declining by more than 2,000 (–31.0 percent) since 2011, and their total loans declining from \$889 billion to \$815 billion (–8.3 percent). If these small banks had grown their loan portfolios by 1.55 percent—the average of the past three expansions—during this period, there would have been about 20 percent more small bank loans now than there actually are. These missing loans are associated with about \$6.3 billion in additional annual value added in small banking, which we estimate to produce about \$3 billion in annual surplus for lenders and borrowers.³⁸ Including effects on the entire economy due to additional employment and investment, the Crapo Bill has annual net benefits of almost \$5 billion and raises real annual incomes by about \$6 billion by removing regulatory burdens from small bank lenders. The sensitivity analysis given in appendix II shows that

³⁸ Our estimate of lender surplus uses the Lerner-index estimates from Koetter, Kolari, and Spierdijk (2012) and assumes a unit price-elasticity of loan demand with respect to net interest margin.

somewhat larger effects are obtained from projections by the Federal Reserve Bank of Minneapolis of the costs of additional regulations for community banks.

The CEA has also conducted industry-specific analyses of the effects of several other regulations that were introduced during the years 2010–16 and have been removed (or are in the process of being removed) during the Trump Administration. One of these was the attempt by the Consumer Financial Protection Bureau (CFPB) to largely eliminate the payday lending industry, which had revenues of about \$7 billion per year in 2015 (82 *FR* 54479). The CFPB expected that its rule would reduce activity in the payday loan industry by 91 percent, even while acknowledging that consumers found the loans helpful for paying “rent, childcare, food, vacation, school supplies, car payments, power/utility bills, cell phone bills, credit card bills, groceries, medical bills, insurance premiums, student educational costs, daily living costs,” and other pressing expenses (82 *FR* 54515). These are indicative of the opportunity costs of sharply contracting the industry. Using revealed preference methods, the CEA estimates a corresponding loss of consumer and producer surplus of \$3 billion, and a reduction of real incomes by about \$7 billion.³⁹

Additional Regulations

Among our sample of 20 rules, we find that 6 have comparatively small aggregate effects: DOL’s Fiduciary Rule, the Security and Exchange Commission’s Disclosure of Foreign Payments by Resource Extraction Issuers, the Department of the Interior’s Stream Protection Rule, the CFPB’s prohibition of arbitration agreements in financial contracts, the Waste Prevention Rule, and a U.S. Department of Agriculture (USDA) rule implementing the Packers and Stockyards Act.⁴⁰ We estimated that eliminating these 6 rules, as the Trump Administration has done, increases real incomes by about 0.06 percent in total, which is about \$11 billion per year. A 7th

³⁹ Assuming that the industry demand for payday loans is linear in the fees charged and has a point elasticity of negative one, the lost consumer surplus alone is \$2.7 billion. The lost consumer surplus is even more if the demand for payday loans has a constant elasticity, even if that elasticity were as far from zero as the firm-level elasticity of -4.28 estimated by McDevitt and Sojourner (2016).

⁴⁰ The Fiduciary Rule added to the costs of saving for retirement by further expanding the circumstances under which a financial adviser is considered to be fiduciary. DOL estimated at the time the rule was published in 2016 that it would benefit investors on net. The rule was vacated in toto by the Fifth Circuit Court of Appeals in *Chamber of Commerce v. Department of Labor*, 885 F.3d 360 (5th Cir. 2018). The Disclosure of Foreign Payments by Resource Extraction Issuers Rule raised costs for U.S. extraction companies. “Hydrological balance” provisions of the Stream Protection Rule would shut down much of the U.S. longwall mining industry (*Murray Energy Corporation v. U.S. Department of the Interior*, 2016). The CFPB “prohibit[ed] consumers and providers of financial products and services from agreeing to resolve future disputes through arbitration rather than class-action litigation,” which would have raised the prices of consumer financial products (U.S. Department of the Treasury 2017). The Waste Prevention Rule added additional restrictions on “oil and gas drilling and extraction operations on Federal and tribal lands” (CEA 2019b, 287). The USDA rule interfered with vertical contracts in the production of poultry and pork, raising costs throughout the supply chains (8th circuit 2018).

