# What is the "Cost per Regulator" on GDP and Private Sector Job Creation?

# An Update on Prior Research

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## Introduction

Excessive regulation weighs heavily on the American economy, slowing both economic growth and job creation. While the growing and more isolated U.S. economy of the past could perhaps shoulder some regulatory excess, those days are over: Gross Domestic Product ("GDP") growth averaged only 1.4 percent over the past decade and trade as a share of GDP has risen from about 10% in 1970 to nearly 30% today.[1] Moreover, the U.S. now has nearly $20 trillion in debt and real wages are stagnant.[2] And, perhaps most troubling, while the reported unemployment rate may only be 4.6 percent, much of the rate's decline has come from the sharply falling labor participation rate that now sits at just under 63 percent.[3] Today, nearly 95 million Americans are out of the workforce, about 7 million more than in 2008.[4]

After losing control of Congress in 2010, President Obama extended an olive branch to Republicans by conceding that federal regulations "have stifled innovation and have had a chilling effect on growth and jobs."[5] To demonstrate his resolve, Mr. Obama proposed to "get rid of regulations that have outlived their usefulness"[6] by issuing an Executive Order calling for a cost-benefit review of existing federal regulations.[7] Unfortunately, Mr.

Obama's call for regulatory reform was illusory; despite a clear recognition of the problem, the Obama Administration—like many before it— chose instead to saddle the U.S. economy with a tsunami of new regulations across a wide variety of sectors, including financial services, labor relations, health care, transportation, the environment and the Internet.[8] As a result, on the last federal workday of 2016, the Federal Register topped off at a whopping 97,110 pages, setting a new record.[9]

> *[O]ur updated analysis finds that one regulator costs the U.S. economy 135 private sector jobs per year. Each regulator costs the U.S. economy $11 million annually.*

President Trump, who has made the revitalization of the American economy a central policy priority of his new Administration, has promised to curtail radically the growth in regulation. So much so that President Trump recently promised that his Administration would seek to cut regulations by a staggering 75%.[10]

Mr. Trump appears to mean business. He and his early appointees have already taken aggressive steps to reverse the excesses of the past and constrain the regulatory state.[11] For example, as one of his first actions as President, Mr. Trump signed an Executive Order implementing a regulatory freeze across Executive Branch agencies.[12] Shortly thereafter, the President signed a second Executive Order requiring Executive Branch agencies to identify two existing regulations for elimination for every one new regulate they seek to promulgate.[13] This simple yet clever mandate forces even an active regulator into a deregulatory mindset, a shift in attention that may yet prove effective.

**A Subtle Approach**

While aggressive action to curb excessive regulation is needed, the regulatory state has created powerful constituencies who are reluctant to disrupt the status quo. Moreover, given the inherent nature of the regulatory process (i.e., the need for an administrative agency to draft a Notice of Proposed Rulemaking ("NPRM") before it seeks to strike existing regulations off the books,[14] the due process requirement that such NPRM be put out for public notice and comment,[15] and other statutory constraints on deregulatory efforts[16]), significant and rapid change will face multiple—and in many cases legitimate—hurdles. Evidence supports the idea, however, that more subtle approaches may prove fruitful in stimulating the U.S. economy.

In 2011, the Phoenix Center released a paper entitled *Regulatory Expenditures, Economic Growth and Jobs: An Empirical Study*, in which we suggested that one way to reduce the overall size of the regulatory burden would be by curbing federal spending on regulatory efforts, an approach that also has a direct and favorable effect on the overall federal budget.[17] Our results were significant.

Using modern time-series econometric methods, our research quantified the relationship between government spending on regulatory activity and the important goals of economic growth and job creation. To do so, we evaluated fifty years of data on the regulatory budget, GDP, and private-sector employment. We found that the size of the regulatory budget (as a share of GDP) is inversely related to economic growth and the number of private sector jobs. As such, our study provided empirical evidence to support what most Americans already intuitively know: reducing the size of the regulatory state is a promising means for cutting spending and growing the economy.

*Our updated analysis shows that a 10% cut in the regulatory budget—or about $5.6 billion—provides for an additional $1.2 trillion in GDP annually over the five-year window, or $244 billion annually.*

Estimates from our 2011 study indicated that, over a five-year window, even a small 5% reduction in the regulatory budget (about $2.8 billion) would result in $376 billion ($75 billion annually) in expanded GDP and expand employment by 6.2 million jobs (1.2 million annually). Expressing our results in terms of the size of the regulatory bureaucracy, we found that eliminating the job of a single regulator would grow the American economy by $6.2 million and 98 private sector jobs *annually*.

