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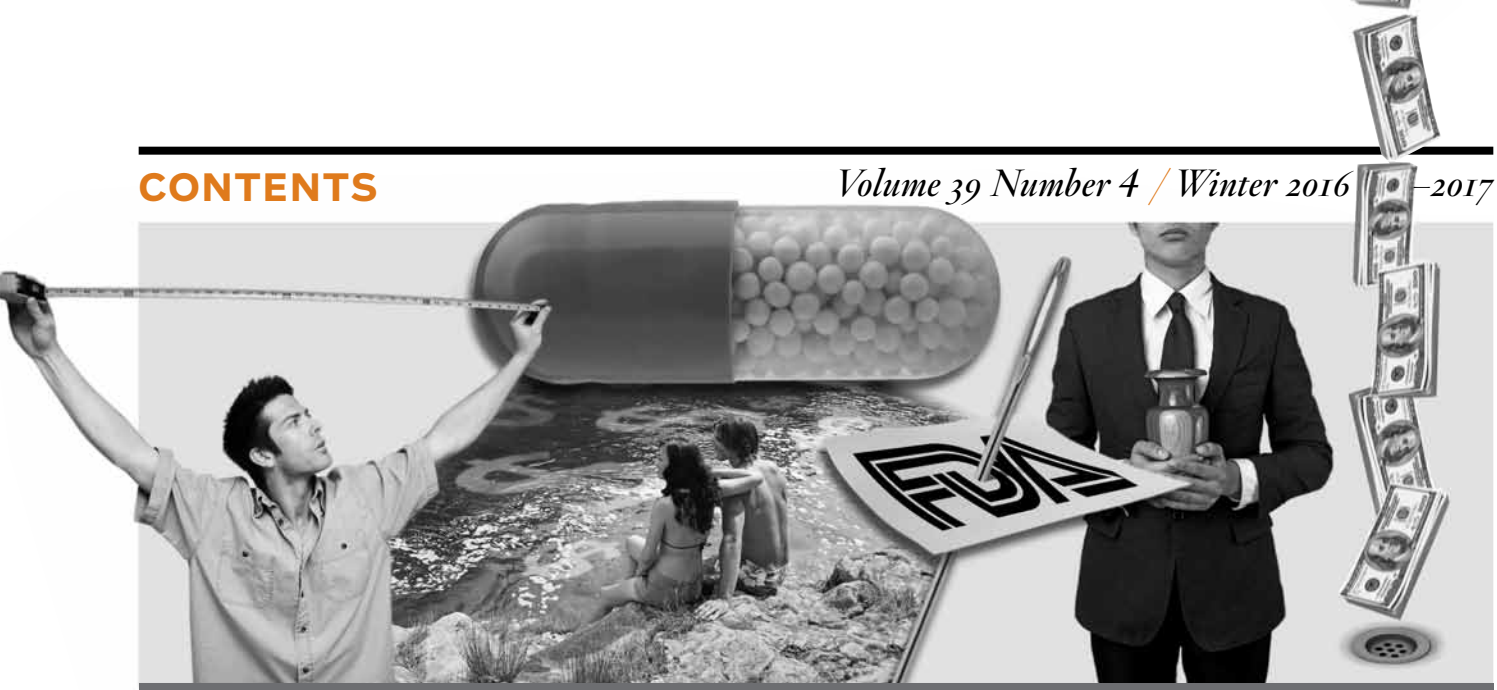

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Regulation CATO INSTITUTE

Regulation was first published in July 1977 "because the extension of regulation is piecemeal, the sources and targets diverse, the language complex and often opaque, and the volume overwhelming." Regulation is devoted to analyzing the implications of government regulatory policy and its effects on our public and private endeavors.

FOR THE RECORD

Accepting Carden's Challenge

In his comprehensive review of my book *Greening of Capitalism* (Fall 2016), Art Carden picks up a somewhat casual observation of mine, namely that I am so confident that commodities are going to become subject to worsening shortages as the world industrializes that I would be prepared to bet on their prices rising over the long term. As I put it,

> There can be no expectation that the long-term trend in the price of coal (and other minerals) will be anything but upward—and I would be prepared to bet on this with Simon if he were still alive.

Carden steps in and declares himself willing to take up the cudgels on Julian Simon's behalf, and challenges me to accept a similar bet, as he details in the review. I accept his challenge.

The original wager between Simon and Paul Ehrlich was made in 1980, and turned on the clash between two world views. There was Simon's belief that endless substitution of one commodity by another would, through the operation of market forces, ensure that commodity prices would decline. Ehrlich's belief was that population pressures would be so strong that demand for commodities would grow and drive prices up. As we all know, Simon won the bet. But as recent commentators have noted, it all depends on where the start line is taken and over what period the bet is taken. Adam Smith Institute senior fellow Tim Worstall, for example, in a Jan. 13, 2013 column for *Forbes.com*, demonstrates that Ehrlich would have won the bet on several alternative timelines and choices of commodities baskets, particularly in the decade 2000 to 2010. And as *Financial Times* writer Henry Sanderson points out in his August 18, 2013 column, commodity prices overall since 1975 hardly seem to favor Simon over Ehrlich.

I want to make it clear why I am accepting this bet. I am not certain as to Carden's world view, but it seems to be a McCloskeyan view that market forces are powerful instruments that can solve most problems, including problems of growing shortages of commodities as huge countries like China and India proceed with their long-delayed industrialization. My world view is that capitalism is a powerful human innovation that is an unparalleled wealth creator, but that for the first two centuries of industrialization it has benefited only a few "advanced" countries in North America, Europe, and Japan. Now it is the turn of the rest, so in the 21st century we see emerging giants like China and India claiming their share. They are likely to put enormous stresses on commodity and fossil fuel supplies if they continue to grow the traditional "business as usual" economy, or what I call the "black economy." But because of geopolitical pressures and immediate environmental concerns, these countries are also growing a "green economy" that is based on generation of power from renewable resources and recircula-

tion of resources via a circular economy. Consequently I see these countries as driving the "next" great transformation as they switch away from conventional fuels and commodities to products of manufacturing: renewable power from manufactured devices like solar cells and wind turbines, and resource recirculation (e.g. "urban mining") via the innovation of a "circular economy." (For more on this, see my articles with Hao Tan, "Economics: Manufacture Renewables to Build Energy Security," *Nature*, Sept. 10, 2014, and "Circular Economy: Lessons from China," *Nature*, March 23, 2016.) So there are two kinds of economies bidding for supremacy in these emerging giants: a black and a green economy. Which one wins will be the outcome of a political struggle because the state plays an all-important role in these industrializing economies.

How is this likely to affect commodity and fuel prices? In the medium term there is likely to be a peaking in demand as China, India, et al. scale up, driving up prices. In the longer term, it is likely that the green economy will supersede the black economy, where costs will be falling—and the price of energy is likely to reflect those cost falls. So I judge it likely that there will be a rising trend in prices for industrial commodities over the course of the next decade because of the continued dominance of the black economy, but energy prices will fall as the green economy overtakes the black economy and power generated from manufactured devices becomes more important than power generated from fossil fuels. As previous industrial transitions demonstrate, the lower cost process or product tends to drive the higher-priced product out of the market.

There are two kinds of economies bidding for supremacy in China and India: a black one and a green one. Which one wins will be the outcome of a political struggle because of the state's role in these industrializing economies.

In terms of the bet itself, I see the point of replicating the original Simon–Ehrlich basket of commodities over a 10-year period. I accept this aspect of Carden's challenge. But the commodities concerned—copper, chromium, nickel, tungsten, and tin—are no longer central to industry. So I agree that we should have a further bet involving fossil fuels—particularly coal, oil, and natural gas—because they are central to the industrializing efforts of both China and India. We could agree to take the NYMEX prices of these three commodities as benchmark, in the way proposed by Carden (but without heating oil and gasoline, which are processed versions of crude oil). We could start the twofold bet on January 1, 2017 and take it up to December 31, 2026, a full decade. We could agree and publicly announce the procedures to govern the bet, including an amendment to Carden's proposal to the effect that the winner be declared by a neutral arbiter, and that the winnings be paid to a nonprofit institution of the winner's choice. We could revisit the bet each year to review how we are each traveling. And if circumstances allow, we could create a second round of the bet in the following decade, 2027 to 2036.

I am confident in taking on this bet because I am confident that we are moving toward a world that is greening, where energy, water, and food will become cleaner, safer, more abundant—and cheaper. This is because I view the dominant greening trends as substituting manufactured products for products based on natural resources that are mined, drilled, or otherwise extracted from the earth or grown in the earth. In energy China is clearly moving to a system that prioritizes renewable power (clean, safe, abundant, and cheap) over fossil fuels. (See my most recent discussion, "China's Continuing Renewable Energy Revolution—Latest Trends in Electric Power Generation," *Asia-Pacific Journal*, Vol. 14, Issue 16, No. 6 [Sept. 1, 2016].) In the case of water, desalination processes linked to solar power make it increasingly feasible to source water from the ocean, which is analogous to sourcing electric power from renewable and abundant resources. In the case of food, we see that plants and vegetables will increasingly be grown and harvested in an enclosed environment, utilizing renewable energy and desalinated water (for an example, see my article "Tomatoes Watered by the Sea: Sprouting a New Way of Farming," *TheConversation.com*, Feb. 16, 2014), while traditional animal products like meat, eggs, and milk will increasingly be produced through tissue culture on a vast scale (like brewing) without murdering or torturing animals.

I see China and (eventually) India as driving these greening trends, just as the United States was the dominant power driving the fossil-fueled industrial paradigm in the 20th century. This is the context within which commodity prices will increasingly be set in a shrinking "black economy" with less and less influence being imposed from shortages of natural ores and mineral sources. Capital is likely to flow increasingly to these clean, green, and safe processes rather than traditional fossil-fueled and commodity-driven processes, making their investment costs lower. This is what I am calling the greening of capitalism and I see it as substituting manufactured (artificial) processes and products for "natural" products and processes. That is why I see the long-term cost trend of "natural" commodities (in the black economy) as upward as they become subject to shortages, and the long-term cost trend of renewable power, renewable water, and cultured food as downward in the emerging green economy. The forces driving these cost and price dynamics are very different from those that guided the thinking of both Ehrlich and Simon.

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BRIEFLY NOTED

Do-It-Yourself and Distrusting Markets

BY RYAN MURPHY

How many times have you heard that you can save money if you "do it yourself" (DIY)? At *diynatural.com* ("Do It Yourself ... *Naturally*"), you can find recipes for homemade versions of fabric refresher, mass-produced snacks, and shampoo. Other DIY websites and cable TV programs show people how to tile their bathrooms, build their own computers, and rewire their homes. And, of course, for generations people have worked on their own cars and done their own landscaping rather than "outsource" the tasks.

Besides saving money, many of these DIYers say they are motivated by the enjoyment they find in such work; it is a consumption good. They like getting under the hood, they like running the power saw. The work needs to be done and they get utility from doing it, so why shouldn't they do it themselves?

I contend that these arguments are wrong—or, at least, incomplete. I think that many DIY efforts are motivated not by pleasure or frugality, but by wrongful distrust of markets. That doesn't mean that people are always wrong to attempt home projects—or even cook their own meals or mow their yards—but they should be mindful that the reasons given for such efforts often are problematic. In many cases they'd be better off picking up the Yellow Pages and contracting with an expert rather than buying costly tools and attempting a project that requires considerable skill and experience to master.

Transaction costs / When should you undertake a home project in order to save money? The answer theoretically rests on whether the project is in your comparative advantage. If your comparative advantage lies elsewhere and you operate on the assumption that markets work as vehicles of mutually beneficial exchange instead of tools of exploitation, then in a perfect world you should do it yourself only when those tasks are what you do professionally. Otherwise, you are better off working an extra hour and paying someone else to perform the task you aren't as adept at. (Of course, we don't live in this perfect world, and we'll consider that below.)

Suppose, on the other hand, that you're a DIYer because you enjoy it. Then why don't you do such projects full-time, for money? Comparative advantage isn't defined solely by your ability to create *x*-number of widgets per hour; it is also determined by how little pay you are willing to accept in exchange for making those widgets. That amount falls if you enjoy performing the task. (Think of Ivy League grads working for peanuts in the offices of Major League Baseball teams). If you actually enjoy an activity that the market remunerates with pay, then why work without pay to produce precisely the amount you want to consume, but without performing those tasks at all for money?

The answers to both of these questions lie in an economic fundamental: transaction costs. In his famed 1937 article, "The Theory of the Firm," Nobel economics laureate Ronald Coase explained how and why firms choose to hire workers versus outsourcing everything. Transaction costs help explain this. It is difficult and costly to contract out each individual task on a case-by-case basis. Firms will be more profitable if they simply hire workers on long-term contracts to perform the tasks rather than go through this process endlessly.

Similarly, you should do it yourself when the process of hiring someone to perform the task for you is too costly. It is not difficult, generally, to hire someone to mow your lawn on an ongoing basis. In contrast, cutting a shrub after a sudden realization that it has grown too long is assuredly a time to do it yourself.

One could argue that not everyone can afford to hire someone to mow his lawn. However, if we take the idea of comparative advantage seriously enough, does this argument make sense? Suppose my marginal revenue product is $9 an hour. For any other employment, including mowing my lawn, the implicit marginal product of my labor must be less than $9. In a frictionless labor market (a caveat relevant only for the short run), the argument for mowing my own lawn because I cannot afford to hire someone is an argument for working another hour at my job. It is actually prudential to do the thing that seems imprudent to do: "waste" money on outsourcing my yard work.

The argument that "DIY is a consumption good" should also be considered in light of transaction costs. I enjoy cooking, but I do not believe I could find someone who would hire me to cook only when I want to. But it's certainly imaginable that there are many people out there who would be better off if they took a four-hour shift on Friday nights working at a restaurant. The reason why I cannot easily contract to work for someone is that no one I know would want to hire me to make chicken parmesan for a dozen people on a Friday night.

One other justification for you to do it yourself is that markets may be too thin for you to purchase exactly what you want. The rationale of customization is one of the better arguments for DIY. If a Google search for the precise good you wish to purchase does not yield the correct item, it may indeed be rational to do it yourself.

Negative-sum game? / The reasoning presented above reduces the question about DIY to conventional microeconomic

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A formal presentation of this argument is forthcoming in the *Independent Review*.

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issues. What are the transaction costs? Are there labor market frictions preventing you from finding a job with the exactly optimal number of hours for you to work? Are markets too thin for you to find just what you want? It is easy to criticize neoclassical economics for assuming *homo economicus* and leaving out the essentials of what it means to be human, but these are pretty basic ideas that should inform what consumers do. Unfortunately, these ideas are generally absent from those DIY websites and TV shows.

The underlying logic of "saving money" is really viewing the market as a negative-sum transaction. In this view, when you buy something from Walmart, you are somehow getting the brunt of the negative sum. This is why "buy it at Walmart" so rarely enters discussions of DIY advocates. The fact that Walmart profits from the transaction becomes ipso facto evidence that you would be better off doing it yourself, even if that means that an anesthesiologist is spending three hours of her labor to "save" $7.

What gives rise to these intuitions is the underlying psychology of folk economics, a concept developed by Emory University economist Paul Rubin in an article of the same name published in the *Southern Economic Journal* in 2004. Our brain is built to think about economics in certain ways, just as it is built to think about biology or the physical world in certain ways. But these ways are optimized for the period during which the human brain evolved. The world of positive-sum transactions is relatively new. When confronted with a member of another tribe or an entity that is perceived to have only its own interests in mind (like a multinational corporation), the human mind reflexively sees zero-sum as the best outcome for the exchange.

Humanity living under capitalism is the economic equivalent of a world made up of illusions. Our brains struggle to operate in either world. These forces give rise to what George Mason University economist Bryan Caplan calls anti-market bias in his 2007 book, *The Myth of the Rational Voter*.

Irrationality or preference? / This raises a question: is anti-market bias a cognitive mistake or is it a simple distaste for engaging in market transactions? One may argue that this bias undercuts our ability to figure out how to best choose the most efficient way of achieving what we set out to do. But others may not see it that way. French economist Antoine Beretti and colleagues argue in a 2013 article in *Kyklos* that monetary exchange comes with repugnancy costs built in, meaning people may dislike the idea of monetary exchange just as they may dislike the idea of eating a cat (though perhaps not as extreme).

The issue of interpretation—are people being irrational or is this simply reflective of preferences?—is very similar to the murky question of sunk costs. (Do we accept illusions because we have a preference for being fooled?) A sufficiently strong statement on the subjectivity of value would require economists to accept the public's annoyance at ignoring sunk costs as a preference. But since economics textbooks do not take this position, it would be consistent to see repugnancy toward markets as irrationality, not a preference.