rule that has also been eliminated, the Fair Pay and Safe Workplaces Rule, may technically have zero effect on GDP and real incomes because it raises the costs of Federal contractors whose contribution to GDP is by definition its costs.⁴¹ Although the effects of these 7 rules are likely large compared with many of the rules not in our sample, \$11 billion per year is a small fraction of the combined effects of the other 13 rules in our sample.

We have not measured the economic impact of hundreds of FY 2017 and FY 2018 Federal rules, including a few regulations. However, the aggregate cost savings reported for the other rules in the *Federal Register* are in the direction of additional cost savings, suggesting that the cost savings of our sample of 20 deregulatory actions may be a conservative estimate of the cost savings of all regulatory and deregulatory actions since January 2017.

The Doubling Effect of Shifting from a Growing Regulatory State to a Deregulatory One

Before 2017, the regulatory norm was the perennial addition of new regulations. Between 2001 and 2016, the Federal government added an average of 53 economically significant regulations each year.⁴² During the Trump Administration, the average has been only 4 (not counting deregulatory actions).

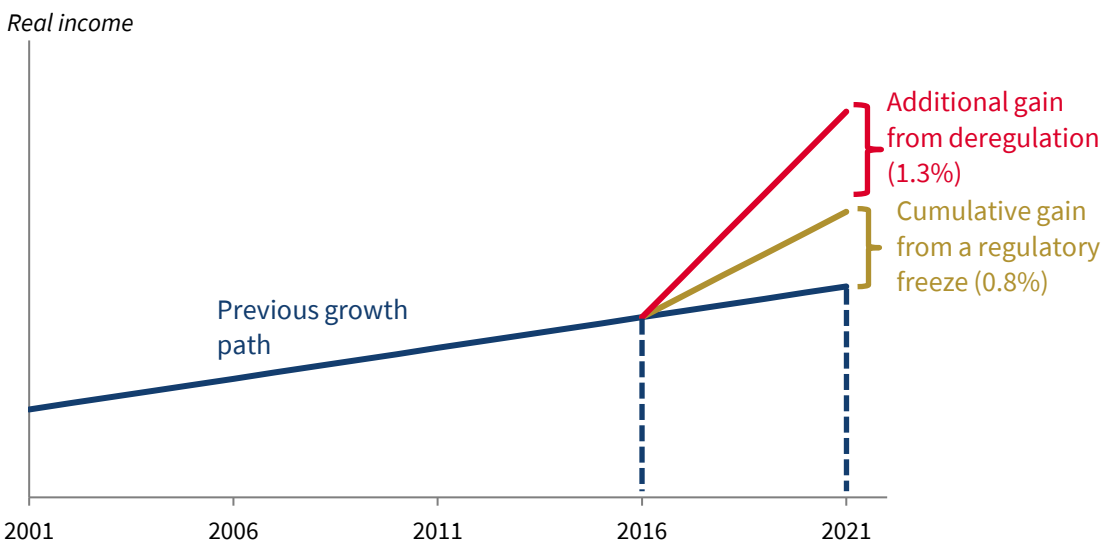
Even if no old regulations were removed, freezing costly regulation would allow real incomes to grow more than they did in the past, when regulations were perennially added (shown by the blue line in figure 3), as with the yellow line in figure 3. The amount of extra income from a regulatory freeze depends on (1) the length of time that the freeze lasts and (2) the average annual cost of the new regulations that would have been added along the previous growth path. For the sake of illustration, figure 3 shows a freeze through 2021. We also have a conservative estimate of the average annual cost of regulatory additions during the years 2010–16, namely, the cost of 20 of the rules created during those years and identified in our sampling (see also appendix I). At 1.3 percent of real income spread over those 7 years, that is an annual cost addition of about 0.19 percent a year (i.e., about \$1,900 per household after 7 years). Those years are somewhat unusual in terms of numbers of new economically significant regulations, so we take the previous trend (for 2001–16) to be 0.16 percent a year. In other