The macroeconomic benefits of curtailing regulation, in our estimation, are very large. Contrariwise, an expansion in federal regulatory bureaucracy reduces economic growth and kills jobs, perhaps explaining, in part, the less than stellar performance of the American economy over the last decade. Unlike expenditures on infrastructure (e.g., roads and education) that

arguably have positive multiplier effects, the continued and sizeable expansions in the federal regulatory budget appear to be working against an economic turnaround and contribute to higher unemployment. Indeed, we found in our 2011 paper that each million-dollar increase in the regulatory budget costs the economy 420 private sector jobs. Accordingly, we recommended that as Congress and the Obama Administration struggled with the difficult decisions of how to shrink federal spending, an excellent place to start would be to investigate *responsible* cuts in the size of the federal regulatory bureaucracy.[18]

**Update to Our Earlier Paper**

It has been six years since our analysis was performed and published. Over that interval, more data have become available and the data we employed have been refreshed.[19] As such, we felt it sensible to update our analysis. We do not expect significant changes in the results—we have added only six years of data to the analysis to a fifty-year sample (extending it from 2009 to 2015) and small changes have been made to the regulatory budget data.[20]
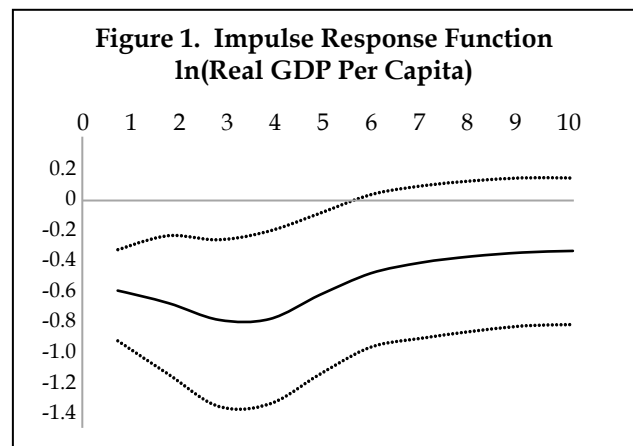
*Our updated analysis reveals that a 10% reduction in the regulatory budget ($5.6 billion)—which implies a return to pre-Obama Administration levels—leads to an increase of 3 million new jobs annually...*

Our statistical procedures are unchanged, so the methods are not repeated here. We direct the reader to the original paper for methodological details.[21] Our data for this update includes measures of the federal regulatory budget, per-capita private Gross Domestic Product, and private sector employment.[22] All monetary
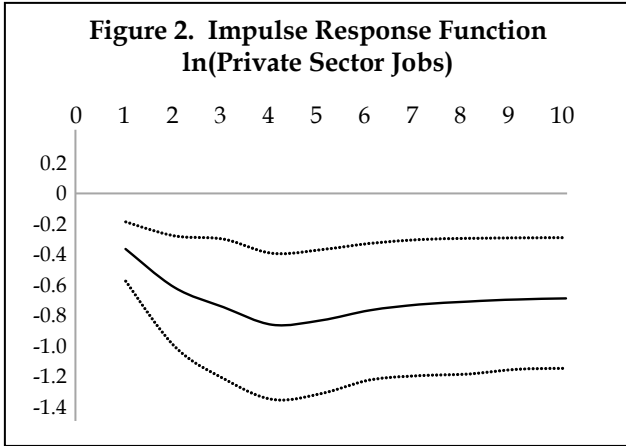
variables are measured in real dollars (a 2009 base).[23] Our updated results are set forth below.

*Updated Impulse Response Functions*

To begin, we found that that updated Impulse Response Functions are similar in nature to those reported in our earlier paper. In Figure 1, we again see that a *positive* shock to the regulatory budget reduces the (natural log of) private GDP per-capita and the one-standard deviation confidence bands for the Cumulative Impulse Response Function ('CIRF") are below zero for five years. These updated results again indicate a larger regulatory budget reduces economic growth.



Figure 1. Impulse Response Function ln(Real GDP Per Capita)

In Figure 2, we likewise see from the updated CIRF that private sector job are again lost from a *positive* shock to the regulatory budget. Here, the job losses stabilize in the negative range after about year seven. The one standard deviation bands are negative throughout the 10-year horizon.