Businesses perform cost-benefit analyses to help assess complicated choices when the profit-maximizing path is not immediately obvious. I submit that DIY should be approached the same way, with reasonable figures attached to the value of your time (i.e., your hourly wage rate). Any such analysis would, of course, consider the fact that many DIY activities are in part consumption goods. But the situations where DIY actually makes sense pertain to the economic imperfections of the real world: transaction costs are greater than zero, frictions exist, and there are not an infinite number of sellers and buyers. These are simply not the primary stated reasons of the many advocates of doing it yourself. Hence, in many cases DIY is a mistake, owing to distrust of markets. *R*

BRIEFLY NOTED

When Does Antitrust Activity Stifle Innovation?

BY IKE BRANNON

When does an improved product become an entirely new and different product than what it's improved upon, and when does the government consider that new product to constitute a monopoly that needs to be broken up? The legendary agricultural equipment maker John Deere is about to find out.

In 2014 the company came out with a new planter that featured an innovative system allowing it to plant seeds while moving as fast as 10 mph, or twice as fast as planters normally go these days. Besides saving farmers a lot of time, the big advantage of this system is that it allows more of a crop to be planted at an optimal time in the growing season, thereby boosting yields.

Shortly after Deere unveiled this innovation, a company called Precision Planting, a division of Monsanto, came out with its own high-speed planting system that could be attached to existing planters to achieve the same precision and speed as the Deere planter. Deere responded the next season by coming up with its own high-speed planter attachment for existing planters. Soon afterward, Precision Planting partnered with two of Deere's major competitors—Case–International Harvester and AGCO (whose brands include Massey Ferguson)—to allow them to offer Precision Planting's technology as an option on their new planters.

At the end of 2015—about 18 months after the appearance of high-speed planters—this flurry of activity culminated in Deere making an offer to buy Precision Planting, which was accepted. Last month, the Justice Department's antitrust division announced it would sue to stop the merger, claiming that the combined entity would have a virtual monopoly over the high-speed planter market and would thus be anticompetitive.

Distinct market? / Of course, whether there is a separate "high-speed planter market" or just one broad market for planters fast or slow is the relevant question to ask. After all, scarcely two years ago there was no such thing as a high-speed planter, and the majority of planters being used in the field today are not high-speed planters. The two are interchangeable and it's still not completely clear just how much the new version improves field output. No one seems to think that every farmer will have a high-speed planter in the near future.

These days most economists tend to be leery of claims that a merger will produce a harmful monopoly. As long as competing firms have the ability to enter the market, it stands to reason that new firms will appear if Deere sets the price on its planter too high. However, the Justice Department produced a memo from one of Deere's employees stating that the merger would "lock up" the market for high-speed planters, owing to the patents and intellectual property that the combined entity would hold.

Maybe that would be true in the short-run, but there's no reason to think that competing companies couldn't figure out a way to come up with their own original innovations and boost market share. If Deere charges too high a price, its competitors will have a very lucrative incentive to do precisely that. In fact, two competitors—Kinze and Horsch—have already entered and together comprise nearly 15% of high-speed planter sales. The Justice Department's complaint describes Kinze's and Horsch's products as inferior and suggests they would never be as efficient as the Precision Planting or Deere products, but that implies a degree of foresight that would be unusual for a bureaucrat.

The government isn't very prescient when it comes to determining a market—Microsoft's domination of the market for internet browsers in the late 1990s didn't last terribly long or inflict too much lasting damage, despite the government's con-

PHOTO COURTESY OF JOHN DEERE

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cerns about that market concentration.

The Justice Department's lawsuit isn't the last word, of course; normally it negotiates with the parties involved in mergers it doesn't like in order to reach some sort of settlement that the bureaucrats deem acceptable. But in the case of John Deere and Precision Planting, such talks apparently came to naught—predictably, perhaps, since there does not seem to be much that could be spun off to lessen the combined entity's market share. Besides, it's quite likely that the DOJ and Deere have completely conflicting viewpoints about what the market share actually is. And it is hard to conceive of the company licensing its intellectual property to a competitor at some "reasonable" price negotiated by Justice.

Conclusion / It's hard not to conclude that the government's attempt to call high-speed planters a new market, distinct from other planters, amounts to moving the goalposts in the middle of a game. There's no evidence that not having high-speed planters will put any farmers out of business, or that every farmer (or even most farmers) will feel compelled to buy one even if his current planter is fully depreciated.

Two companies made sizeable investments in research and development and came up with a nearly identical innovation at precisely the same time that radically improved productivity for an existing product. The tight competition this engendered meant that neither manufacturer made nearly the profits it expected. So they merged. Condemning this as something government should stop is a difficult argument to make.

One thing is certain: if the Justice Department's decision to stop the merger is upheld, it will make some companies think twice about what sorts of innovations they pursue. *R*

Suggestions for President Trump's First Deregulatory Push

BY SAM BATKINS

President-elect Trump has promised that he will repeal many of the regulations issued by his predecessor and that this will help foster higher economic growth. The reality is more complex: without new legislation, he will find it difficult to roll back much of President Obama's regulatory handiwork. Even with the necessary legislation, there may be relatively little savings from such a roll-back. What Trump should be able to do is stop the implementation of rules issued in the waning months of Obama's term and work with Congress to identify and fix other problematic regulations.

The process / The Congressional Review Act (CRA) allows Congress, with the signature of the president (the important part), to repeal a regulation under expedited procedure in the House and Senate. The CRA has only been used successfully once, however, largely because instances of one party owning large congressional majorities and the White House are rare. (See "Do Presidents Rush Rules to Avoid the Congressional Review Act?" Fall 2016.)

The only successful CRA vote was in 2001, with the Department of Labor's ergonomics rule. A rare confluence of circumstances generated this successful repeal: an incoming Republican president who (like Trump) had promised to cut regulations, a Republican House and Senate majority (albeit narrow), and a regulation that was well-known, controversial, and issued in the waning days of the previous administration.

That rare combination returns in January 2017 with Trump, who pledged to repeal up to 70% of previous regulations, and a Republican majority in both chambers, many of whom also promised voters that they would do something about onerous regulations that are costing U.S. jobs. Republicans have spent the last few years laying the groundwork for comprehensive regulatory reform, from how courts grant deference to agencies to the role of congressional oversight and the practice of cost-benefit analysis.

Using the CRA might make sense, but if Congress has a large list of rules it wants to repeal then even using expedited procedures could consume valuable floor and committee time. Enter H.R. 5982, the Midnight Rule Relief Act, proposed legislation that would amend the CRA to allow joint resolutions of disapproval en bloc. This would permit the new Congress to review every rule finalized in the last 60 legislative or session days of the 2016 term, which would cover roughly the last six months of 2016. If the bill passes, then these rules would be generally stricken until Congress in essence redelegates the rulemaking power to agencies.

The rules / If Congress does pass the Midnight Rule Relief Act and it is signed into law, what rules would Congress consider repealing? The first one many conservatives want to target is the Clean Power Plan, President Obama's signature climate change rule. But because it was finalized in 2015, it is ineligible for review under CRA procedure. Thus, to undo the rule would require either a series of appropriations riders or the new administration following the Administrative Procedure Act to formally repeal the regulation.

There are a host of other notable and controversial regulations that many in Congress would like to address. Because

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the eligible period under the CRA stretches from sometime in May to the end of President Obama's term, the total universe of rules is close to 200. Here are some of the largest rules issued since May that could be repealed, along with their total estimated costs:

- Phase 2 Greenhouse Gas Standards for Trucks, $29.3 billion
- Overtime Rule, $2.9 billion
- Aviation Drone Rules, $2.5 billion
- Drilling in the Outer Continental Shelf, $2 billion
- Disclosure of Payments by Resource Extraction Issuers, $1.2 billion
- Fracking Emissions Standards, $890 million
- Fair Pay and Safe Workplaces, $872 million
- Treatment of Certain Interests in Corporations, $280 million

Combined, these rules will impose more than $5 billion in annual economic costs and 8.5 million paperwork burden hours. That $5 billion figure wouldn't get Trump anywhere near his 70% goal (depending on his denominator), but it would represent a rolling-back of regulatory activity and would doubtless please many of his supporters in the transportation, energy, and labor sectors. In addition to those rules, Congress could scrutinize new efficiency standards for refrigerators, which promise to raise prices for consumers.

Just out of the CRA's grasp is the Department of Labor's Fiduciary Rule, which will impose more than $31 billion in cumulative costs. The administration was wise to transmit that rule to Congress as soon as it was published in the *Federal Register*. It did the same with the Overtime rule, which may not be eligible for repeal depending on how many days Congress meets in December. Sometimes the delay in publication and transmission can take months.

There are at least five final rules awaiting formal publication that President Obama is planning to release before leaving office, all of which are related to energy and the environment and likely to pique the interest of Congress. For example, final rules governing natural gas production on public lands could cost more than $1.4 billion. The newest version of the Renewable Fuels Standard and the "Stream Protection" rule for the coal industry are also pending. Combined, these rules are estimated to cost $2.2 billion and generate 2.5 million new paperwork burden hours.

There are other rules not subject to CRA that Congress and the next administration may want to review separately. If they decide to go after the Affordable Care Act's most significant regulations, there will be plenty of targets: subsidies and regulations establishing federal exchanges, the de facto banning of Health Savings Accounts, and the Essential Health Benefits rules would likely be altered, for instance, and the regulations leading to standardized health plans—which Republicans have complained limit choice and drive up insurance costs—will also be ripe for review in any Affordable Care Act reform.

Limits to benefits from repeal / While Republicans may lament that the CRA only applies to the last few months of an administration, that may be for the best. While reaching further back might score some political points, repealing rules that have already been implemented for some time will have a negligible economic effect and may not pass a cost-benefit analysis. For example, the Environmental Protection Agency implemented the Mercury and Air Toxics Standards in 2012, and despite some legal setbacks in the courts, it has largely resulted in coal power plants shutting down or switching to natural gas. The seismic changes in the energy world—especially the shift to natural gas–fired generation—mean that these power plants will likely never operate again. Similarly, the Volcker Rule might be a credible candidate for repeal, but many financial institutions began winding down their proprietary trading desks as soon as Dodd-Frank passed and would not be reconstituted soon regardless of the applicable rules.

It is important to realize that repealing a few past rules won't affect economic growth or boost employment. Generally, a piecemeal deregulatory approach is hardly ideal, considering how little one rule affects the national economy and how easily future administrations can repropose measures. It would be far better

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for the new administration to contemplate broader procedural reform to provide for a lasting solution to regulatory accumulation. However, the Midnight Rule Relief Act would allow Congress to bundle dozens of major regulations, with billions of dollars in annual costs, and undo the final gasps of a presidency.

Few would dispute that the regulatory state imposes compliance burdens on U.S. businesses that total somewhere near $1 trillion, but significantly reducing that burden is a difficult task. While President-elect Trump promised to repeal 70% of all regulations, the near-term reality is that the best he could do would be to repeal a mere handful of recent regulations and save the economy $5 billion in annual compliance costs. However, such a step could prove to be the first big leap in a series of reforms that conservatives and libertarians have sought for decades that would change how our government issues and implements federal regulations. R

A Fatal Flaw with Climate Models

BY CHARLES L. HOOPER AND DAVID R. HENDERSON

Patrick Frank is a scientist at the Stanford Synchrotron Radiation Lightsource (SSRL), part of the SLAC (formerly Stanford Linear Accelerator Center) National Accelerator Laboratory at Stanford University. The SSRL produces extremely bright x-rays as a way for researchers to study our world at the atomic and molecular level.

In a bit of a shift, Frank has shone a bright light on general circulation models (GCMs)—models used to predict long-term changes in climate—and illuminated some fatal flaws. His bottom line is that these models, as they stand today, are useless for helping us understand the relationship between greenhouse gas emissions and global temperatures. This means that all the predictions of dramatic impending warming and ancillary calls for strong government action are based on conjecture.

Modeling climate / The atmosphere is about 0.8° Celsius warmer than it was 100 years ago. Given that the atmospheric concentration of carbon dioxide has risen 40% since 1750 and that CO_2 is a greenhouse gas, we have the antecedents for a compelling hypothesis: the increase in CO_2 has caused, and is causing, global warming.

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But a hypothesis is just that. For obvious reasons we can't test this hypothesis by running a controlled experiment where we increase and lower CO_2 levels around the globe and measure the resulting change in temperatures. Instead, scientists build sophisticated GCMs based on known and assumed physical properties and run them on supercomputers. They then compare the forecasted results for various scenarios to each other and to reality.

GCM forecasts for the years 1998–2014 predicted much greater warming than what actually happened. If the models were doing a good job, their predictions would cluster symmetrically around the actual measured temperatures. That is not the case here; a mere 2.4% of the predictions undershot actual temperatures and 97.6% overshot, according to Cato Institute researchers Patrick Michaels, Richard Lindzen, and Chip Knappenberger. Climate models as a group have been "running hot," predicting about 2.2 times as much warming as what actually occurred over 1998–2014. Of course, this doesn't mean that no warming is occurring, but rather that the models' dire forecasts have been wrong—at least so far.

Clouds / Another way to assess models is to look at internal errors and systematic flaws. Here's where Frank comes in.

To build a successful climate model, researchers need to include all the factors that can affect atmospheric temperatures. One factor to include is CO_2 levels. Another is clouds. Clouds both reflect incoming and trap outgoing radiation. A world entirely encompassed by clouds would have dramatically different atmospheric temperatures than one devoid of clouds. But modeling clouds and their effects has proven very difficult. The Intergovernmental Panel on Climate Change (IPCC), the established global authority on climate change, acknowledges this in its most recent *Assessment* report:

> **The simulation of clouds in climate models remains challenging.** There is *very high confidence* that uncertainties in cloud processes explain much of the spread in modelled climate sensitivity. [bold and italics in original]

What is the net effect of cloudiness? A cooler atmosphere. Some 342 watts per square meter (Wm^{-2}) reach the earth's atmosphere, on average, keeping it warm enough for us to thrive. Clouds both reflect incoming solar ultraviolet radiation, providing a cooling effect, and prevent the escape of infrared energy back into space, supplying a warming effect. The net effect of clouds is to cool the atmosphere by about 25 Wm^{-2}. This means that without clouds, more energy would reach the ground and our atmosphere would be much warmer. There's the rub.

Clouds are hard to measure and predict, and climate models have an uncertainty of ±4.0 Wm^{-2} that is due purely to clouds. This error is 114 times as large as the estimated extra energy from excess CO_2 (±4.0 Wm^{-2} versus 0.035 Wm^{-2}). In totality, the combined errors in climate models produce an uncertainty of about ±150 Wm^{-2}, which is equal to 44% of all

incoming energy and is over 4,000 times as large as the estimated extra energy from higher CO_2 concentrations. The underlying question that Frank raises needs to be addressed by climate scientists: How can the faint CO_2 signal possibly be detected by climate models hampered with such gigantic errors?

Frank points out that systematic cloud errors are the same across climate models, and shows that this could occur only if two conditions hold: (1) all the climate models employ the same theory, and (2) that theory is flawed. Further, Frank has published papers that explain how the errors in temperatures recorded by weather stations have been incorrectly handled and how temperature readings have an error of ±0.46˚C, not the ±0.2˚C claimed by others. In a 2011 article in the journal *Energy & Environment*, he states:

> The 1856–2004 global surface air temperature anomaly with its 95% confidence interval is 0.8˚C ± 0.98˚C. Thus, the global average surface air temperature trend is statistically indistinguishable from 0˚C.

For our purposes, we will focus on the fact that the CO_2 "signal" that climate scientists say is responsible for increasing temperatures is overwhelmed by the error in their own models.

It's really a signal versus instrument resolution issue. If you are timing a high school track athlete running 400 meters at the beginning of the school year, and you measure 56 seconds with your stopwatch that reads to ±0.01 seconds and your reaction time is ±0.2 second, then with your equipment you can clearly measure an improvement to 53 seconds by the end of the year. The difference in the two times is far larger than the resolution of the stopwatch combined with your imperfect reaction time, allowing you to conclude that the runner is indeed now faster.

What if this runner then dons some high-tech running shoes designed to knock 0.05 off the 53-second time? Your hypothesis is that the runner would be faster because of the fancy shoes, but can you actually measure such a small difference with the instrumentation at hand? No. There is no point in even running the experiment because you will have no way of knowing if the runner is slightly faster, is running at the same speed, or is slightly slower. That's the case with climate models and CO_2.