⁴¹ In contrast, raising the costs of private enterprises typically does reduce GDP and real incomes because their contribution to GDP depends on the value those enterprises create for their customers as measured by what customers pay. The CEA notes that the production of some of the Federal contractors may be measured like those of private enterprises, in which case zero is a conservative estimate of the real income effect of overturning the rule.

⁴² OIRA defines economically significant regulatory actions as regulatory actions that have “an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities.”

words, by the fifth year of a regulatory freeze, real incomes would be 0.8 percent (about \$1,200 per household in the fifth year) above the previous growth path.

Figure 3. Deregulation Creates More Growth Than a Regulatory Freeze



As well as restraining the addition of new regulations, the Trump Administration has also removed previous ones. As shown by the red line in figure 3, removing costly regulations allows for even more growth than freezing them. As explained above, the effect, relative to a regulatory freeze, of removing 20 costly Federal regulations has been to increase real incomes by 1.3 percent. In total, this is 2.1 percent more income—about \$3,100 per household per year—relative to the previous growth path.⁴³ (Also see box 1 on so-called midnight regulations.)

Box 1. How Old Are Midnight Regulations?

A number of the regulations reversed by the Trump Administration have been called “midnight regulations,” which are final rules published between Election Day and the inauguration of a new President.⁴⁴ A new President can reverse the midnight regulations by using the standard rulemaking process by refusing to defend the regulations in court, or by (together with Congress) overturning them with procedures established by the 1996 Congressional Review Act (CRA). In theory, the publishing of a costly midnight regulation, as well as its reversal soon afterward, could have little or no effect on industry or the wider economy if market participants recognize that the midnight rules would not last

⁴³ The red path in figure 3 is drawn as linear for illustration purposes only. The 1.3 percent effect (relative to a freeze) of deregulation is likely nonlinear over time and may take more than five years to be fully realized.

⁴⁴ Midnight regulations refer to regulations finalized at the end of a presidential term and before the change to a President of the other political party.

long enough to constrain economic activity.⁴⁵ However, the most costly of the 2016 midnight regulations cannot be characterized this way because (1) they had been in the rulemaking process for years before the 2017 inauguration, (2) most of the 2016, polls and media predicted a different election outcome, and (c) the CRA had been used only once before 2017.

Sixteen Obama-era regulations were ultimately nullified by the CRA. The more economically important of these are the Federal rule allowing States to mandate employers to provide retirement accounts (the “IRA-mandate rule”), the FCC rule regarding broadband privacy, and the Securities and Exchange Commission’s rule requiring the public disclosure of foreign payments.⁴⁶ They date back as far as 2010 but became eligible for CRA nullification in the 115th Congress because challenges from courts and the public extended the rulemaking process until late 2016, or later.⁴⁷ The IRA-mandate rule dates back to at least 2015. The proposed FCC privacy rule was released April 1, 2016, although arguably it was anticipated by the FCC’s actions on “net neutrality” dating back to 2010. The CEA therefore sees the Obama-era economic regulations as part of a normal rulemaking process rather than an economically-irrelevant signaling of a political platform.⁴⁸

Regulations Before 2017 with Disproportionate Costs

The analysis thus far has primarily considered the effects of regulation on income, but regulation—or the lack of it—can affect well-being in nonpecuniary ways not captured by income. However, even when including nonpecuniary costs and benefits, we estimate that deregulatory actions have a net benefit of more than \$2,500 per household a year, compared with the previous trend of growing regulatory costs. The gain stems from the fact that the new level of regulation strikes a better balance between the cost of regulations and their societal benefits, where benefits include things valued by people but not necessarily bought or sold in the marketplace (and which thus are not included in the National Income and Product Accounts or in the usual income measures). The Trump Administration requires Federal agencies to conduct cost-benefit analyses of significant regulatory actions, including deregulatory actions, and that they only be issued “upon a reasoned determination that benefits justify costs.” (OMB 2017).