Figure 2. Impulse Response Function
ln(Private Sector Jobs)

*Updated Results on the Effects of Regulation on GDP*

Next, we updated our calculations on the effect of regulation on GDP. As shown in Table 1 below, we again find that curbing regulatory spending can have substantial effects on the economy. Our updated analysis shows that for a 5% reduction in the regulatory budget, the increase in GDP is $611 billion (in present value) over the five-year window.[24] On average, a five percent reduction ($2.8 billion at 2015 levels) in the regulatory budget generates $122 billion in additional GDP per year, implying a $45 gain for every $1 decline in the regulatory budget. Our updated analysis also shows that a 10% cut in the regulatory budget—or about $5.6 billion at 2015 levels—provides for an additional $1.2 trillion in GDP annually over the five-year window, or $244 billion annually.

Table 1. Effects on GDP from Reductions in the Regulatory Budget ($ Billions, 2009 Dollars)

| Regulatory Budget Adjustment | -5% | -10% |
|---|---|---|
| GDP Effect Year 1 | $111 | $221 |
| GDP Effect Year 2 | $127 | $254 |
| GDP Effect Year 3 | $148 | $297 |
| GDP Effect Year 4 | $147 | $295 |
| GDP Effect Year 5 | $116 | $233 |
| **Five-Year GDP Increase (PV)** | **$611** | **$1,221** |
| **Avg. Annual GDP Increase** | **$122** | **$244** |

In quantifying the effects of changes to the regulatory budget, the updates to the data are material. In the prior study, a 10% reduction in the regulatory budget increased GDP by an average of $149 billion per year, whereas our updated analysis indicates a five-year impact of $244 billion per year. Limiting our analysis to the same years covered by our prior work, we find similar results to those reported here. Thus, we cannot conclude that the estimated effects are larger because of an increased regulatory burden in recent years. The difference is attributable to updates to the regulatory budget data and perhaps a small change in the specification of the model to ease predictions.

*Updated Results on the Effects of Regulation on Private Sector Job Creation*

Our updated analysis again reveals that the impact of regulation on jobs is also impressive, as shown in Table 2 below. For a relatively small budget cut of 5% ($2.8 billion at 2015 levels), our updated analysis reveals that the increase in private jobs is about 1.5 million annually (on average). In the final year of the simulation, there are 1.8 million new jobs due to the reduced regulation. Our updated analysis reveals that a 10% reduction in the regulatory budget ($5.6 billion)—which implies a return to pre-Obama Administration levels—leads to an increase of 3 million new jobs annually, and 3.6 million jobs in the fifth year.

Table 2. Effects on Private Sector Jobs from Reductions in the Regulatory Budget (Millions)

| Regulatory Budget Adjustment | -5% | -10% |
|---|---|---|
| New Private Sector Jobs Year 1 | 0.9 | 1.7 |
| New Private Sector Jobs Year 2 | 1.4 | 2.7 |
| New Private Sector Jobs Year 3 | 1.6 | 3.2 |
| New Private Sector Jobs Year 4 | 1.8 | 3.7 |
| New Private Sector Jobs Year 5 | 1.8 | 3.6 |
| **Annual Avg. New Jobs** | **1.5** | **3.0** |

Again, the updated data produces larger impacts than those reported in our prior study. In the earlier work, a 10% reduction in the regulatory budget increased private sector jobs by an average of 2.36 million over five years, whereas here that increase is 3.0 million jobs.[25]

*Updated Results of the "Cost per Regulator"*

Another way to evaluate the results is to express the macroeconomic cost of regulation on a "cost per regulator" basis. To do so, we need to translate a given budget increase into a change in the number of "regulators." Historically, each $1 million change in the regulatory budget is associated with a change of about four regulator jobs.[26] With our new update, we now find that a 10% cut in the regulatory budget results in a loss of 21,756 regulatory jobs. Given the average jobs impact of 3 million jobs over the five-year horizon, our updated analysis finds that one regulator costs the U.S. economy the equivalent of 138 private sector jobs per year. Each regulator costs the U.S. economy $11 million annually.

**Table 3. Cost per Federal Regulator**

| Regulatory Budget Adjustment | -10% |
|---|---|
| Reduction in Reg. Jobs | 21,756 |
| Avg. Increase in GDP | $244 Billion |
| Per Regulator | $11,215,000:1 |
| Avg. Increase in New Jobs | 3,000,000 |
| Per Regulator | 138:1 |

In our 2011 paper, we estimated that each regulator cost the economy 98 jobs and reduced GDP by $6.2 million, so again the updated data indicates larger effects, so again the updated data indicates larger effects.