That's our way of putting it. In a 2008 article in the journal *Skeptic*, Frank puts it this way:

> It's as though a stronger and stronger distorting lens was placed in front of your eyes every time you turned around. First the flowers disappear, then the people, then the cars, the houses, and finally the large skyscrapers. Everything fuzzes out leaving indistinct blobs, and even large-scale motions can't be resolved. Claiming GCMs yield a reliable picture of future climate is like insisting that an indefinable blurry blob is really a house with a cat in the window.

The IPCC has looked at a number of different cases and it reports that temperatures could be, in the worst case, up to 4˚C higher by 2100. However, based on Frank's work, when considering the errors in clouds and CO_2 levels only, the error bars around that prediction are ±15˚C. This does not mean—thankfully—that it could be 19˚ warmer in 2100. Rather, it means the models are looking for a signal of a few degrees when they can't differentiate within 15˚ in either direction; their internal errors and uncertainties are too large. This means that the models are unable to validate even the existence of a CO_2 fingerprint because of their poor resolution, just as you wouldn't claim to see DNA with a household magnifying glass.

In a recent podcast for the Center for Industrial Progress, Frank concludes thus:

> Large systematic errors make projections of future Earth temperatures entirely unreliable. What do climate models reveal about a human [greenhouse gas] fingerprint on the terrestrial climate? Nothing.

He adds:

> One cannot say that CO_2 has definitely caused the mild warming in the climate. We have absolutely no idea what is going on. The climate has warmed and cooled in the past without any changes at all from us or from changes in carbon dioxide or apparently in greenhouse gases, and the changes that we've seen are well within natural variability, and so as far as we can tell, nothing important is going on.

He argues that, given this, there's no scientific merit to predictions of dramatic future warming, there's no reliability of the IPCC's warnings, and there's no evidence of a looming climate disaster from CO_2 emissions. The most rational thing to do right now about the "problem" of CO_2 emissions? Have the courage to do nothing.

For all the drumbeat of "the science is settled," the relationship between CO_2 emissions and climate change is a topic where our ignorance is far greater than our understanding. It would be wiser to wait until we have a more complete understanding of the atmosphere before committing to expensive policies. To do otherwise is to act based on conjecture. R

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Defending the Indefensible Mortgage Interest Deduction

BY IKE BRANNON

I hate the mortgage interest deduction (MID) and I never tire of telling people why. Its flaws are twofold: First, since it is a deduction, it means that a homeowner can benefit from it only if he has a big enough mortgage (combined with his other deductions) to bother with itemizing deductions rather than take the standard deduction. According to the Tax Foundation, only about 30% of all taxpayers currently do this—the richest third. Since the homeownership rate is around 62%, this means that less than half of all homeowners avail themselves of the MID. The ones left out would be the middle-class homeowners—the ones who could actually use some sort of housing assistance.

The second problem is the MID's benefits scale up with income, as homeowners move up into a higher tax bracket or buy more expensive houses. A guy making $75,000 a year with a $200,000 home in Peoria, Ill. gets a deduction of $1,500 from his mortgage interest—but only if he has enough deductions elsewhere to itemize, which he probably doesn't. The MID would save him less than $400 given his tax rate.

Meanwhile, a San Francisco tech entrepreneur making $500,000 a year and living in a $1 million home might deduct as much as $40,000, saving over $20,000—or almost 40 times the middle-class guy in the Midwest. The MID's benefit grows disproportionately with income, which is simply indefensible, and does little to boost homeownership.

And I'm setting aside the fact that few economists who study housing issues consider homeownership an unalloyed good worth subsidizing at all. The oft-repeated notions that homeowners are more civic-minded, more likely to be employed, and have more stable home lives may be true, but they confuse cause and effect and thus don't justify policymakers' attempts to create more homeowners.

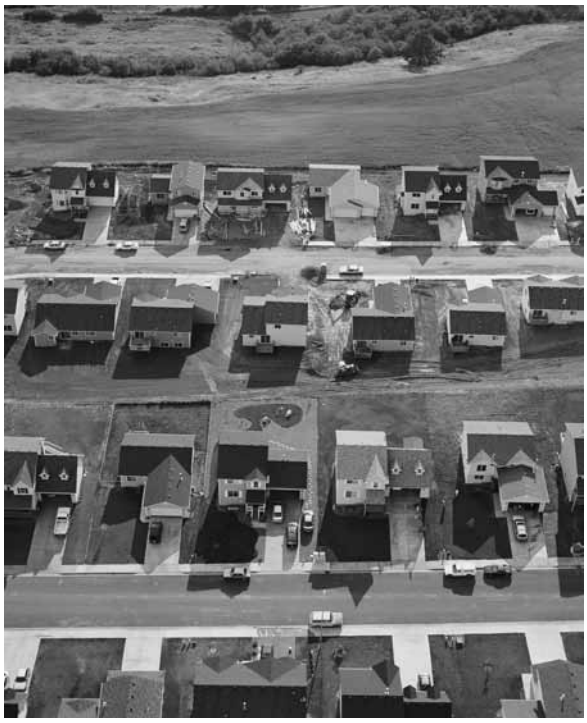

PHOTO BY THINKSTOCK

Most people in the real estate world understand these truths and behave accordingly when called on to defend the MID. A few months ago I was on a dais with an economist employed by a major player in the industry. After I vivisected the mortgage interest deduction, the microphone passed to him and he completely ignored my remarks, instead talking about something else. After the event concluded I asked him why he didn't respond to my comments. He explained that he and other industry reps realized long ago that a public-spirited defense of the MID simply does not exist, and that their practice, when put in a spot to defend it, is to simply change the subject. They know it's a fight they can't win.

Keynesian stimulus? / A few people never got that memo, however. As Congress has begun to explore tax reform more seriously, a couple of economists and institutions have given a full-throaed defense of the MID and its supposedly beneficial effects on homeownership and the economy.

One such effort is a 2014 paper from the Heritage Foundation, written by Curtis Dubay. He reasons that while the MID may do little to boost homeownership (acknowledging that its savings is fully offset in current home prices, which is yet another reason to dispense with the deduction), it is nonetheless good policy because it incentivizes the 30% of the population that do avail themselves of it into spending more money on housing. And, this reasoning continues, since housing represents an "investment" for these people, and investment is a key ingredient in economic growth, it therefore stands to reason that the deduction boosts growth.

It's an impressive sleight of hand: the trick employed here is to conflate the meaning of the word "investment." Economists reserve the word to mean money spent by firms on plant, equipment, technology, or other things that will boost productivity and future output. But people do not invest, they *save*. While savings creates funds available for firms to make investments, not all of what we save is used that way.

Housing is most emphatically *not* an investment; it amounts to one way for people to hold their wealth. When people spend more money on housing, it does not improve the productive capacity of the econ-

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omy one iota; indeed, the more wealth people have wrapped up in their home means they have less money available to put into stocks or bonds or their bank, where that money could be used to invest in expanding the capacity of the economy. In fact, some economists have blamed a portion of the slowdown in productivity growth in the early 2000s on the massive uptick in spending on constructing new homes.

Dubay implicitly acknowledges this uncomfortable fact and tries to zigzag around it by arguing that the increase in spending on housing *stimulates the economy*, and that the spending creates more jobs building houses, manufacturing home products, and the like. For a Heritage Foundation paper, this is a remarkably Keynesian argument. But it's Dubay's only option if he wants to defend the mortgage interest deduction. Without this situational embrace of a left-wing economic perspective, he would be caught in an utterly unjustifiable position—which, of course, he could avoid by simply choosing not to defend the deduction in the first place.

Main Street Republicans? / Jeffrey Anderson of the Hudson Institute offers a different defense of the deduction. He recently took issue with the tax plan released by House Republicans this summer for its effective, surreptitious gutting of the MID. The Republicans would nominally preserve the deduction, but they would create an environment in which few people take it.

Their plan would do this by boosting the standard deduction, lowering and flattening tax rates, and eliminating most other deductions. That means that fewer people would find it worth their while to itemize. If high-income earners are only saving 30 cents of each dollar of mortgage interest paid instead of 39.6¢, they would have to pay much more interest to make it worth itemizing. And if there are few other deductions a taxpayer can take, it means that the interest paid has to be higher still to make it worth itemizing and forgoing the standard deduction.

In particular, the deduction for state and local taxes tends to go arm-in-arm with the MID because most people with a mortgage will also deduct their property taxes, which can be anywhere from 40% to 100% or more of the amount of the mortgage interest deduction. Eliminating that deduction—which the House Republicans' plan would do—drastically reduces the size of a homeowner's tax deductions and makes it much less likely that she will itemize and, thus, deduct her mortgage interest.

As a result, enacting the Republican House tax plan would reduce the proportion of people itemizing from 30% today to less than 5%, according to estimates from the Joint Committee on Taxation. This, Anderson avers, would hurt "Main Street" Republicans, which is apparently his moniker for those in the 6th–30th percentile of the income distribution.

In essence, he appears to be arguing for a code with higher tax rates, more deductions, credits, and exclusions, and more tax brackets because—what? It would help the wealthy to afford their houses? It's sheer nonsense. It is not a secret that the housing and real estate industry would prefer to keep the present jury-rigged contraption of a tax code because of the outsized impact it gives to the MID, but it is not something they would ever admit. Bully for Anderson for clearly articulating that completely corporatist logic and then trying to spin it as good for the overall economy.

The sad reality is that the MID isn't going anywhere, simply because its patrons are too powerful. There are over one million realtors in the United States, many of whom are exceedingly wealthy, and their political arm, the National Organization of Realtors, takes in nearly $300 million a year. If the deduction ever came under attack, it's easy to conceive of them raising another $300 million to finance a defense. The various state-level realtor organizations collect hundreds of millions of dollars a year as well, not to mention the trade associations for the homebuilders, mortgage bankers, roofers, drywallers, plumbers, tile installers, title insurers, and the like.

The realtors and their allies know how to push all the levers of politics, as I've seen firsthand. A decade ago I wrote a speech for a politician I worked for that took an indirect swipe at the MID. When we traveled back to his home state the next month, he met with a group of local realtors. Their leader told him they were disappointed in his comments on the MID and they wanted to show their displeasure. Upon his command the 100 or so in attendance stood on their chairs and began yelling loudly. My boss profusely apologized and blamed it (correctly) on his economist. He instructed me to never touch the topic again.

The realtors and their allies are aggressive about heading off all assaults on the deduction. A few years ago I wrote a piece in my hometown paper in Peoria suggesting that a proposal that was then being floated to cap the mortgage interest deduction at $500,000 would be a good thing for the residents of the city. A six-figure ad campaign financed by Peoria's homebuilders, realtors, and mortgage bankers defending the deduction quickly ensued.

Shortly thereafter I called a realtor friend who pulled the listing of sales of houses over $600,000 in the area for that year—that is, homes that would be affected by such a cap. There were less than a dozen houses above that threshold. In essence, the ad campaign cost more than such a cap would have cost central Illinois homeowners.

There is no honest public policy rationale for the MID. It is a tax break that will cost the U.S. government nearly $1 trillion in the next decade while accomplishing nothing save for boosting the prices for the homes of upper-middle-class families. It also does nothing to make housing more affordable for the middle class and below. Those who attempt to argue otherwise do so via half-truths, semantic games, or obfuscation. *R*

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INTELLECTUAL PROPERTY

ARE THERE REALLY PATENT THICKETS?

Markets are highly adept at identifying and preempting transactional blockages.

BY JONATHAN M. BARNETT

In the ongoing debate over patent reform, it is common to assert that there are "too many" patents, or that patents are "too strong," or both. The result, so the argument goes, is that the patent system is being turned on its head. Rather than promoting innovation, the patent system slows innovation by entangling companies in a "thicket" of licensing negotiations and infringement litigation. But a minority school of thought has always expressed skepticism that thickets would ever persist. The reason is simple: markets don't like to leave money on the table. When a patent thicket persists and the commercialization pathway is blocked, then money is being left on the table because a deal that could be made is not being made. That missed opportunity would seem to provide a powerful incentive to think constructively about how to unravel the thicket. If so, then markets would be expected to arrive at a solution, unlock the suppressed value, and divide it accordingly.

This debate reduces to a factual question: do markets really tolerate thickets for any significant period of time so that innovation is actually delayed or hindered to a significant extent? In recent published research, I have tackled this question. The results are remarkably consistent across more than a century of experience in a variety of U.S. markets and survive close scrutiny of contemporary information and communications technology (ICT) markets characterized by intensive levels of patent acquisition and litigation. Contrary to the thicket argument, markets are adept at identifying, preempting, and unraveling intellectual property (IP) webs that could have slowed down innovation and commercialization. Whether it's radio, aircraft, and automobiles in the 1900s and 1910s, petroleum refining in the 1920s and 1930s, or ICT from the 1990s through the present, patent-intensive markets do not appear to suffer from the increased prices, reduced output, and delayed innovation that should appear if the thicket thesis were correct. This is true if the number of IP holders is small, which might be expected since the costs of reaching agreement are relatively low; but it is also often true when the number of IP holders is large, which is *not* expected.

I started by looking closely at the ICT market. This would seem to be an especially fertile environment for a patent thicket. Hundreds to thousands of patents can cover various components of a single device and those patents are typically dispersed among multiple holders. In *theory*, it is plausible that holders would fail to cooperate, a thicket would arise, and such products as the iPhone would never see the light of day. Yet big-picture trends in ICT markets all point away from that dark scenario. Simply compare the price and functionality of a laptop, tablet, or any other personal computing device today with the closest equivalent device 10 years ago. The comparison is remarkable: functionality continues to improve significantly while, adjusted for quality, prices decline significantly. Despite being "burdened" by heavy patenting activities, the electronics market shows every symptom of a healthy innovation ecosystem: lots of new features, declining prices, and expanding output.

All of this suggests that the right question to ask is not, how are patents delaying innovation, but rather, how are innovation markets doing so well even though patents are being acquired and enforced intensively?

ICT MARKET

ICT markets have figured out two solutions to patent thickets: standard-setting organizations (SSOs) and patent pools. The SSO structure is well-known: firms cooperate to agree upon a technology standard and then commit to license "essential" patents relating to the standard on "reasonable and non-discriminatory" (RAND) terms. The problem, as is also well known, is

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This article is based on two prior papers by the author: "The Anti-Commons Revisited" (*Harvard Journal of Law & Technology*, Vol. 55 [2015]) and "From Patent Thickets to Patent Networks: The Legal Infrastructure of the Digital Economy" (*Jurimetrics Journal*, Vol. 55 [2014]).

that the meaning of what constitutes "essential" and RAND is sometimes unclear.

A next step taken in some market segments is the pooling mechanism. The patent pool in its current form is typically organized by a third-party administrator, which then makes the licensed patents available to all interested licensees subject to a known royalty schedule and other terms. The pool has two virtues. First, it achieves economies of scale in licensing patents held by multiple holders to an even larger group of licensees. Second, it eliminates the pricing uncertainty inherent to the SSO structure. In doing so, the pool can promote adoption of the underlying technology standard as compared to a market that operates through a series of multiple "one-off" licensing transactions. Pools currently in operation cover fundamental standards that drive the digital economy, such as the "codec" standards used to store, transmit, and display audio, visual, and other data through set-top boxes, DVD players and discs, Blu-Ray players and discs, digital televisions, digital cameras, and MP3 players. The seemingly mundane licensing mechanisms administered by patent pools supply a good part of the legal infrastructure behind the revolutionary communications devices that are now a part of everyday life.

The pooling phenomenon exemplifies the basic principle that markets don't like to leave money on the table. For believers in the thicket thesis, transactional blockages are just that: a dead end. For the market, however, those blockages are a profit opportunity that invites entry by transactional entrepreneurs, who innovate by offering an administrative solution that makes all interested parties better off.

PHOTO BY THINKSTOCK

BEYOND ICT

A patent skeptic might still contend that the modern ICT market could be a special case. True enough, although this possibility stands in some doubt because repeated survey studies of potential patent thicket effects in the biomedical space—the setting in which the thicket thesis was initially asserted—have found little supporting evidence. Alternatively, it might be asked whether the ICT market has something to say about markets' ability to

address IP thickets in general.