⁴⁵ If market participants anticipate use of the Congressional Review Act, a costly midnight regulation could have the opposite effect because the CRA would prohibit all future administrations from promulgating the same or a similar rule imposing those costs until a future Congress expressly approved that type of regulation.

⁴⁶ RIN 1210-AB71 (see also 1210-AB76), FCC document FCC-2016-0376-0001, and RIN 3235-AL53, respectively.

⁴⁷ See also Public Citizen (2016), which found that midnight regulations “of Presidents Bill Clinton and George W. Bush took longer [3.6 years], and underwent more days of OIRA review than the average rule over the past 17 years.”

⁴⁸ Although final rules follow their notices of proposed rulemakings with a time lag, and a new administration may decline to finalize notices of proposed rulemaking from a previous administration, the length of the time lag should not affect estimation of the medium- to long-term economic effects of deregulation or of a regulatory freeze. The length of the time lag does affect the timing of the economic effects.

An example from health policy illustrates how regulations before 2017 created disproportionate incremental costs and benefits. The Affordable Care Act created an individual mandate in order to reduce the costs of uncompensated care.⁴⁹ But the average annual costs of uncompensated care are about \$1,000 per uninsured person (including zeros in the average for those who are uninsured who do not use uncompensated care during the year), whereas the annual economic costs of the individual mandate are over \$3,000 per uninsured person induced to purchase coverage (CEA 2019a).

Conclusion

Coincident with the 2017 Presidential inauguration, real GDP growth changed from underperforming experts' forecasts to outperforming them (Tankersley 2019). The CEA's findings on the aggregate effects of regulations and deregulations may help explain this state of affairs. Regulatory actions and their aggregate effects may be easily overlooked and underestimated because the actions are numerous and, if not seen through the lens of economic analysis, may appear cryptic to the general public. This report helps to narrow this information gap by showing the importance of the deregulatory agenda for everyday Americans as well as the national economy.

Since 2017, consumers and small businesses have been able to live and work with more choice and less Federal government interference. They can purchase health insurance in groups or as individuals without paying for categories of coverage that they do not want or need. Small businesses can design compensation packages that meet the needs of their employees, enter into a genuine franchise relationship with a larger corporation, or seek confidential professional advice on the organization of their workplaces. Consumers have a variety of choices as to less expensive wireless and wired Internet access. Small banks are no longer treated as "too big to fail" (they never were) and be subject to the costly regulatory scrutiny that goes with that designation.

In addition to regaining freedoms that they once had, consumers and small businesses no longer have to dread the steady accumulation of costly new Federal regulations. In a time frame of 5 to 10 years, these landmark changes to regulatory policy are anticipated to increase annual incomes by about \$3,100 per household (\$380 billion in the aggregate), by increasing choice, productivity, and competition. This report arrives at its aggregate total by building estimates from the industry level. In doing so, it closely examines specific Federal rules, accounts for the unique circumstances of the industries targeted by these rules, and quantifies benefits of regulation such as consumer data privacy, environmental protection, fuel savings, and reductions in uncompensated healthcare. The analysis employs an economic framework that situates each industry in a larger economy that includes market distortions caused by taxes, imperfect competition, and other factors.

⁴⁹ Section 1501(a)(2)(F) of the Patient Protection and Affordable Care Act.