> *[O]ur study provide[s] empirical evidence to support what most Americans already intuitively know: reducing the size of the regulatory state is a promising means for cutting spending and growing the economy.*

**Conclusion**

In these frugal times, many Americans are forced to do more with less. Given the pernicious effect of the growth of the regulatory state, it is time for the government to do less with less. As such, our recommendation remains the same now as in 2011: As Congress and the Trump Administration struggle with the difficult policy decisions of how to shrink federal spending and get the economy moving again, perhaps an excellent place to start would be to investigate *responsible* cuts in the size of the federal regulatory bureaucracy.

**NOTES:**

\* **Dr. George S. Ford** *is the Chief Economist,* **Dr. Hyeongwoo Kim** *is an Adjunct Fellow, and* **Lawrence J. Spiwak** *is the President, of the Phoenix Center for Advanced Legal and Economic Public Policy Studies. The views expressed in this* PERSPECTIVE *do not represent the views of the Phoenix Center or its staff.*

1    FRED ECONOMIC DATA, Real Gross Domestic Product (GDPCA), Economic Research—Federal Reserve Bank of St. Louis (available at: https://fred.stlouisfed.org/series/GDPCA); The World Bank, Trade (% of GDP) (available at: http://data.worldbank.org/indicator/NE.TRD.GNFS.ZS?locations=US).

2    FRED ECONOMIC DATA, Federal Debt: Total Public Debt (GFDEBTN), Economic Research—Federal Reserve Bank of St. Louis (available at: https://fred.stlouisfed.org/series/GFDEBTN).

3    FRED ECONOMIC DATA, Employed full time: Median usual weekly real earnings: Wage and salary workers: 16 years and over, Economic Research—Federal Reserve Bank of St. Louis https://fred.stlouisfed.org/series/LEU0252881600A; FRED ECONOMIC DATA, Civilian Labor Force Participation Rate (CIVPART) Economic Research—Federal Reserve Bank of St. Louis (available at: https://fred.stlouisfed.org/series/CIVPART).

4    *See generally,* L.J. Spiwak, *Trump Cabinet Brings Fresh Take on Labor Policy,* THE HILL (January 11, 2017) (available at: http://thehill.com/blogs/pundits-blog/labor/313692-trump-cabinet-brings-fresh-take-on-labor-policy).

5    B. Obama, *Toward a 21st-Century Regulatory System*, WALL STREET JOURNAL (January 18, 2011) (available at: http://online.wsj.com/article/SB10001424052748703396604576088272112103698.html); *see also* E. Williamson, *Obama Launches Rule Review, Pledging to Spur Jobs, Growth*, WALL STREET JOURNAL (Jan. 18, 2011) (available at: http://online.wsj.com/article/SB10001424052748703396604576088634252904032.html).

6    *Id.*

7    *Improving Regulation and Regulatory Review,* EXECUTIVE ORDER NO. 13563 (January 18, 2011) (available at: http://www.whitehouse.gov/the-press-office/2011/01/18/improving-regulation-and-regulatory-review-executive-order); *Regulatory Planning and Review,* EXECUTIVE ORDER NO. 12866 (September 30, 1993); 44 U.S.C. § 3502(5). However, this Executive Order—by its own terms—specifically excluded "independent agencies" such as the Federal Reserve, the Commodity Futures Trading Commission, the Consumer Product Safety Commission, the Federal Communications Commission, the Federal Deposit Insurance Corporation, the Federal Energy Regulatory Commission, the Federal Housing Finance Board, the Federal Maritime Commission, the Federal Trade Commission, the Mine Enforcement Safety and Health Review Commission, the National Labor Relations Board, the Nuclear Regulatory Commission, the Occupational Safety and Health Review Commission, the Postal Regulatory Commission, and the Securities and Exchange Commission, all of which are profligate promulgators of regulations over major sectors of the American economy.

8    *See, e.g.*, S. Batkins, *The Midnight Year In Regulation: $164 Billion In Costs, 120 Million Paperwork Hours*, American Action Forum (January 10, 2017) (available at: https://www.americanactionforum.org/insight/obama-administration-issued-157-billion-midnight-regulation/).

9    W. Crews Jr., *Obama's Legacy: 2016 Ends With A Record-Shattering Regulatory Rulebook,* FORBES (December 30, 2016) (available at: http://www.forbes.com/sites/waynecrews/2016/12/30/obamas-legacy-2016-ends-with-a-record-shattering-regulatory-rulebook/#5ef6b3e5364d).

10    J. Pramuk, *Trump Tells Business Leaders He Wants to Cut Regulations by 75% or "Maybe More",* CNBC (January 23, 2017) (available at: http://www.cnbc.com/2017/01/23/trump-tells-business-leaders-he-wants-to-cut-regulations-by-75-percent-or-maybe-more.html).