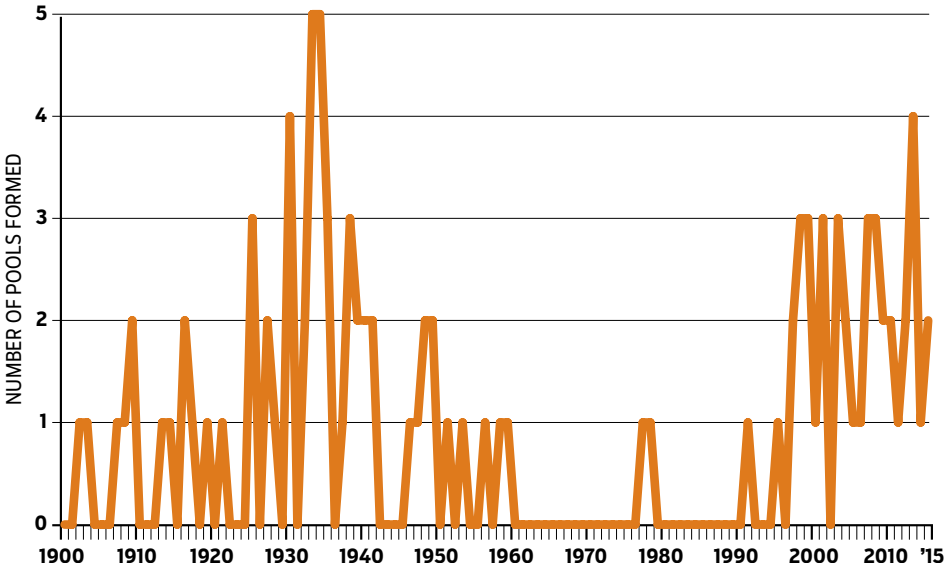
In an inquiry relevant to both perspectives, I studied over a century's worth of market efforts to resolve IP thickets through pooling and similar arrangements in technology and content markets. Based on publicly available information, I documented a total of 106 IP pools and similar arrangements during 1900–2015, which is almost certainly an understatement because of data limitations in older periods. My findings are set forth in Figure 1.

Clearly markets regularly form pools to address, preempt, and unravel patent thickets by pooling IP rights and have been doing so for a long time. The pattern persists from the beginning of the 20th century, when pools were formed to resolve thickets in automobiles, aircraft, and petroleum refining (among others), to the present, when pools have been formed to facilitate the promotion of various electronics standards. Markets even outperform theoretical models by successfully forming pools in high transaction-cost environments in which IP rights are held by a large group of dispersed holders. Of the 106 documented pools formed since 1900, I found that 22 were formed by groups consisting of 10 or more licensors. (These are all modern pools formed by third-party administrators.)

As Figure 1 shows, however, pooling largely ceased during the postwar period (approximately the 1940s through the mid-1990s). The reason is governmental distortion: while never making an explicit prohibition, the antitrust agencies had increased liability for pooling to such high levels that no firm would rationally undertake such a venture. From 1933 to 1938, I found that 21 documented pools were formed, of which 90% were contested on antitrust grounds and all of which were dissolved or modified. The lesson is clear: markets are adept at forming pools so long as courts and agencies honor the contractual arrangements that underpin them.

Figure 1

DOCUMENTED IP POOLS IN U.S. MARKETS (1900–2015)



MARKET SLOWDOWN?

It might be objected that, while markets are figuring out how to resolve a patent thicket through pooling, innovation slows down to some significant extent. We can never entirely resolve this question because it involves an unknown "what would have happened" counterfactual. But the available evidence on some key markets in which this claim is routinely made casts doubt on that possibility.

To illustrate, consider the famous litigation between 1903 and 1911 over the "Selden" patent, which claimed the internal combustion engine used in motor vehicles. The Federal Trade Commission, perhaps following the lead of academic commentary, has described the litigation as a case in which aggressive patent litigation—and the resulting legal uncertainty—blocked innovation and delayed growth in the early automotive industry.

However, there's a problem: the facts do not support this contention. Historical market data show that Ford (the primary target of the holder of the Selden patent) and its shareholders thrived throughout the litigation, as did the motor vehicle market generally. From 1903, the year in which the holders of the Selden patent commenced an infringement litigation against Ford, through 1911, the year in which Ford prevailed in the litigation, Ford's shareholders enjoyed an increase in revenues from $1.3 million to $42.5 million, an increase in profits from $283,000 to $13.5 million, and an increase in annual dividends from $88,000 to $5.2 million. At the same time, the U.S. auto market expanded even under the threat of patent litigation, as production of motor vehicles increased from 11,000 in 1903 to 210,000 in 1911. Most importantly, innovation did not cease during this time: in 1908, Ford introduced its key breakthrough, the Model T automobile. Again, the facts are clear: there is simply no slowdown in market expansion as the thicket thesis would anticipate.

PATENT POOLS

There is one disclaimer to all of the above. We might, and should, be concerned that patent pools and the associated royalty schedule could be used as a disguised mechanism for enforcing some type of collusive scheme. Horizontal licensing arrangements among patent holders, or a "hub and spoke" conspiracy coordinated through a series of vertical contracts with a single pool

administrator, would provide the necessary infrastructure.

This is a legitimate concern and was the reason why antitrust law effectively prohibited pools from the 1940s through the mid-1990s and why the antitrust agencies took a close look at (but ultimately gave a green light to) early attempts to resuscitate the pool structure in the late 1990s. The concern was understandably salient (although not typically demonstrated) in the case of pools formed in the early 20th century, which were often closed arrangements confined to a small number of large incumbents.

A key component of the narrative that has supported "patent reform"—through both the America Invents Act of 2011 and Supreme Court decisions—turns out to be largely unsupported in multiple markets.

In hindsight, however, it is clear that the agencies grossly overstepped. Antitrust policy since at least 1995 has recognized the countervailing efficiencies of pooling and similar arrangements and, through agency actions, has signaled to the market its tolerance for pooling structures that incorporate structural precautions to mitigate collusion risk.

Based on my study of publicly available information on all currently operational patent pools in the ICT markets (in particular, the pools administered by the leading pool administrator, MPEG LA), these pools tend to conform closely to that implicit regulatory template and sometimes even exceed it. Three features are particularly comforting to an antitrust eye and stand in contrast to the early 20th-century pools. First, modern pools are typically administered by a third-party entity that has a repeat-player's interest in setting "reasonable" fees for the licensee population, which must be persuaded to join other pools the administrator may establish in the future. This accounts for approximately 95% of all documented pools formed between 1995 and 2015. Second, modern pools are open vertical arrangements that make the pooled patents available to all interested parties willing to agree to the license terms. Third, at least in the case of the MPEG LA pools in the ICT market, the pools include a nondiscrimination clause according to which licensors are treated the same as licensees. That means that every cent that is added to the pool's license royalty will also be paid by a licensor to the extent that (as is almost always the case) it at least licenses some patents from the pool for its manufacturing and other activities. If the licensor is a net licensee from the pool (that is, it pays in more royalties than it receives back out), then it should oppose any increase in the royalty. In short: there is limited likelihood that an open, vertical, and externally administered patent pool could be used to inflate prices and divide up profits among a pack of conspiring patent holders.

CONCLUSION

What can we learn from all of this? The most general lesson is that current reflexive skepticism among academics, policymakers, and significant business constituencies toward the value of the patent system may not always rest on solid ground. A key component of the narrative that has supported "patent reform"—through both the America Invents Act of 2011 and Supreme Court decisions—turns out to be largely unsupported in multiple markets extending over a century's worth of historical experience.

To be sure, it may be the case that certain markets suffer from patent thickets for certain periods of time. But the fundamental question is whether those effects *persist and matter*, resulting in significant "macro" harms to innovation and commercialization. Plus, keep in mind that we haven't discussed any of the gains that can be fairly attributed to the patent system—namely, increased innovation and improved ability to commercialize IP assets through financing, licensing, joint ventures, and other transactions.

Based on the evidence to date, there does not appear to be a credible reason to believe that markets actually suffer from commercially significant patent thicket effects for any sustained period of time, so long as courts honor pooling and similar arrangements that markets devise to avoid those effects. There may be other good reasons to be skeptical about certain features of our current patent system. However, the thicket thesis is not one of them. *R*

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ENERGY & ENVIRONMENT

BEYOND THE LOW-HANGING FRUIT

How should policymakers judge environmental regulations when marginal costs are rising and marginal benefits are falling?

BY CRAIG LOEHLE AND ERIK B. SCHILLING

How clean should our air and water be? One would think that the federal Clean Air Act and Clean Water Act would answer that question. But they do not. Instead they instruct the administrator of the U.S. Environmental Protection Agency to issue ambient air and water quality standards for substances that would reasonably be expected to endanger public health or welfare. The standards are to be set to protect the public health with an adequate margin of safety, and so the EPA reviews the scientific literature for any evidence of harms to any subgroup of the population and then establishes standards at lower levels. Over time, the results of those requirements have been increasingly stringent standards.

Early pollution control efforts were often able to take advantage of simple, relatively inexpensive technologies and focused mostly on obvious problems (e.g., undrinkable river water). Those efforts usually resulted in obvious benefits at modest cost. That "low-hanging fruit" was often followed by further regulations requiring more sophisticated technologies or systems that improved environmental quality further, but at higher cost. The results of those efforts were the nation's air and water becoming markedly cleaner than they were 100 years ago.

But the tightening of regulations has continued. Recent updates of pollution standards have often been very costly (and in some cases impossible) to achieve, and the incremental improvements in health have often been vanishingly small if not zero.

We believe that environmental laws should be amended to eliminate low-benefit, high-cost policies. In plain language, we believe that environmental regulation should be subject to a budget constraint. We do not spend unlimited amounts of money to reduce auto fatalities, nor should we do so to improve environmental quality.

CRAIG LOEHLE is a principal scientist and ERIK B. SCHILLING is a senior research scientist with the National Council for Air and Stream Improvement.

The authors declare no conflicts of interest. This work does not necessarily reflect the views of the authors' employer. Dedicated to the memory of Al Lucier.

BENEFITS AND COSTS

The rationale for ambient air and water quality standards is reduced morbidity and mortality. The evidence for the ill effects of exposure to pollutants comes from epidemiological studies or experiments. Because current levels of pollutants are low relative to the past and relative to background levels that occur from natural sources or pollution from outside the United States, studies that can reliably distinguish small health effects from no effects would require very large sample sizes that are impossibly expensive to administer. So the evidence used to set standards comes from exposure evidence at much higher doses, which is then extrapolated statistically to predict what occurs at the lower exposures that are actually experienced by people in the environment.

Many argue that such low-dose extrapolations mischaracterize the current level of harm from the low levels of radiation, mercury, airborne particulates, or ozone experienced in the United States. As a result, these extrapolations overestimate the health benefits of more stringent regulation. In our view the EPA has made health benefit claims that seem overly generous. How can large reductions in mortality be attributed to new rules on ozone and fine particulate matter when direct links of these pollutants to health (e.g., asthma) are tenuous at best? (See "The EPA's Implausible Return on its Fine Particulate Standard," Spring 2013, and "OMB's Reported Benefits of Regulation: Too Good to Be True?" Summer 2013).

Costs / In order to maximize the net benefits of environmental regulation, one must know not only the benefits but also the costs. To economists the most dubious provisions in environ-

mental law are those that prohibit the consideration of costs. The standards set for particulates (soot), sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, and lead under the National Ambient Air Quality Standards section of the Clean Air Act cannot take cost into account, by law.

Other sections of the Clean Air Act regulating other pollutants do not explicitly prohibit the consideration of costs. However, the EPA often resists taking costs into consideration when regulating those emissions, and the courts have historically given deference to the EPA. But in June 2015, the U.S. Supreme Court ruled that the EPA is required to consider costs when deciding whether it is "appropriate and necessary" to regulate the emission of mercury and other air toxics from power plants.

Even though the EPA can't consider the costs of environmental regulatory compliance for many pollutants, those costs have been calculated by economists. In their well-known 1996 *Science* article, Kenneth Arrow et al. estimated that total environmental compliance costs in the United States were at least $200 billion at that time and are certainly higher today. From 1977 to 1986, industries whose pollution abatement costs increased the most experienced the largest relative gain in imports of that industry's products, probably because of the "pollution haven" effect—the expansion of producers in places that have less stringent environmental regulation. Judith Dean et al., in a 2009 *Journal of Development Economics* paper, documented the pollution haven effect for companies within certain industry segments opening facilities in China. Anthony Barbera and Virginia McConnell, in a 1986 *Journal of Industrial Economics* article, found both capital and labor productivity growth over the period 1960–1980 to be negatively affected by pollution control expenditures in the paper, chemical, and primary metal industries. In a 1995 *Academy of Management Journal* paper, Thomas Dean and Robert Brown found that environmental standards can act as a barrier to entry for new firms. Water quality protection practices during timber harvest operations in the Midwest were shown to reduce net revenue by 1%–50%, depending on what types of controls were required in a particular case. Industry modernization may be postponed if new facilities are required to meet more stringent standards, a "grandfather clause" effect that often factors prominently in new power plant construction decisions. (See "What's Old Is New: The Problem with New Source Review," Spring 2006.)

From these studies one can conclude that even when environ-

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mental regulation attacked obvious, lower-remedial-cost pollution problems during the first 30 years of the EPA's existence, industrial profitability and competitiveness were negatively affected. More recent efforts to attack more esoteric problems have even higher costs.

To illustrate how costs can accelerate rapidly as zero residual pollution is approached, consider municipal wastewater treatment. Most municipalities have supplemented simple and cheap primary treatment with secondary and often tertiary treatment, including features such as aeration and ultraviolet light treatment that have higher costs.

Technologies that can deliver even cleaner water exist, but the costs are so high that they are found only in demonstration plants. For example, one could distill water: boil it and then collect the water so as to leave pollutants behind. In Naperville, IL (home of one of the authors), wastewater treatment costs about $10 per person per month (based on monthly residential bills). With a typical per-person usage of 200 gallons a day, the per-gallon treatment cost is 0.1644¢ per gallon. The retail price of distilled water (not laboratory grade) is conservatively $1.20 per gallon and home distillation can cost about 30¢ per gallon in energy costs. However, let us assume a process cost of 10¢ per gallon. At this price distilled water treatment would be 61 times more expensive than current treatment costs (and many costs of existing treatment will remain because the resulting waste must still be transported and solids removed). This means that *monthly* sewage treatment costs using distillation would be $2,400 for a family of four. These are, of course, very approximate numbers, but they illustrate the exponentially rising nature of costs to achieve greater degrees of pollution control.

Current environmental standards are costly not only because of the increasingly esoteric technologies, but also because the goals are not always clear and sometimes are outright unattainable.

AMBIGUOUS STANDARDS

Current environmental standards are costly not only because of the use of increasingly esoteric technologies, but also because the goals are not always clear, not always differentiated from natural variation, and sometimes are outright unattainable. We suggest that standards have unambiguous regulatory endpoints and procedures to verify attainment that are easily differentiated from background exposure.

Regulatory endpoints / When a standard is designed to avoid an adverse effect on biota, it is important for "adverse effect" to be defined. While it might be obvious that an algae-covered pond is adversely affected, many other cases are not so obvious. For example, stream and pond biota are naturally variable in space and time and even a healthy pond might have small algal blooms at times. Thus, defining "adverse effect" as differences in biological communities upstream and downstream from a facility or activity may not be appropriate because biota can vary for many reasons, and differences may not indicate that a biological community has been affected by an activity or that a stream is impaired. Ecosystem or water body "health" is likewise a vague concept that must be made explicit in terms of either aquatic community structure or designated uses. "Impairment" is a binary classification, but effects are multifaceted, continuous, and vary in space and time.

To be relevant, endpoints should consider the process of interest. For example, some equipment types such as diesel generators or trucks have elevated emissions on startup or when they malfunction. If short-term emission limits are imposed during startup, such devices can never be used because the startup emission burst cannot be prevented. Recent proposed standards eliminated exemptions associated with startups and shutdowns. Standards that are ambiguous with respect to whether means (arithmetic or geometric), totals, or instantaneous values are to be regulated create uncertainty and raise costs. They can also complicate enforcement.

Natural and other sources / Some pollutants arise from natural as well as industrial sources or from industrial sources outside the United States. Cost-effective standards must take into account all causes of impairment. Let us consider an example: the Chlorophyll-a standard for a water body. When the standard is exceeded, point source nutrient concentrations are reduced in an attempt to produce compliance. If, however, non-point nutrient sources or natural ecosystem processes contribute most to elevated concentrations, then exclusively reducing point source loadings will not lead to improvement in the biotic response.

In other cases, pollutants are ubiquitous and detections may be incorrectly attributed to local manufacturing facilities or land use operations. Mercury and other pollutants can be generated elsewhere (e.g., China, volcanoes), deposited from the air onto a watershed, and enter water bodies used for industrial processes. Dioxins and fine particulate matter are created by wildfires. Thus, local or point sources may not be responsible for exceedances. Such a case was documented in the Willamette River Basin in Oregon, in which polychlorinated phenyl (PBC) levels resulted almost entirely from legacy sources and transport rather than from local sources.