The benefits of the newest wave of deregulation compare favorably with the most significant in American history. Take the deregulation of airlines and trucking that occurred four decades ago as the major parts of a deregulation wave described as “one of the most important experiments in economic policy of our time” (Winston 1993). Combined, the Carter-era deregulation of these two industries provide net aggregate benefits of about 0.5 percent of national income. Although no two of the 20 deregulatory actions analyzed in this report have (according to our estimates) such a large net benefit, their combined net aggregate benefits exceed 0.6 percent of national income.⁵⁰

Other notable historical deregulations were of natural gas markets between 1985 and 1993, which have benefits estimated at about 0.2 percent of national income (Davis and Kilian 2011). This is hardly more than the combined net benefit of the three health insurance rules in this report. Moreover, the totals in this report reflect only deregulatory actions occurring during less than three years, whereas the full deregulation of airlines, trucking, and natural gas each reflect actions taken over almost a decade.⁵¹ There is room for additional deregulation to further grow the economy.

One economic reason that regulations before 2017 were so costly that some of them were implemented with only a little “safety valve” in terms of an option for regulated businesses to pay a moderate fine in instances when compliance is especially costly. For example, whereas automobile manufacturers had the option of paying a penalty to the National Highway Traffic Safety Administration (NHTSA) for falling short of Federal fuel economy standards, the EPA is prohibited by the Clean Air Act from adopting the NHTSA’s penalty structure to enforce the GHG standard that began with MY 2012 (75 *FR* 25482). As another example, a consultant incorrectly filling out DOL Form LM-21 (one of the requirements under the rescinded Persuader Rule) would be exposed to criminal penalties.⁵² Another reason is that the labor market is arguably the largest market of all, with annual revenues of more than \$10 trillion, and it was the object of active rulemaking by the Obama Administration’s Department of Labor.

⁵⁰ Winston (1993, table 6) reports net benefits accruing in the airline and trucking industries that hold aggregate factor supplies constant. In calculating the 0.6 percent for comparison, we also held aggregate factor supplies constant.

⁵¹ Murphy (2018, 76) cites “U.S. Federal intervention into the petroleum industry in the 1970s [as] arguably the largest peacetime government interference with the economy in the nation’s history.” Arrow and Kalt (1979) estimate the cost of this intervention to be 0.2 percent of national income. Moreover, the 1979–81 deregulation did not realize this full amount in cost savings because price controls were replaced with a windfall profits tax.

⁵² See <https://www.dol.gov/olms/regs/statutes/lmrda-act.htm> and testimony in *NFIB v. Perez*, June 20, 2016, p. 77.

Appendix I: Sampling the Regulatory Actions

Stratified sampling is common in statistical analysis of national activity. The national monthly unemployment rate, for example, is measured by the stratified sampling of a small fraction of the households in the United States. The cost of contacting all households every month would be prohibitive.

This report uses stratified sampling to estimate the aggregate effect of all the hundreds of Federal regulatory actions since January 2017. Our objective is to accurately estimate the aggregate effect of all the actions, which we conceptualize as the sum of the effects of each component action. Our sampling strategy within a stratum (e.g., among the 261 regulations in the FY 2018 Regulatory Budget) is therefore to select the regulations expected to potentially have larger effects.

The average effect of the sampled actions is not necessarily a good estimate of the effect of the average unsampled action, but that is not our purpose. Rather, if the unsampled actions have an average effect that is in the same direction (but not necessarily magnitude) as the sampled actions, then the total effect of the sampled actions is a conservative estimate of the total effect of all the actions. Moreover, sampling the potentially larger effects yields a more accurate estimate of the total effect than sampling randomly.

As an algebraic demonstration, suppose that a stratum has exactly two regulatory actions, 1 and 2, but that only one action can be sampled. If action 1 is sampled, its effect is known to be X_1 and the statistical conditional distribution of total effects has posterior mean $X_1 + E(X_2|X_1)$ and variance $V(X_2|X_1)$. In the simplest case, the effects of actions 1 and 2 are uncorrelated and the posterior mean and variance are $X_1 + E(X_2)$ and $V(X_2)$. We reduce the variance, and the gap between X_1 and the mean total effect, by letting action 2 be the regulatory action of the two for which we have the most confidence that its effect is relatively close to zero.