11    *See, e.g.,* R. Marsh, *Trump Signs Measure Rolling Back Last-Minute Obama Coal Mining Regulation*, CNN (February 16, 2017) (available at: http://www.cnn.com/2017/02/16/politics/scott-pruitt-donald-trump-white-house-regulations); A. Nasr, *FCC Removes Set-Top Box, Business Data Services from Agenda*, MORNING CONSULT (January 30, 2017) (available at: https://morningconsult.com/2017/01/30/fcc-removes-set-top-box-business-data-services-agenda).

12    MEMORANDUM: IMPLEMENTATION OF REGULATORY FREEZE, M-17-16, The White House (January 24, 2017) (available at: https://www.whitehouse.gov/the-press-office/2017/01/24/implementation-regulatory-freeze).

## NOTES CONTINUED:

[13] PRESIDENTIAL EXECUTIVE ORDER ON REDUCING REGULATION AND CONTROLLING REGULATORY COSTS, The White House (January 30, 2017) (available at: https://www.whitehouse.gov/the-press-office/2017/01/30/presidential-executive-order-reducing-regulation-and-controlling).

[14] *See, e.g.*, 5 U.S.C. §553(b).

[15] *See, e.g.,* 5 U.S.C. §553(c).

[16] *See, e.g.,* G.S. Ford and L.J. Spiwak, *Section 10 Forbearance: Asking the Right Questions to Get the Right Answers*, 23 COMMLAW CONSPECTUS 126 (2014).

[17] T.R. Beard, G.S. Ford, H. Kim, and L.J. Spiwak, *Regulatory Expenditures, Economic Growth and Jobs: An Empirical Study,* PHOENIX CENTER POLICY BULLETIN NO. 28 (April 2011) (available at: http://www.phoenix-center.org/PolicyBulletin/PCPB28Final.pdf).

[18] A 2011 study by the Government Accountability Office ("GAO") indicates that significant savings could be realized by reductions in unnecessary duplication, overlap and fragmentation of federal programs, including programs at regulatory agencies. *See* OPPORTUNITIES TO REDUCE POTENTIAL DUPLICATION IN GOVERNMENT PROGRAMS, SAVE TAX DOLLARS, AND ENHANCE REVENUE, GAO-11-318SP (March 2011) (available at: http://www.gao.gov/new.items/d11318sp.pdf).

[19] S.E. Dudley & M. Warren, *Regulators' Budget from Eisenhower to Obama,* GW Regulatory Studies Center (May 17, 2016) (available at: https://regulatorystudies.columbian.gwu.edu/sites/regulatorystudies.columbian.gwu.edu/files/downloads/2017_Regulators_Budget_05-17-2016.pdf).

[20] The regulatory budget data across the two studies has a correlation coefficient of 0.999.

[21] *See supra* n. 17. The regulatory budget is measured as a share of GDP. In the prior study, we divided by private sector GDP and applied the natural log transformation. Since this ratio is a proportion, we did not apply the natural log transformation in the update. The difference should have little effect on the results.

[22] We subtract government spending from total GDP.

[23] FRED ECONOMIC DATA, Gross Domestic Product: Implicit Price Deflator (GDPDEF), Economic Research—Federal Reserve Bank of St. Louis (available at: https://fred.stlouisfed.org/series/GDPDEF); FRED ECONOMIC DATA, Gross National Product (GNPA), Economic Research—Federal Reserve Bank of St. Louis (available at: https://fred.stlouisfed.org/series/GNPA); FRED ECONOMIC DATA, Government Current Expenditures (GEXPND), Economic Research—Federal Reserve Bank of St. Louis (available at: https://fred.stlouisfed.org/series/GEXPND); FRED ECONOMIC DATA, All Employees: Total Private Industries (USPRIV), Economic Research—Federal Reserve Bank of St. Louis (available at: https://fred.stlouisfed.org/series/USPRIV); FRED ECONOMIC DATA, Total Population: All Ages including Armed Forces Overseas (POP), Economic Research—Federal Reserve Bank of St. Louis (available at: https://fred.stlouisfed.org/series/POP).

[24] The 3.1% discount rate is the government recommended discount rate for social projects evaluated over a five-year window. *See* OMB Circular No. A-94, APPENDIX C (Revised December 2009) (http://www.whitehouse.gov/OMB/circulars/a094/a94_appx-c.html).

[25] Again, this change does not reflect larger effects in the recent years added to our data. Estimating the model over the same fifty-years as the prior study produces similar results.

[26] We use the same method as the earlier paper. *See* Beard *et al.* (2011), *supra* n. 17 at p. 15.