Other natural "pollutants" include plant volatile organic

compounds (VOCs) that create haze and photochemical smog, dust (particularly in dry parts of the country), pollen, organics in streams that stain the water, natural arsenic in groundwater, and radon release by rocks. Determining "baseline" or "background" conditions when natural and/or non-U.S. industrial sources exist may not be straightforward. For example, near-surface ozone is produced as a result of reactions of sunlight with VOCs emitted by plants, and natural levels vary temporally and spatially.

Attainability / The extent to which a standard is attainable also should be given serious weight in standard setting. This issue has become more critical as measurement technologies have improved such that parts-per-billion levels of many toxics can be found virtually everywhere. There is a divergence between the detectability of pollutants and the ability and need to address them. A standard may not be attainable for a municipal or industrial point source because of a lack of available treatment technology, excessive cost to implement the technology, inherent process fluctuations, or other reasons. For example, different types of water filters will each only capture certain compounds and none of them will remove substances such as tritiated water, a radioactive form of water in which the oxygen atom is replaced with tritium. In industrial processes, production of certain compounds is always accompanied by production of trace amounts of impurities such as PCBs, which can be created when, for example, printing inks are manufactured. In such cases, reducing a pollutant to parts-per-billion levels may be an unattainable goal.

Attainability can be looked at another way. We can ask whether the proposed standard is really necessary to achieve the environmental or health goal society desires. If, for example, there is a point below which a pollutant is low enough that its effect is indistinguishable from "noise" in terms of testable mortality rates (or it is ranked far down the list of causes of illness), then it might be judged that we have already attained our health goal. If removing a pollutant will not improve prospects for aquatic fauna or water quality, then that pollutant is not limiting ecosystem function.

Initial water quality standards for dissolved oxygen (DO) in Florida provide a perfect example of unattainable water quality standards and their unintended consequences. The development in 1979 of DO criteria for Florida waterbodies was intended to ensure that there is enough oxygen in waterways to allow for the growth and reproduction of aquatic species. Unfortunately, these initial standards were based on very limited scientific information, specifically inadequate data on the response of freshwater organisms to low DO concentrations. Because of natural phenomena, Florida's DO concentrations did not correlate with the state's 1979 DO criteria for many fresh and marine water systems that were deemed to be high-quality waters with diverse aquatic biota. Even more problematic was the fact that the 1979 DO criteria did not explicitly include language regarding an acceptable departure from natural conditions as it did for other natural stressors (e.g., conductivity, pH, and temperature). The implications of this oversight did not become readily apparent until the implementation of the Total Maximum Daily Load program where the lack of a specific natural background clause for DO resulted in numerous natural waters being identified as impaired for DO. This meant that the law indicated that the cleanest natural waters needed to be "cleaned up," but no technology exists to do so (and, of course, many of those water bodies are healthy). To address this issue ,the Florida Department of Environmental Protection collected extensive data to provide the scientific foundation for the state to propose revised and more accurate (i.e., biologically relevant) DO criteria for the state's freshwaters and marine waters. This resulted in the Florida Environmental Regulation Commission approving the revised DO criteria in May 2013, and the EPA, in turn, approving them later that year.

CONCLUSION

There is broad societal consensus that measures should be taken to protect the environment. As a result, over the last 50 years there clearly has been progress in reducing water and air pollution. However, regulatory clarity, economic costs, the feasibility and efficacy of available technologies, detectability issues, and natural variability should be considered, particularly when attempting to establish numeric environmental standards. Expensive solutions for trivial gains in environmental quality can divert limited resources from more important issues for both agencies and the regulated community and can erode support for the overall environmental protection enterprise and adversely affect important industries.

Many environmental regulations were promulgated before it was possible to detect trace levels of pollutants and before it was understood that many pollutants are naturally occuring and ubiquitous. Current environmental laws stating that costs and attainability cannot be considered conflict with the reality that many standards are reaching the point at which further improvements may not be possible. We suggest that when developing environmental standards, legislators and regulators consider potential unintended negative consequences and natural variation that may render standards unattainable or assessment of compliance impossible. *R*

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HEALTH & MEDICINE

THE FDA'S DR. NO's

The agency's fear of Type II errors inhibits drug development and harms patients.

BY JOHN J. COHRSSEN AND HENRY I. MILLER

The U.S. Food and Drug Administration has a long history of dragging its feet when evaluating badly needed drugs. An extraordinary article last January in the *New York Times* ("F.D.A. Regulator, Widowed by Cancer, Helps Speed Drug Approval," Jan. 2, 2016) revealed how Richard Pazdur, who has headed the agency's oncology drugs group since 1999, was widely viewed as an obstructionist bureaucrat—until his wife developed ovarian cancer in 2012. (She died last November.) Suddenly, Pazdur became a self-described "regulatory advocate" and approval times for cancer drugs have dropped.

Pazdur is one of the legion of "Dr. No's" at the FDA, as described by former National Cancer Institute director Vincent DeVita in his book, *The Death of Cancer* (Sarah Crichton Books, 2015). Their excessive and often capricious interpretation of the new-drug "efficacy" requirement—gauging drugs' effectiveness—lengthens development times and stifles drug research. DeVita points out the paradox that the requirement to demonstrate a new drug's effectiveness was the congressional response to a *safety* (not effectiveness) concern raised by the tragic birth defects caused by the drug thalidomide that was administered to pregnant women in the early 1960s.

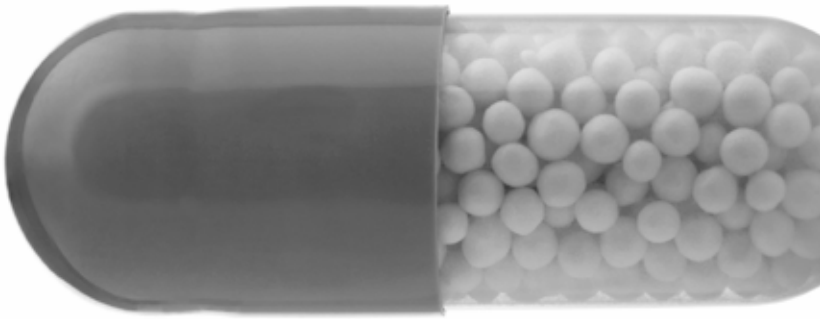
The Drug Efficacy Amendment (also called the Kefauver–Harris Amendment) of 1962 added the requirement for proof of efficacy, as determined by "adequate and well-controlled trials," to the criteria for a new drug to be marketed. Ironically, the change would not have prevented the thalidomide tragedy.

The amendment did not actually require evidence from new *randomized* clinical trials in order for a drug to gain approval. In fact, it mentions using historical controls or data from the natural history of untreated patients to satisfy the efficacy requirement. The requirement for new trials was added by FDA regulations—a power grab by regulators that has expanded with legal requirements, if not scientific justification, over the past half-century. As DeVita laments:

> Today we seem to be mindlessly wedded to the use of randomized control trials. They have their place. But randomized clinical trials can be unethical.

EVALUATING EFFICACY

The FDA has striven to create an aspirational "gold standard" for drug efficacy. But perhaps counterintuitively, efficacy is a subjective and sometimes elusive construct because drugs can vary in



their effectiveness according to the genetics of the individual treated and the nature and severity of a given patient's disease.

An important factor unrelated to genetics or pathophysiology is the particular way the FDA requires efficacy to be measured and statistically evaluated. Regulators may choose to accept only certain types of evidence—for example, a so-called "double blind" study for a drug (in which neither the investigator nor the patient knows whether the patient is getting an active drug or placebo), instead of simply comparing the test group to historical controls. This choice stands even if it is obvious that treated patients show remarkable benefit and it would arguably be unethical to have an untreated control group.

A critical measure of efficacy in a clinical trial is the "endpoint," the defined goal that the new drug is intended to achieve. Sometimes a "surrogate" endpoint is used as a second-order indicator

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of clinical benefit when a definitive endpoint such as prolonged survival would be impractical. For example, for the prevention of heart disease and stroke, an improvement of patients' blood lipid profile is accepted as an appropriate surrogate and, therefore, an acceptable measure of efficacy.

A subtle point is that the FDA's determination of efficacy does not imply that a drug will work every time or in every patient. A particular drug might work only for a small fraction of patients for a certain indication or condition, while a different drug might work in a different fraction of patients for the same purpose.

Thus, a finding of efficacy in a clinical trial means only that the statistical analysis indicates that the drug has a positive effect overall in the test population. But in individual patients, it might have the desired effect almost always, sometimes, infrequently, or not at all. For example, the widely prescribed blood thinner Plavix works poorly in perhaps nearly a third of the tens of millions of patients who take it because they have a genetic variant of an enzyme that is needed to convert the drug to the active form, and their bodies can't fully activate the drug. But virtually all patients benefit from treatment with certain hormones like insulin and thyroid hormone.

REGULATORS' INCENTIVES

Regulatory decisions are influenced in unobvious ways by various bureaucratic incentives and disincentives. "Gatekeeper" regulators—who must make an affirmative decision about a product, process, or activity before it can be marketed—can make errors of two kinds. A Type I error permits something bad to happen eventually because of flawed decisionmaking—for example, European regulators' approval of thalidomide in the 1950s and 1960s. This type of error is highly visible and appropriately elicits unfavorable attention on regulators and industry from the media, Congress, and the public.

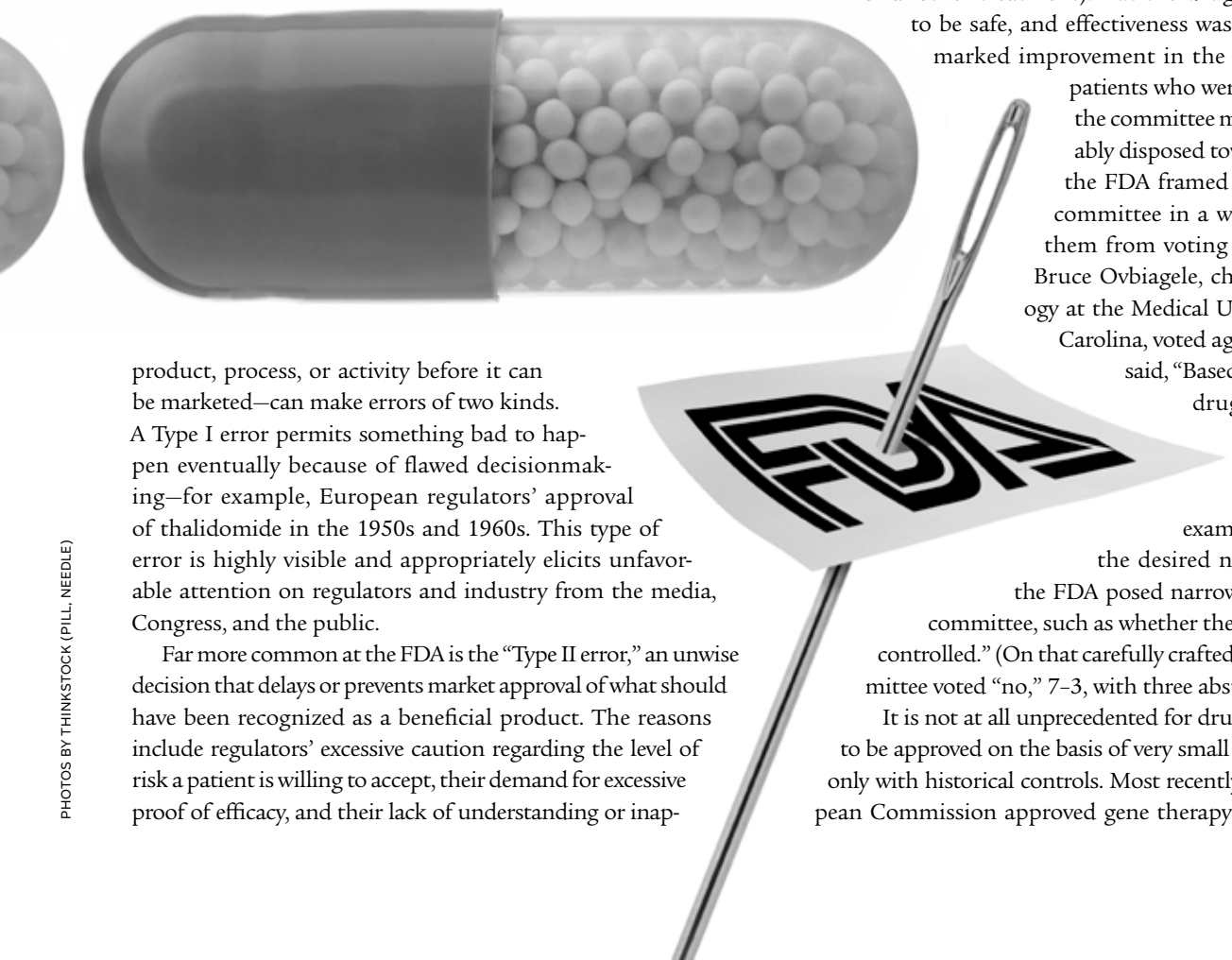
Far more common at the FDA is the "Type II error," an unwise decision that delays or prevents market approval of what should have been recognized as a beneficial product. The reasons include regulators' excessive caution regarding the level of risk a patient is willing to accept, their demand for excessive proof of efficacy, and their lack of understanding or inappropriate anxiety about a new product or technology. These Type II errors are usually a media non-event, eliciting little attention. Drug manufacturers hesitate to antagonize the FDA or alarm investors by making too great a fuss over delayed approvals, and most often comply with the FDA's demands for additional data or jumping through other hoops.

The FDA's bias toward more career-friendly Type II errors has perpetuated the presence of Dr. No's who are reluctant to approve potentially harmful products at almost any cost, and who unnecessarily delay or reject new products of all sorts, including drugs, vaccines, medical devices and even artificial sweeteners and fat substitutes.

A regrettable Type II error is the FDA's recent decision to withhold marketing approval of the new Duchenne muscular dystrophy drug eteplirsen. It follows a revealing demonstration of the FDA's dysfunction during an advisory committee meeting in April. Old-timers can recall an era when the FDA convened experts to supplement the agency's expertise on especially arcane issues of science, medicine, and statistics, and to make recommendations about marketing approval. Now the FDA often orchestrates panels to provide "cover" for its decisions, even framing questions to the committees in ways that nudge them to arrive at a preordained but dubious decision.

The pivotal clinical study on eteplirsen was small and used only historical controls (instead of direct comparison to a placebo or another treatment). But the drug had been shown to be safe, and effectiveness was evident from the marked improvement in the symptoms of the patients who were treated. Many of the committee members were favorably disposed toward the drug, but the FDA framed questions for the committee in a way that prevented them from voting their convictions. Bruce Ovbiagele, chairman of neurology at the Medical University of South Carolina, voted against approval but said, "Based on all I heard, the drug definitely works, but *the question was framed differently*." For example, in order to get the desired negative responses, the FDA posed narrow questions to the committee, such as whether the studies were "well controlled." (On that carefully crafted question, the committee voted "no," 7–3, with three abstentions.)

It is not at all unprecedented for drugs for rare diseases to be approved on the basis of very small studies performed only with historical controls. Most recently, in May the European Commission approved gene therapy for a rare genetic



PHOTOS BY THINKSTOCK (PILL, NEEDLE)

immunological deficiency after clinical trials on only 18 patients (12 in the pivotal study).

REFORM

The tragedy of eteplirsen is not only for the victims of Duchenne muscular dystrophy, but also for victims of other diseases who lack access to promising new medicines when no other treatments are available. They have been victimized not only by illness but also by the FDA's thirst for control, aversion to Type I errors, and disregard for patients' welfare.

This is not a new phenomenon. During the AIDS epidemic of the 1980s, the FDA came under fire and its headquarters were literally stormed by AIDS activists protesting regulators' unwillingness to expedite the availability of new drugs to patients with no alternatives. The frustration of the Reagan administration led Vice President George H.W. Bush to create a blue-ribbon National Committee to Review Current FDA Approval of New Drugs for Cancer and AIDS. The committee presented a report to Bush after he became president, with recommendations that could have eased the FDA's cumbersome regulatory red tape not only for drugs to treat cancer and AIDS, but also other life-threatening illnesses. "Some of the drugs may eventually be found either to be ineffective or to present an unacceptable benefit-risk ratio," the report said, but it also posited that "patients with life-threatening diseases who have no alternative therapy are entitled to make this choice." Patients with AIDS and cancer told the panel that they were "willing to accept this greater risk" in view of the seriousness of the diseases.