This is the sampling strategy used to prepare this report: Let the omitted regulatory actions be those with few (most often, zero) comments from the public and little attention from Congress. These are the regulations where we have more confidence that the effects are comparatively small, so that excluding them from the total is expected to have comparatively little effect on our estimate of the total.⁵³ Table 1 lists the regulations and our estimates, with 2 of the 18 rows (“Savings arrangements” and “Joint Employer”) each showing the combined

⁵³ To analogize, suppose that you wanted to measure the number of automobiles in a house. It would be unnecessarily inaccurate to take a random sample of rooms, because most of the time the garage would not be sampled and therefore most of the time the conclusion would be zero automobiles. Looking exclusively in the garage is the obviously superior alternative to a random sample. That is what the CEA has done with regulations: look exclusively at those with a significant chance of having a large economic effect. The formal statistical proof of this conclusion is provided above.

effect of a pair of deregulatory actions so that the table represents a total of 20 deregulatory actions.⁵⁴

Table 1. Regulatory and Statutory Actions’ Annual Impact on Real Income Relative to a Regulatory Freeze, by Sampling Strata

Sampling Strata	Name/Description	Impact on Real Income (in \$ Billions per Year)
CRA Nullification: Economic Regulation with High Comment Volume	Protecting the Privacy of Customers of Broadband and Other Telecommunications Services (Opt-In)	\$22
	Disclosure of Payments by Resource Extraction Issuers	\$3
	Stream Protection Rule	\$2
	Arbitration Agreements	\$1
CRA Nullification: Broad Employment Regulation	Savings Arrangements Established by States for Non-Governmental Employees & Qualified State Political Subdivisions for Non-Governmental Employees	\$13
	Federal Acquisition Regulation; Fair Pay and Safe Workplaces	\$0
FY 2018 or FY 2019 Regulatory Budget: Economic Regulation with High Comment Volume	DOL Guidance/Rule and NLRB Rule regarding the Standard for Determining Joint-Employer Status	\$17 [†]
	Definition of “Employer” Under Section 3(5) of ERISA-Association Health Plans (AHP Rule)	\$17
	Rescission of Rule Interpreting “Advice” Exemption in Section 203(c) of the LMRDA* (Persuader Rule)	\$15
	Short-Term, Limited-Duration Insurance* (STLDI)	\$13
	Payday, Vehicle Title, and Certain High-Cost Installment Loans	\$7
	18-Month Extension of Transition Period and Delay of Applicability Dates* (Fiduciary Rule)	\$5
	Scope of Sections 202(a) and (b) of Packers and Stockyards Act	\$0
	Waste Prevention, Production Subject to Royalties, and Resource Conservation; Rescission or Revision*	\$0
Independent Agency and Guidance Documents	Repeal of Protecting and Promoting the Open Internet and Issuance of Restoring Internet Freedom	\$54
	FDA and HHS Modernization Efforts	\$32
Notable Statutes	The Tax Cuts and Jobs Act- Reduced the Individual Mandate Penalty to Zero	\$28
	Economic Growth, Regulatory Relief, and Consumer Protection Act	\$6
Sum = Total Impact Relative to a Regulatory Freeze		\$235
Total Impact Relative to 2001–16 Regulatory Trend		\$377

Sources: Office of Information and Regulatory Affairs; Government Accountability Office; eRulemaking Program Management Office; Library of Congress; CEA calculations.

Note: We define economic regulations as regulations that regulate prices/entry/or employment as opposed to social regulatory actions designed to protect workers, public health, safety, and/or the environment, or to promote other social goals. An asterisk (*) signifies the use of a shortened name for the regulation. All annual effects on real income are rounded to the nearest billion.

[†]The estimate for joint employer rules includes anticompetitive effects of other DOL and NLRB regulations.

⁵⁴ As noted above, the pre-2017 regulatory actions that made table 1’s deregulatory actions necessary are used to estimate the economic effects of a regulatory freeze.

Although pages are not part of our quantitative analysis, it is interesting to note that the regulatory actions and their deregulatory companions in our sample were promulgated with more than 6,000 pages of Federal statutes, the *Federal Register*, or separate agency impact analyses.

Appendix II: Sensitivity Analysis

The CEA estimates the overall effect of deregulation as the sum of the estimates of effects of each of 20 individual deregulatory actions. As estimates based on statistical data and assumptions, the aggregate and each of the component estimates are uncertain, in that the true effects may differ somewhat from the CEA's estimates of them (beyond the fact that some of the CEA's assumptions are deliberately conservative as to effect sizes). This appendix displays plausible ranges for the quantitatively important statistics and assumptions and the plausible range for the aggregate effect that derives from them. We find that the standard error of the aggregate estimate is about \$750 per household per year.

The derivation shows why the plausible ranges for component estimates are proportionally wider than the range for the aggregate effect because of the tendency for component-specific estimation errors to cancel. Let Y denote the estimated effect of all 20 deregulatory actions on real income, including their contributions to the estimate of the effect of a regulatory freeze:

$$Y = \sum_{r=1}^{20} y_r(\tau, \delta, x_r)$$

where y_r is the estimated effect of the r th deregulatory action. τ denotes the estimated tax wedge, which potentially affects estimates of all 20 deregulatory effects. δ denotes determinants of the marginal cost of funds other than the tax wedge, which also affects multiple component estimates. x_1, x_2, \dots, x_{21} are regulation-specific estimated parameters, such as the number of workers whose participation in individual retirement accounts is affected by the Federal rules about savings arrangements.

In the neighborhood of the point estimates for the parameters (denoted with hats), the estimated aggregate effect is:

$$Y = \hat{Y} + \sum_{r=1}^{20} \left[\frac{\partial y_r}{\partial \tau} (\tau - \hat{\tau}) + \frac{\partial y_r}{\partial \delta} (\delta - \hat{\delta}) + \frac{\partial y_r}{\partial x_r} (x_r - \hat{x}_r) \right]$$

Because the parameter estimates come from different sources, we assume that they have mutually uncorrelated estimation errors. The standard error σ_Y of the aggregate effect is:

$$\sigma_Y = \sqrt{Y_\tau^2 \sigma_\tau^2 + Y_\delta^2 \sigma_\delta^2 + \sum_{r=1}^{20} \left(\frac{\partial y_r}{\partial x_r} \right)^2 \sigma_r^2}$$

where σ_τ and σ_δ are the standard errors for the tax rate and other determinants of the marginal cost of funds, respectively, and the σ_r s are the standard errors of the regulation-specific parameters. We find that the standard error of the aggregate estimate is about \$750 per household per year, most of which is due to the standard errors for the tax rate τ and other

determinants δ of the marginal cost of funds.⁵⁵ We take these to be 7.5 percentage points and 0.1, respectively, with the tax wedge itself inducing additional variation in the marginal cost of funds.⁵⁶

The two largest regulation-specific standard errors are, in descending order, for the ACA's individual mandate and STLDI. Their sensitivity analyses are discussed in detail in an earlier report (CEA 2019a), with half of corresponding ranges shown in table 3 of that report used to quantify the standard errors for the parameters of specific to the health-insurance deregulations.

The standard error for the Crapo Bill is quantified in the same way, namely, by comparing the point estimate of \$3.2 billion annual within-industry costs inferred from measured lending activity (shown in the main text of this report) with a point estimate of \$4.4 billion derived from the estimates of compliance costs made by Feldman, Schmidt, and Heinecke (2013). We expect that the \$4.4 billion may be overstated because banks consolidated in response to, or coincident with, the Dodd-Frank Act.