The committee's report made clear the extent of over-regulation and offered recommendations to improve the FDA's performance. They included the following concepts, which have not been implemented:

- **New policies.** Using statutory and administrative flexibility, the FDA should approve AIDS and cancer drugs for marketing expeditiously and at the earliest possible point in their development. (We would add to this other experimental drugs for life-threatening illnesses for which there are no alternative treatments.)
- **Structural changes.** Establish an independent Permanent Policy Oversight Committee, reporting directly to the secretary of health and human services, to monitor the FDA's needs and performance with regard to the regulation of drugs and biologics for human use. Also, restructure the FDA advisory committee system so that all committees have their own independent staff located in the Office of the FDA Commissioner, responsible for their own agenda and closely monitoring the progress of the new drug approval system. Finally, solidify close cooperation among the FDA, the National Cancer Institute, and the National Institute of Allergy and Infectious Diseases to address issues of clinical endpoints and other drug development/approval problems.
- **Clarify "effectiveness."** The FDA should pay particular attention to the statutory definition of "substantial evidence" of effectiveness. That definition reflects the intent of Congress that new drugs be approved for marketing on the basis of the scientific judgment of qualified experts that sufficient clinical data exist to demonstrate therapeutic benefit. The FDA should develop and encourage the design of clinical trials to permit widespread access to investigational drugs without sacrificing statistical analysis of drug effectiveness.
- **Institutional review boards.** New drug sponsors should be able to submit proposed Phase I clinical studies to only an institutional review board (IRB) for approval, instead of redundant review by IRBs and the FDA. Phase I and Phase II of noncommercial clinical research aimed at finding new uses for marketed drugs should also be handled through an IRB in lieu of FDA review.
- **Earlier access.** The FDA offers a mechanism—Treatment Investigational New Drug Applications (INDs)—for "expanded access" by large numbers of patients to not-yet-approved drugs. When alternative therapies are unavailable, such applications should be implemented in a flexible way to permit the drugs' use earlier in the development process. Patients should have the right to obtain an investigational drug under expanded-access INDs when there is assurance that clinical trials are under way and will not be compromised.
- **Reimbursement.** The cost of investigational drugs, and marketed drugs prescribed for indications not yet approved, as well as ancillary medical care, should be covered by Medicare, Medicaid, and private insurance, if the use has been approved by expert government agencies, in authoritative medical compendia, or by a committee established by the secretary of health and human services to address these issues.
- **Extra-governmental review.** Sponsors of new drugs should have the option of paying the FDA for outside review of New Drug Applications by qualified experts.

Not surprisingly, FDA officials vigorously resisted the committee's conclusions and recommendations. They claimed the recommendations would diminish the agency's power and reduce the responsibility of drug manufacturers to collect definitive clinical evidence of a drug's effectiveness.

CONCLUSION

A quarter of a century later, the FDA boasts a new generation of Dr. No's who fail to respect the willingness of desperate patients to assume the risks of therapies whose safety and efficacy have not yet been definitively determined. In the absence of such reforms, patients are suffering and dying unnecessarily.

Congress should do what is needed to transform the FDA's Dr. No's into responsible and accountable regulators. Adopting the still-needed recommendations from 25 years ago would be a good start—a boon to patient care and to innovation in drug research and development. *R*

THE AMERICAN DREAM

IN AMERICA, free enterprise and entrepreneurship are under assault from myriad government regulations — ranging from laws censoring advertisements to burdensome licensing requirements to outrageous "certificate of necessity" laws that allow established businesses to veto their own competition.

When Kentucky businessman Raleigh Bruner wanted to start a moving company, bureaucrats told him he couldn't — because existing companies thought there were enough competitors already.

Fortunately, Raleigh and other victims of overreaching government have a powerful ally to fight back — Pacific Legal Foundation. We litigate pro bono to uphold the constitutional guarantees of limited government, free enterprise, property rights, and individual liberty. We took Raleigh's case to court and won.

As America's first freedom-based public interest legal foundation, PLF is proud to stand up for the constitutional right to earn a living — from coast to coast.

Learn more about Raleigh's case and PLF's 40-year legacy of rescuing liberty at *pacificlegal.org*.

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REGULATORY REFORM

THE HIGH COST OF PROTECTING (MORBID) JOBS

State laws favoring mortuaries save jobs but hurt consumers.

BY DAVID E. HARRINGTON

America is losing jobs in the funeral industry. Many are good-paying jobs, albeit morbid ones. According to the U.S. Census Bureau, the number of funeral directors, embalmers, and attendants decreased from 59,217 in 2000 to 50,815 in 2012. That's a 14.2% drop in just 12 years, despite a rising number of deaths as older baby-boomers reach the end of their lives. One might have thought that funeral industry employment would be rising, not falling.

Why is the number of jobs decreasing? It's not because the Chinese are taking them or undocumented immigrants are doing them. It's because of changes in technology and tastes, leading to an increase in the cremation rate. People who choose cremation are less likely to have their loved ones embalmed and to have visitations. As a result, funeral directors are spending less time in embalming preparation rooms and parlors. They are also spending less time in conference rooms because it takes less time to help customers pick out urns than caskets and to arrange memorial services than funerals.

Figure 1 illustrates the toll that the increasing popularity of cremation is taking on funeral directors' jobs. As the cremation rate increased from 25.9% in 2000 to 43.1% in 2012, the number of funeral directors decreased from 247 per 10,000 deaths to 217, and then fell further to 196 in 2014.

The story I'm telling is one of changing demand. Of course, it is also possible that fewer people are willing to enter the profession of caring for dead bodies over time, causing a decrease in the supply of funeral directors. If so, we would expect wages to have increased in order to coax more people into caring for dead bodies. That's not what's happening. The wages of salaried, full-time funeral directors decreased from $28.22 per hour in 2000 to $22.33 per hour in 2012, measured in 2016 dollars. They also worked fewer hours per week over that time—the average number of hours worked decreased by four hours per week among those who worked at least 10 hours per week.

Is government doing anything to save these jobs? Yes, state governments are. In the next part of this article, I describe two examples of how states have recently changed their laws to protect funeral directors from decreases in demand caused by the growing popularity of cremation. Of course, this was not the story

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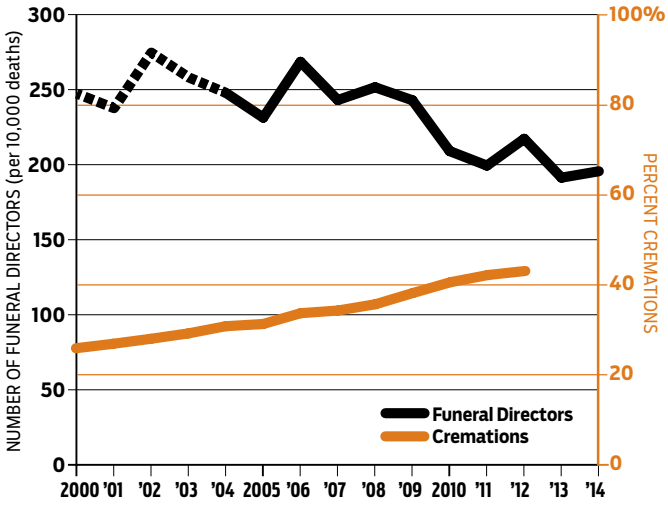
FIGURE 1

CREMATION'S TOLL ON FUNERAL DIRECTOR JOBS



SOURCES: 2010 U.S. Census, 2001–2014 American Community Surveys (ACS), and Cremation Association of North America. Note: To be included, workers must have worked at least 10 hours and had an occupation code for funeral directors, embalmers and attendants. The dashed line corresponds to the small samples of 2001–2004.

PHOTO BY THINKSTOCK

proponents pitched to lawmakers in order to get the changes they desired; instead, they argued that the changes would protect consumers against poor-quality cremations. In the second part of this article, I investigate whether state "ready-to-embalm" laws protect funeral directors against the rising tide of cremations by privileging traditional funerals over low-cost cremations.

CLOSING A LOOPHOLE IN GEORGIA

On an atypically warm day in February 2002, a woman walking her dog in northwest Georgia stumbled upon a human skull. Her discovery was the first of 339 bodies that investigators would find on the grounds of the Tri-State Crematory. The bodies were littered in the woods, abandoned in sheds, stuffed into vaults, dumped into ponds, and discarded in rusting hearses. A few still had toe tags. Some were recognizable. Most were difficult to identify. Urns that the crematory had given to funeral homes, which were then passed on to the families of the deceased, contained powdered cement mixed with burnt wood chips and potting soil. Some bodies were never found.

The families had not dealt directly with the crematory because it sold its services only to funeral homes. The crematory charged $200 to $250 per cremation, which included picking up the body

and delivering the "ashes" to the funeral home. One funeral director characterized the amount Tri-State charged as a "rock-bottom" rate. Another said he had not visited the crematory since the 1980s. Neighbors couldn't remember when they last saw smoke from the crematory, or smelled its faint but distinctive odor.

The Tri-State Crematory scandal was big news in 2002, especially in Alabama, Georgia, and Tennessee, where funeral directors had contracted with Tri-State for cremation services. More than two-thirds of the 387 newspaper articles on Lexis/Nexis that mentioned the scandal in 2002 appeared in those states' newspapers. After the story broke, consumers must have wondered whether they could trust crematories to handle their loved ones responsibly. The growth of cremations in the three-state area slowed noticeably after the scandal, before bouncing back in 2004.

Three days into the scandal, journalists began asking why government regulators had not caught such egregious behavior. Georgia's governor, Roy Barnes, pledged to seek new regulations to prevent similar scandals in the future. Others began talking about closing a loophole in the state's funeral laws.

To understand that loophole, we need to return to 1992 when Georgia had last changed its laws concerning crematories. Legislators had pretty much ignored crematories up to that point because there were so few of them. But their numbers were growing, especially around Atlanta, as consumers increasingly chose cremation. In 1992, Georgia enacted a law requiring crematories *open to the public* to be licensed, submit to inspections, and employ full-time licensed funeral directors, who in Georgia must also be embalmers. Tri-State Crematory had to do none of those things because it was a wholesaler, not a retailer of cremations.

The loophole was closed in 2002 with the deletion of the words "which is open to the public." Hence, Georgia now requires crematories that are independent of funeral homes to hire specialists in embalming, a skill that is useless for independent crematories and those specializing in low-cost cremations. But Georgia did much more than just close the loophole. It slammed the door shut on independent crematories by requiring them to have many of the facilities required of funeral homes, including chapels with seats for at least 30 mourners. The only important exception is that they don't have to have embalming preparation rooms.

Talk about raising rivals' costs! It's like requiring bus companies to hire airline pilots and build runways next to their terminals.

Requiring crematories to hire licensed funeral directors is an unusual licensing requirement. Scanning state statutes, I could find only two other states with this requirement: Idaho and Oklahoma. No other state requires crematories to have chapels. Not surprisingly, Georgia has very few independent crematories, ones that are operated outside of funeral homes. An industry directory—nicknamed the Yellow Book by industry professionals—currently lists 97 crematories in Georgia. Only two are independent of funeral homes: one is located in a cemetery and the other in an industrial park.

Impeding the entry of independent crematories increases costs for two reasons. First, crematories operated by funeral homes are less likely to exploit economies of scale. For example, 13.3% of the 165 crematories in Florida in 2012 were operated independently of funeral homes, based on data from Funeral Industry Consultants. Independent crematories in Florida performed, on average, 976 cremations in 2012, compared to 591 by those operated by funeral homes. Using cremation retorts—the furnaces used for cremation—more intensively drives down average costs since modern cremation retorts are capable of completing cremations in 60 to 90 minutes.

Second, funeral homes without crematories spend more time traveling to cremation services providers because they prefer not to have cremations done by local rivals in the funeral industry. Economist Lori Parcel estimates that the extra travel costs raise the price of cremations by 4% in markets without independent crematories. The price of cremations is also likely to be higher in markets without independent crematories because independent crematories tend to offer lower wholesale prices.

What is the cost to consumers of saving funeral directors' jobs via Georgia's slamming the door on independent crematories? Here's a rough calculation:

Suppose the percentage of independent crematories in Georgia would have been the same as in Florida without Georgia's law and that Georgia's independent crematories would not have willingly hired embalmers. Assuming no change in the total number of crematories, Georgia's law would have saved 11 jobs.

Suppose the law caused the retail price of cremations to rise by 4%. It's easy to quibble over using Parcel's figure to estimate the cost of saving jobs. I like it for two reasons. First, it's produced by a rigorous study that establishes that the absence of independent crematories increases the retail price of cremations via the increased travel costs of funeral directors. Second, I think it's an underestimate because it doesn't incorporate the effects of lost economies of scale and greater market power created by the law.

Given that there were 24,735 cremations in Georgia in 2012 and that the average retail price for cremation nationally is roughly $3,200, Georgia consumers are spending nearly $300,000 for each funeral director's job preserved by the law. The average earnings of salaried funeral directors in Georgia are $49,354, according to the most recent five-year sample of the American Community Survey. Hence, consumers are spending nearly $300,000 annually for each $50,000 job that they're saving via the protectionist Georgia law.

RETAKING CHARGE OF CREMATIONS IN FLORIDA

In 1978, the Federal Trade Commission wrapped up a 10-year investigation of the funeral industry with a blistering report that accused funeral directors of exploiting vulnerable consumers. The FTC lawyers presented a mountain of testimony about how funeral directors strong-armed consumers into purchasing excessively expensive funerals. Above all else, the lawyers argued, funeral directors aimed to "discourage[e] the use of alternative

forms of disposition, notably direct cremation and other low cost services."

State legislators in Florida must have heard about the FTC's investigation. Shortly after the release of the final report, they created a new type of occupational license for people specializing in selling cremations that include neither a viewing nor memorial service—a package of services called a "direct cremation" within the industry. The legislators called the new occupation, a bit disparagingly, "direct disposers" and imposed much less extensive requirements on them than funeral directors. The legislators also created a separate license for direct cremation establishments, which could be operated out of the operator's home or the backroom of a funeral home.

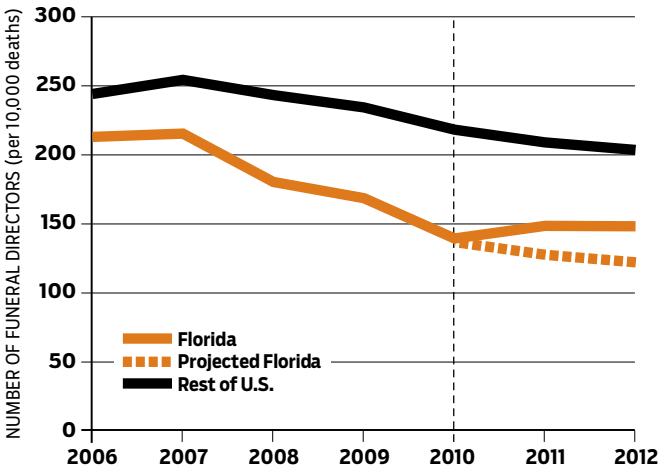
Prior to 1979 only licensed funeral directors were legally permitted to sell cremations in Florida. They weren't happy about their new competitors but confidently predicted that direct cremation would never account for more than 1% of the state's cremations. They were wrong. By 1999, direct cremation firms were handling 20% of the state's cremations.

The Florida Funeral Directors Association (FFDA) lobbied Florida legislators to rein in direct cremation but didn't have much luck until 2004 when they convinced legislators to bar operators from operating out of their homes or the backrooms of funeral homes. Six years later, in 2010, the FFDA convinced legislators and the governor to require direct cremation firms to employ a full-time licensed funeral director to supervise their operations. Sound familiar? It's a lot like Georgia's law. As of 2010, funeral directors were once again in charge of cremations in the state of Florida.

Figure 2 illustrates the effect of the change in Florida's law. The change appears to have stopped the decrease in the number of licensed funeral directors, saving 254 funeral directors' jobs if the trend would have been the same as elsewhere had the law not been changed. That's a 6% increase over 2010. I think it's plausible given the importance of direct cremation firms and the extent to which they have been throttled by the changes in the law.

FIGURE 2

DID RETAKING CHARGE OF CREMATIONS BY FLORIDA'S FUNERAL DIRECTORS SAVE JOBS?



COUNTERING CREMATION WITH READY-TO-EMBALM LAWS?

Back in 1910, funeral directors gathering at their national convention in Detroit had one thought on their minds: how to reduce the number of funeral directors and undertakers so as to make the occupation more prosperous. The National Funeral Directors Association (NFDA) initially conspired with casket manufacturers, but that scheme was shot down by the courts. It had more luck with state legislators and governors, convincing them to enact licensing laws that imposed training requirements on funeral directors. It was so successful that the NFDA "largely wrote the modern statutory law of the dead," according to a 2013 article by Wake Forest law professor Tanya Marsh.

Much of the law focuses on the qualifications to be an embalmer, which is a skill that funeral directors believe places them in the same league as surgeons. Just as surgeons need operating rooms, embalmers need embalming preparation rooms. At the beginning of the 20th century, the NFDA lobbied state legislatures to require all funeral homes to have embalming preparation rooms and all funeral directors be trained to use them. These "ready-to-embalm" laws have been defended on the grounds that funeral homes should always be prepared to touch up bodies in a timely fashion even if they had been embalmed elsewhere.

The NFDA used the licensing of funeral directors to reduce the overcrowding problem and improve the prosperity of funeral directors. The rising popularity of cremation resurrects the overcrowding problem because it erodes the prevalence of embalming and, as a result, is a threat to the prosperity of funeral directors. The stringent licensing of funeral directors based on ready-to-embalm laws has become more important to the NFDA even as it has become more archaic. I expect that the NFDA will use the licensing laws that it largely wrote to mitigate the threat of cremation to the prosperity of its members, perhaps by slowing its growth or by dampening its effects on funeral expenditures.

Putting the brakes on cremation? / States with ready-to-embalm laws have more funeral directors and lower cremation rates than the states without these laws. But the trends are remarkably similar to states without such laws, mirroring what is presented in Figure 1. Cremation rates are rising and the number of funeral directors are falling everywhere. Between 2000 and 2012, the cremation rate increased by 18.1 percentage points in ready-to-embalm states and 14.4 percentage points in states without these laws. Hence, ready-to-embalm laws are not powerful enough to put the brakes on the growth in the popularity of cremation, but may temper the decrease in the number of funeral directors.

Table 1 presents the results of regressing yearly changes in the number of funeral directors on contemporaneous and lagged

changes of the cremation rate using data on 48 states over 12 years. Both of the one-year lags of the cremation rate are statistically significant. What this means is that states experiencing larger increases in the number of people choosing cremation have fewer funeral directors, but not immediately. It takes a year to see the effects of an increase in the cremation rate on the employment of funeral directors. That earlier changes in cremation rates help explain later job losses increases my confidence that the estimates are causal because it implies that contemporaneous omitted variables are not generating the results.

Consider the case of Minnesota, where according to the *Twin Cities Pioneer Press*, "Cremation rates [have] steadily crept up a percentage point or two each year so that by 2011 [cremation was more popular than burial]." The largest "creep" was 3 percentage points between 2005 and 2006. Since Minnesota is a ready-to-embalm state, the regression results presented in column (2) can be used to predict the effect of this one-year creep on the number of funeral director jobs. Using the coefficient on the lagged cremation rate, we predict that this number would have fallen by 21 per 10,000 deaths one year later, i.e., between 2006 and 2007. Using all three coefficients, the number of funeral directors would have fallen by 33 per 10,000 deaths over three years. Given that the annual number of deaths at the time was 37,500, we predict that Minnesota lost 124 morbid jobs—funeral directors, embalmers, and attendants—because of that single creep.

It could have been worse for Minnesota's funeral directors. They could have lived in nearby Missouri, which is not a ready-to-embalm state. Using the regression results from column (3), we predict that Minnesota would have lost an additional 11 jobs from that single creep had it not had its ready-to-embalm laws.

Over the years 2000–2012, the cremation rate in ready-to-embalm states increased by 18.1 percentage points. Using the same basic approach as with the Minnesota creep, I estimate that the ready-to-embalm laws saved 16.6 morbid jobs per 10,000 deaths in states with these laws. Given that the average annual number of deaths in ready-to-embalm states was 1,726,238, I estimate that ready-to-embalm laws saved 2,965 morbid jobs between 2000 and 2012.

Expenditures keep rising? / Figure 3 illustrates the trends in funeral expenditures (per death) over time in states with and without ready-to-embalm laws. The data on funeral expenditures are only available every five years from the Economic Census while the cremation data are available annually. The amount people spent at funeral homes barely changed in states without ready-to-embalm laws but continued to rise in states with the laws.

The first two columns of Table 2 present regressions that explain changes in funeral expenditures using only changes in the cremation rate between the years of the three most recent Economic Censuses. The change in the cremation rate is statistically significant only for the sample of states with ready-to-embalm laws, suggesting that consumers in those states can reduce their funeral expenditures by choosing cremation. Given that the cremation rate increased by 16.0 percentage points between 2002 and 2012 in states with ready-to-embalm laws, the coefficient implies that consumers saved, on average, $284 per death because of the rising cremation rate. If the savings only accrued to the third of consumers who chose cremation, then they would have saved $852 per death. Surprisingly, the change in the cremation rate does not explain changes in funeral expenditures in states without ready-to-embalm laws.

The third regression tells us that the difference in the coefficients on the change in the cremation rate in the first two regressions is not statistically significant, which is not surprising given how imprecisely these coefficients are measured, especially in the small sample of states without ready-to-embalm laws. The last regression drops the interaction term, principally to make it easier to interpret the effect of ready-to-embalm laws on the change in funeral expenditures. It tells us that funeral expenditures have been rising faster in states with ready-to-embalm laws than those without them. Consumers could mitigate the increase by opting for cremation, but the net effect was still positive even when I added an interaction term to the specification.

Ready-to-embalm laws saved approximately 2,965 jobs over the 13 years from 2000 to 2012 at the cost of higher expenditures on caring for the dead. A job that would have been lost in the first year saves 13 years of employment; a job that would have been lost in the last year saves only one. Spreading the jobs saved linearly over those years implies that

Table 1

INCREASES IN THE CREMATION RATE EXPLAIN NEXT YEAR'S JOB LOSSES

	Dependent Variable: Δ(Funeral Directors per 10,000 deaths)$_t$		
	All States (1)	States with Ready-to-Embalm Laws (2)	States without Ready-to-Embalm Laws (3)
Δ(Cremation Rate)$_t$	-3.98 (1.05)	-4.52 (1.08)	0.33 (0.05)
Δ(Cremation Rate)$_{t-1}$	-7.67* (1.94)	-6.89* (1.67)	-16.66* (1.92)
Δ(Cremation Rate)$_{t-2}$	1.07 (0.20)	0.37 (0.06)	4.38 (0.67)
R-square	0.01	0.01	0.04
Sample Size	420	334	86

Notes: Absolute value of robust t-statistics in parentheses. * = significant at 10%. Regressions are weighted by the minimum of the sample sizes used to estimate the change in the number of funeral directors. Alaska, California, and the District of Columbia are excluded because of missing data. Additional lags were not statistically significant.

TABLE 2

EXPLAINING RECENT CHANGES IN FUNERAL EXPENDITURES

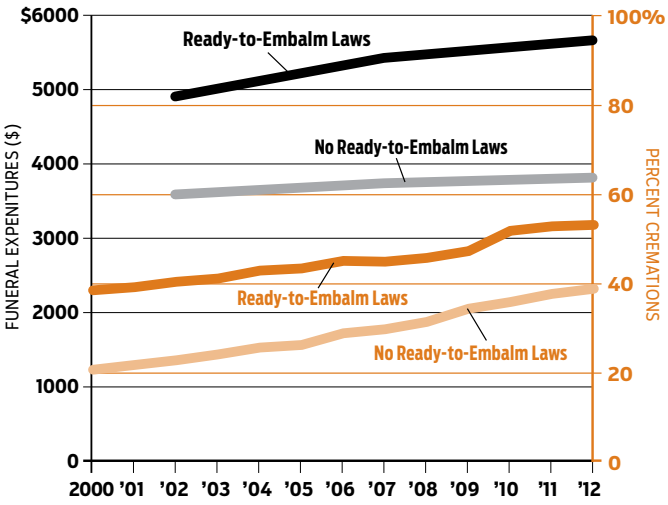
	Dependent Variable: Δ(funeral expenditures per death)$_t$			
	States with ready-to-embalm laws (1)	States without ready-to-embalm laws (2)	All states (3)	All states (4)
Δ(Cremation Rate)$_t$	-17.72* (1.74)	32.34 (0.87)	32.34 (0.91)	-12.14 (1.13)
Ready-to-Embalm Laws (1 = yes)			716.70*** (2.69)	344.57*** (4.51)
Ready-to-Embalm Laws · Δ(Cremation Rate)$_t$			-50.05 (1.35)	
Constant	526.35 (6.03)	-190.35 (0.73)	-190.35 (0.76)	137.39 (1.48)
R-square	0.03	0.05	0.22	0.2
Sample Size	78	18	96	96

NOTE: Absolute value of robust t-statistics in parentheses. * = significant at 10%; ** = significant at 5%; *** = significant at 1%. Regressions are weighted by the number of deaths in the state. Alaska, California, and the District of Columbia are excluded because of missing data.

19,273 years of employment were saved by ready-to-embalm laws. Spreading the more rapid rate of funeral expenditures linearly over those years implies that typical consumers in ready-to-embalm states had their funeral expenditures rise by $382 more than elsewhere. Multiplying by 22.4 million deaths in ready-to-embalm states and dividing 19,273 years of employment implies that consumers in ready-to-embalm states are paying an extra $443,979 per year of employment saved. In contrast, the average earnings of salaried funeral directors in ready-to-embalm states are $46,255, according to the most recent five-year sample of the American Community Survey.

FIGURE 3

FUNERAL EXPENDITURES ARE RISING IN SPITE OF RISING CREMATIONS



SOURCES: 2002, 2007, and 2012 Economic Censuses and the Cremation Association of America.

CONCLUSION

Over the last half century, American funeral directors have experienced a decrease in the demand for their services as consumers have increasingly chosen cremation over burial. No longer is nearly every body embalmed, nor does nearly every funeral involve a visitation at the funeral home. With each funeral director having less to do, the country needs fewer of them than it once did.

The National Funeral Directors Association has attempted to protect its members by lobbying for new state laws that would create supervisory positions for licensed funeral directors at firms that specialize in cremations and by defending ready-to-embalm laws that raise the barriers against the entry of new funeral directors. Requiring firms that do not offer embalming services to hire trained embalmers raises their cost and is a form of featherbedding. These protectionist policies save jobs, but at a high cost. My back-of-the-envelope estimate is that consumers are being forced to spend an extra $300,000 to $450,000 annually for each job saved.

Shocks routinely hit labor markets, leading to losses of jobs in some industries and gains in others as well as losses in some countries and gains in others. Some labor markets have been hit by a combination of shocks—technological, immigration, and trade shocks—making it difficult to isolate what factor is responsible for the changes we see. Most of the proponents of populist policies aimed at protecting American jobs emphasize the role of immigration and trade, downplaying the importance of technological shocks.

The market for funeral directors has been hit with a shock closely akin to a technology shock and is largely unaffected by immigration and trade. This makes it a clean example of the potential cost of saving jobs being lost to changes in technology and tastes. It is tempting to save jobs that would be lost with protectionist policies such as those used to save funeral directors' jobs. But it is often costly and ultimately futile when the shocks are as powerful as the rising popularity of cremation on the funeral industry. *R*

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REGULATORY REFORM

FIVE GUIDING THOUGHTS FOR REGULATORY REFORM IN THE NEXT ADMINISTRATION

It's time to move past vague platitudes.

BY SAM BATKINS AND IKE BRANNON

Political candidates are fond of giving lip service to the idea of fixing the regulatory climate that costs businesses and consumers billions of dollars a year. However, wise campaigns invariably avoid providing any substantive details on how to improve the existing regulatory apparatus beyond reciting a few vague platitudes, most of which sound eminently reasonable but would do nothing to improve the status quo.

Avoiding specifics in this arena (and all other areas of policy arcana for that matter) is probably a wise political move for any presidential campaign, but a lack of specificity means that each new administration has no mandate to reform the regulatory apparatus. What's more, such reform is difficult to do on the fly: after the busy task of issuing and approving regulations has already begun, an administration intent on imposing limits on the regulatory state invariably gets bogged down fighting the daily battles and does not engage in a new war over the issue. Without a reform plan that's ready to go from the beginning, it becomes practically impossible to achieve meaningful changes in how we do regulatory policy in the United States.

And to be sure, we need to reform the system: U.S. regulations impose costs of at least $1 trillion on the U.S. economy and their effects on economic activity are inexorably growing. The power of the executive branch agencies to ignore the express will of Congress and pursue an independent regulatory agenda is a troubling situation, and we need to do more to impose additional checks on the system.

What should the next administration do to improve the issuance and oversight of regulations? We want to provide a few organizing principles upon which a new administration could begin to change the regulatory process.

REPEALING REGULATIONS IS OVERRATED

Many politicians like to frame regulatory reform as consisting of a systematic review of existing regulations to determine which cannot survive an honest cost-benefit review and then repeal those that won't. Although there are myriad regulations currently in place that would not pass such a test, rolling back regulations that companies have already largely complied with will accomplish little.

The problem is one of sunk costs: once companies have spent money to reduce emissions or improve workplace safety, undoing those requirements won't save them much money. In fact, a regulatory rollback likely would make those firms worse off by allowing new competitors to compete against them, operating with a lower cost structure because of the repealed regulations.

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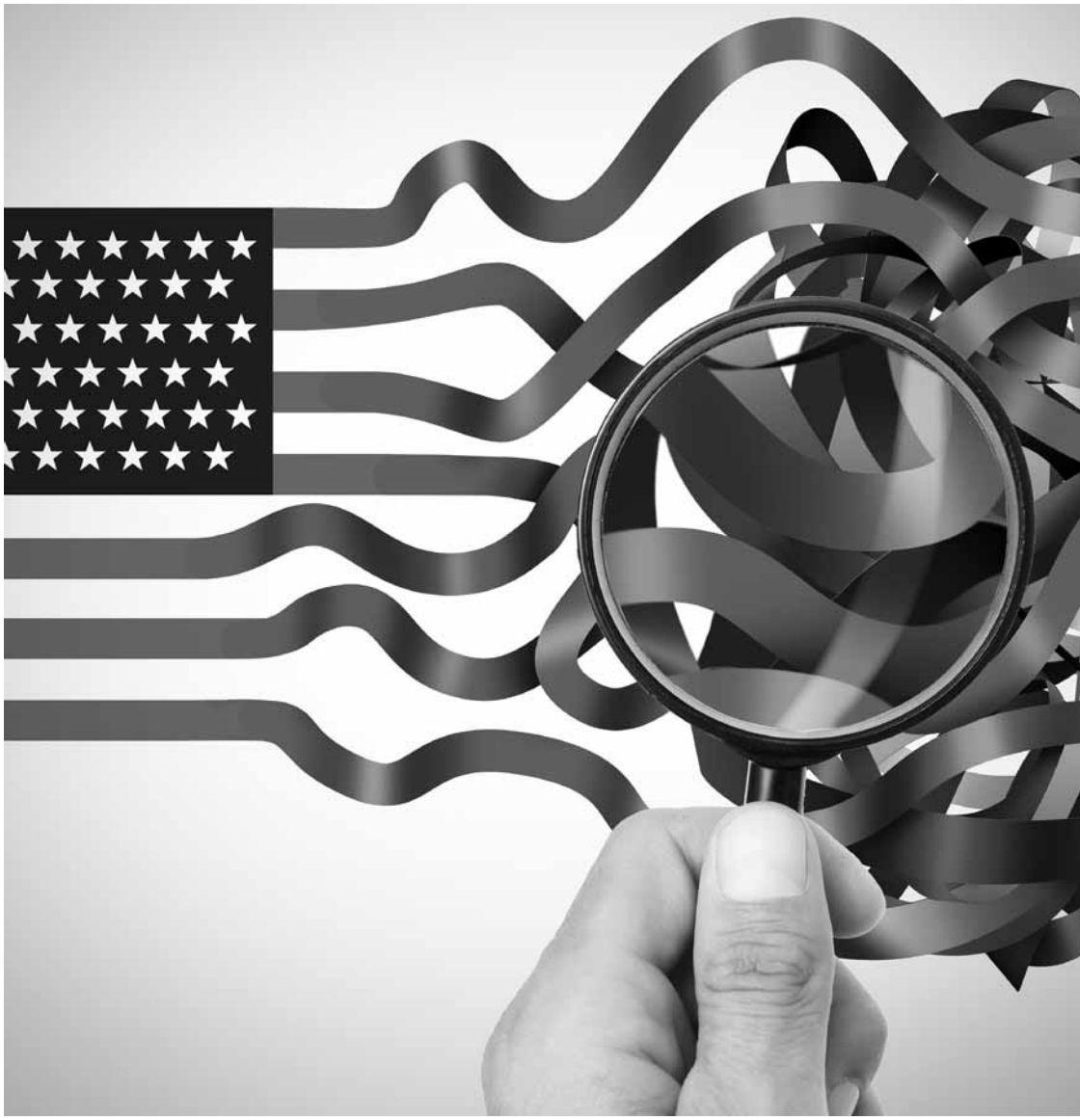
For example, during the presidential campaign, Donald Trump declared his intention to shelve the Obama administration's Mercury and Air Toxics rule, one of the costliest regulations issued by the president's Environmental Protection Agency. However, there are minimal savings to be had from its repeal at this stage: companies have already responded to it by dismantling a multitude of coal plants, and those will not return regardless of future regulations. What's more, as long as natural gas remains plentiful, it will continue to be more cost-effective to burn gas rather than coal to produce electricity; even shuttered coal plants that could be turned on tomorrow would likely remain shuttered if the next president were to repeal the rule.