The standard error for the FCC opt-in rule is assumed to be one-third of the CEA's point estimate because the pre-deregulation standard deviation of figure 1's time series is about one-third of the price drops that were coincident with deregulation. The standard error for the Federal rules about savings arrangements is taken by changing the assumed 10 million workers affected by 5 million. We quantify the uncertainty about the effect of the Payday Loan Rule by changing the price elasticity of industry demand by 0.5. We quantify the uncertainty about the effect of the rule Restoring Internet Freedom as the proportional to gap between the two estimates shown by Hazlett and Caliskan (2008). We quantify the uncertainty about the effect of modernizing FDA approvals by changing the price impact by 1 standard deviation around the pre-2017 trend shown in figure 2.

For the Persuader Rule, the CEA estimated compliance costs based on the research of Furchtgott-Roth (2016). In its findings of fact, a Federal district court hearing an important case about the Persuader Rule cites aggregate cost estimates from the same report (paragraph 106 of Cummings 2016).⁵⁷ The CEA adjusted one of the 18 components of the Furchtgott-Roth

⁵⁵ Recall that our point estimate for the aggregate effect (of the new Federal regulatory approach, as shown in figure 3) on real income is about \$3,100 per household per year.

⁵⁶ OMB (1992), known as Circular A-94, uses a marginal excess burden of 0.25 based on "recent studies of the U.S. tax system [that] suggest a range of values." Since 1992, there have been additional studies of the marginal excess burden of taxation. The CEA's estimate that the marginal tax wedge is 48 percent is based on the range of values in more recent studies, including studies of implicit taxes and imperfect competition. The more recent studies are cited by the CEA (2019b, 112).

⁵⁷ DOL's rescission of the Persuader Rule has a smaller cost estimate, although it relies on some of Furchtgott-Roth's main conclusions (83 FR 33836). Furchtgott-Roth estimated, for example, ongoing compliance costs to be about \$10,000 per year for the average labor-law firm, as compared with only about \$2,000 per year for filers and less than \$500 per year for nonfilers as estimated by DOL (83 FR 33839). Interestingly, \$56,000 was reported in the Texas case for a particular (admittedly large) labor-law firm (Cummings 2016, 25). The CEA also notes that DOL's 2016 estimate also assumed away most of the costs on employers in a way that carries over to DOL's 2018

estimate, and therefore takes for sensitivity analysis the standard deviation of the Persuader Rule compliance cost estimate to be equal to that adjustment.

Another source of costs is the anticompetitive effects of the Persuader, joint employer, and other rules and guidance introduced by DOL and the NLRB during the Obama Administration.⁵⁸ To the extent that the rules reduce labor market competition, there is a loss of efficiency due to the reduced supply.⁵⁹ We assume that (if ultimately implemented) the rules would increase the labor wedge by 50 percent more than we estimated earlier (CEA 2019b) for the joint employer rules by themselves. Using the same deadweight cost coefficient and baseline tax rates that we have used for the other regulations, the additional labor wedge has a net efficiency cost of about \$8 billion per year and a reduction of real incomes by about \$17 billion per year. Uncertainty about this estimate is assumed to be one half of the \$17 billion.

estimate. Specifically, DOL assumes that there would be the same number of labor law and consulting firms (hereafter, “labor consultants”) under the rule as there were before the rule (39,298, as reported at 81 *FR* 16016) and that those firms carry the same average number of employer clients (7.76 each; see also note 30 of 83 *FR* 33838). While this result is possible in principle, it implies that employers would absorb the rule’s costs in ways other than increasing their demand for outside labor consultants (e.g., hiring in-house labor consultants, hiring fewer American workers, or making less informed business decisions). DOL did not include such costs in either its 2016 or 2018 estimate.

⁵⁸ We do not attempt to parse the combined effect among the various rules but instead allocate it entirely to the joint employer regulations and then avoid double counting by omitting competition costs of other NLRB or DOL regulations.

⁵⁹ For example, employers with market power in the labor market can exercise it by constraining the amount that they hire and thereby squeeze workers (CEA 2019b). This reduces the quantity of labor and increase the labor wedge.

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