There are some exceptions to this. For instance, occupational licensing at the state level has expanded greatly over the last few decades, but many of those requirements do little to improve public safety but much to impede the entrance of potential competitors. The current Council of Economic Advisers has noted that these impediments are a significant cost to society in the form of higher prices for consumers and lower wages for workers not in the protected guilds. Repealing these rules would definitely benefit the economy, but would require preemptive federal deregulation or active state involvement.

While repealing regulations is usually pointless, it is still worth having agencies—or better yet, outside institutions—do retrospective cost-benefit analyses to determine how well the agencies did at predicting the costs and benefits of their rules. If nothing else, this would impose a modicum of restraint on the agencies going forward.



PHOTOS BY THINKSTOCK (FLAG, HAND/MAGNIFYING GLASS)

GIVE OIRA THE POLITICAL BACKING TO DO ITS JOB

In the 1990s, staffers in the White House Office of Information and Regulatory Affairs (OIRA) constructed a trophy of sorts consisting of a can of shaving cream attached to an x-ray that suggested said can was unpleasantly inserted into an unfortunate patient. The trophy sat on the desk of the analyst who had most recently lost a battle with an agency because of political machinations.

The award did not disappear with the advent of the George W. Bush administration. While having ostensibly conservative secretaries running the cabinet agencies helped to temper some of the agencies' more egregious activities, a handful of political appointees in an agency with thousands of career staffers cannot hope to arrest the actions of the entire bureaucracy. What's more, even the most rock-ribbed Republican quickly realizes that political exigencies can make approving a dubious regulation the path of least resistance in most situations.

Early in the Bush administration, an OIRA analyst dared to push back on a regulation issued by the U.S. Department of Agriculture that would essentially force a group of farmers to tear out their apricot orchards—for which the government would generously compensate them—in an attempt to boost the price

of apricots. The program was nowhere close to being a "major" program; the total government cost was less than $20 million, which meant it was not subject to a formal cost-benefit analysis. But it was a lousy program and the OIRA analyst tasked with reviewing it thought it would be a good test case to see whether the ostensibly free-market Republican White House would countenance any challenge to Big Agriculture.

The OIRA administrator, John Graham, was wary of picking a fight with the Agriculture Department early in his tenure, especially after Congress had just passed (and the president signed) a large increase in agricultural subsidies that amounted to a complete abandonment of earlier efforts to end price supports. Eventually, the fight was kicked to Office of Management and Budget director Mitch Daniels, who in turn kicked it to Vice President Dick Cheney. Cheney then met with the agriculture secretary, Ann Veneman, to negotiate a resolution—which amounted to letting the USDA go ahead with the program, but with a promise that OIRA would "win the next one."

Agencies pass regulations that cost $20 million every day of the week without any political chieftain batting an eye. But attempting to stop a $20 million boondoggle required two cabinet officials and the vice president to sign off—in a *Republican* administration. That such a minor effort to roll back a government program failed—and triggered an intervention at the highest level of our government—gave OIRA analysts a lesson on how politics trumps good policy.

Solving this particular moral hazard is easier said than done. It's folly to assume that a future administration—regardless of the party—might take a less politicized approach to the job. Even removing the political aspect to these decisions wouldn't change the current system's bias toward over-regulation, given that most of our bureaucrats have a natural inclination to do more—not less—regulating.

The only solution we offer is, lamentably, eternal vigilance on the part of regulatory economists, scholars, and others who understand how cost-benefit analysis is done and can easily recognize when a bureaucrat is putting his thumb on the scale to tilt the results in favor of a rule. We should encourage the next administration to give more weight to OIRA's declarations and allow its deliberations to be given precedence over short-term political exigencies. This will always be difficult for an administration to countenance. If we do a better job of highlighting those incidents where agencies escape with regulations that don't meet an objective cost-benefit analysis, we can help to accomplish this.

TAKE COST-BENEFIT ANALYSIS OUT OF THE AGENCIES

The basic problem with how the government does regulatory review is that it allows the defendant to prepare the plaintiff's brief.

For major regulations—defined as those that will have an economic effect of greater than $100 million—Executive Order 12866 requires that an analysis be done to demonstrate that the benefits clearly exceed the costs of the regulation. These analyses are done by the agency proposing the regulation.

At one level this makes a modicum of sense. Since agency staffers (presumably) have intensively studied the regulation, they have the most information at their disposal to complete the analysis. However, the agency also has an inherent conflict, given that it has a huge incentive to ensure that its regulations get approved. The staff economists from the agency are fully aware that it's best for their career to help the agency's mission and they do their best to ensure their analysis supports a regulatory decision that's already been made. It's a fatal conflict of interest that generally renders any analysis by the regulating agency suspect.

The answer to this problem is to assign another entity the task of performing the cost-benefit analysis. We propose moving the regulatory economists who are now within the agencies to an entirely new agency, modeled after the Congressional Budget Office, to perform such analysis. (See "Toward a New and Improved Regulatory Apparatus," Spring 2013.) This would not add to the level of government spending because the regulatory agencies would be absolved of the burden of doing cost-benefit analysis. Their budgets could be commensurately lowered and the savings transferred to the new office. The agencies would also be required to turn over all relevant data to the new office to allow it to do a proper accounting of the costs and benefits of proposed regulations.

MAKE AGENCIES RECOGNIZE THE FULL COST OF REGULATION

For federal agencies, there are obvious incentives to publish cost-benefit analyses that emphasize the latter while downplaying the former. Rarely will agencies publish a final rule with costs exceeding benefits, although the Obama administration has issued at least 23 regulations with this "upside down" ratio. For a cynic, a Regulatory Impact Analysis is more of a marketing document for agency action than an honest assessment of costs and benefits.

For the affected industries, trumpeting the costs of complying with a proposed regulation and highlighting the possible job-loss implications are two of the few public tools available to fight new regulation. However, despite these dueling cost-benefit analyses, few often capture the true costs of federal regulation.

Agencies frequently portray regulatory burdens as consisting mainly of transition costs or paperwork hours multiplied by median hourly salaries. Every major regulation should have at least a perfunctory discussion of deadweight loss, especially labor market regulations. A deadweight loss is the amount of consumer and producer surplus lost because of the increased price of a good or service caused by the imposition of a new regulation. For instance, a hot dog tax of $1 would mean that consumers will consume fewer hot dogs and pork producers will sell less meat. A portion of that reduction amounts to a loss of profits and consumer enjoyment that can't be made up elsewhere—the deadweight loss. Even though the government gets some money from the tax, on net the economy loses.

A review of every final rule in the *Federal Register* from 1994 to present found just five rules (out of 1,400 major regulations issued

over the past 20 years) that monetized the value of deadweight loss to the economy. A mere 23 even mentioned the term. And when agencies did monetize the value, the total among the five rules was just $16.4 million. We suspect that the reason these rules offered estimates of the deadweight loss was because it was small relative to other costs, making it safe to address the issue without a chance that it would affect the cost-benefit analysis.

Agency analysis on the full burden of recordkeeping and reporting costs often lacks a necessary thoroughness. For example, a National Labor Relations Board (NLRB) regulation from 2011 that would have forced all employers to notify employees of their union rights estimated familiarization would take two hours per company, at an hourly wage rate of $32.20. Although that may represent a trifle to a single firm, with more than six million affected employers, this regulation imposes an estimated compliance cost of $386.4 million, more than enough to label it a major rule. However, as an independent agency, the NLRB was not required to comport with the requirements of E.O. 12866. The lack of legal authority to issue the rule complemented the incomplete cost-benefit analysis, though, and a federal judge later struck down the rulemaking.

In general, the hourly wages attached to paperwork compliance activities are problematic. To assume that a particular rule will solely require the affected companies to reallocate labor a bit to ensure compliance is facile. It is increasingly common for companies to deal with myriad compliance burdens that can be complicated or costly by outsourcing them to a company with expertise in such an area, which may ensure compliance but results in a cost appreciably higher than any agency estimate.

There is an easy and practical way for the government to derive a more realistic estimate for labor costs based on this new reality and its own actions. For instance, the federal government routinely needs to estimate the full cost of labor when it pays for contract support. These are often referred to as "load" costs, or burdens beyond just direct wages. An examination of contracts from the General Services Administration shows that the government typically pays $189 to $225 per hour for contracting services. This is 3 to 3.6 times higher than $63 per hour of regulatory compliance government regulators often use to monetize the value of an hour, and 5.9 to 7 times higher than the $32.20 per hour estimate in the 2011 rule.

The choice of this number matters a lot. Using a true load factor of 3.6 turns what was a $386 million rule into a $1.3 billion regulation. At $200 an hour, its estimated cost approaches $2.4 billion. For perspective, there have been only 38 billion-dollar rules since 2001.

Finally, scholars have noted the paucity of regulatory analyses that estimate job loss. While it is true that the newfound emphasis on this has more to do with political pressures than a quest to inform the debate, it is a datum that should be considered in any cost-benefit analysis. However, the agencies that have incorporated a job loss estimate in their analyses have approached it with the perspective that regulatory activities actually create jobs by forcing companies to spend more money than they would have otherwise, which results in new jobs for people who produce or install safety and emissions reduction equipment, as well as those who inspect and have oversight over such activities. It amounts to a form of Regulatory Keynesianism and utterly ignores that increasing operating costs invariably result in higher prices, fewer sales, reduced productivity growth, and concomitant reductions in wages and employment. To tout regulations as job creation tools is fundamentally dishonest.

Even when agencies cop to a regulation causing job dislocations, they never monetize the effect of this loss. The University of Chicago's Jonathan Masur and Eric Posner argue that these dislocations are costly to both workers and society, and derived an estimate of $100,000 per job lost. Even that number excludes the full socioeconomic effect of a job loss. Costs that high would render any number of proposed regulations currently on the dockets uneconomical.

We propose that the way to force the federal government to do a full accounting of the cost of any regulation is to take the job of cost-benefit analysis out of the hands of the agencies themselves and hand it over to an independent entity, as we suggested above. There is some precedent for this: the U.S. Department of Transportation had Harvard University's Volpe Center do the analysis for a few rather involved regulations back in the 1990s and early 2000s, and the OIRA staff who worked with the DOT on those regulations came back impressed at the quality of the analysis.

Some combination of a new agency that does some analysis in-house and seeks outside expert advice for specialized regulations might be the best of all possible worlds.

"PRO-MARKET" AND "PRO-BUSINESS" ARE TWO DIFFERENT THINGS

The argument that regulation *X* will reduce the profits of business *Y* and therefore should be opposed by all right-thinking Republicans is nonsense. The purpose of regulatory actions should be to ensure that businesses pay any and all discernible negative external costs that they impose on society in some way. If a job carries a modicum of risk, the Occupational Safety and Health Administration compels the employer to take steps to reduce that risk if doing so saves business, workers, and the government money. It does *not* require a business to eliminate all risks—an impossible and undesirable outcome given the enormity of such a task. It is cost-effective for all of us to accept some risk in life, but it's unacceptable for workers to not be aware of those risks.

If a business is imposing a substantial societal cost in some form, and the cost of remediating is too high for the business to stay open, then it ought to go out of business. The market should decide which businesses and industries survive and which will disappear. Negative externalities interfere with market discipline by allowing businesses to escape certain costs. Regulations should fix those external costs.

However, regulations can and often do go too far, beyond anything that can be limited by any OMB. That leaves businesses

with burdensome regulations that cost them mightily but do little to solve any discernible problems that may exist.

LEGISLATIVE APPROACHES TO REGULATORY REFORM

Members of Congress interested in regulatory reform seem to understand some of the problems with our regulatory environment and have tried to reform the current system. The two most prominent efforts at regulatory reform are the proposed Regulatory Accountability Act (RAA) and the "Searching for and Cutting Regulations that are Unnecessarily Burdensome" (SCRUB) Act. Each would not only limit regulation in the present, but also place restraints on future presidents. The RAA would require advanced notice for a class of "high-impact" rules (those with costs of greater than $1 billion), tighten judicial review of agency actions from "arbitrary and capricious" to "substantial evidence," and require agencies to adopt the "least cost" rulemaking.

The SCRUB Act would establish an independent commission to review major past rulemakings. It would set a goal to reduce cumulative regulatory costs by at least 15% and require all new agency actions to produce a retrospective review plan to measure success during implementation. There are roughly 80 major rules issued annually and only a few are reviewed after five or 10 years to determine effectiveness ex-post. The SCRUB Act would address this information discrepancy.

Our only complaint with these legislative approaches is that lawmakers impose somewhat arbitrary and indirect methods to address the problem of a rulemaking process that needs more accountability.

HARD WORK AND ETERNAL VIGILANCE

For politicians, the promise of repealing an unpopular rule may move the polls with certain constituencies, but it isn't necessarily good policy. Adopting the precepts of a comprehensive regulatory reform that pays close attention to the true aggregate costs of society would help U.S. businesses be more competitive while boosting productivity, wages, and employment.

But there is no sword out there that will slice through the Gordian knot of our regulatory morass. Even the reforms we lay out here can very easily be subject to regulatory capture in the future and result in a process just as unaccountable as the one that currently exists. The way to obtain a more enlightened regulatory policy is the same as it is for obtaining liberty: eternal vigilance. *R*

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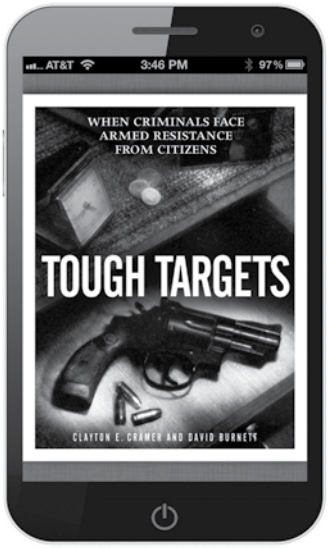

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THE FCC'S TRANSACTION REVIEWS, FIRST AMENDMENT RISKS, AND THE RULE OF LAW

The commission uses transaction and licensing reviews to infringe on speech.

BY BRENT SKORUP AND CHRISTOPHER KOOPMAN

Today, regulated companies—including broadcast TV and radio, satellite TV and radio, cable TV, and internet service providers (ISPs)—are the primary producers and distributors of mass media and publications. Given the power that the Federal Communication Commission has over these regulated companies, most must remain in the commission's good graces to operate. With the proposed merger of AT&T and Time Warner, the power wielded by the FCC will once again become an issue of national importance. We argue that this power should be viewed skeptically in light of the danger it poses to both the First Amendment and the Rule of Law. We also provide some reform proposals to rein in the commission.

In late October, AT&T announced plans to acquire Time Warner (not to be confused with Time Warner Cable), which owns several media outlets, a film library, and TV channels. While the FCC is not responsible for reviewing the merger itself, the agency could play a central role in approving the deal: Time Warner has video-distribution facilities that are licensed by the FCC, and any transfer of those licenses is subject to the commission's approval. Should the FCC review and approve the transaction, all eyes will be on what conditions it coerces from the merged entity in return for the approval.

In prior decades, license approval of broadcasters gave the commission and special interests a powerful tool to influence TV and radio programming. It also provided the FCC with power to dictate network operations, such as Fairness Doctrine compliance. In a world of broadband and 500-channel TV offerings, however, these tactics have changed. Increasingly, the FCC has turned to transaction reviews to extract "public interest benefits" from merging media and telecommunications firms, and uses its leverage during licensing and transaction proceedings to engage in ad hoc merger review that substitutes for formal rulemaking. It also enables the commission to pursue agendas unavailable to it through its rulemaking process.

This development has alarmed both communications scholars and free speech advocates. Through license renewals and—the focus of this essay—transaction approvals, the agency allows special interest groups to dictate media content, business models, and operations. The ensuing agreements between firms and the agency provide a glimpse into how political actors and activists are able to harness the FCC's regulatory process to chill unwanted speech and to promote speech favored by various pressure groups.

Once an acquisition or license transfer is before the commission, the applicants and the FCC engage in a secretive bargaining over what "voluntary" commitments the applicants must make to gain the FCC's blessing. As communications scholar Randolph May explains:

> The Commission merely withholds approval of the merger until the parties come forward to propose conditions which the Commission has telegraphed in closed door negotiations that it would find acceptable to meet whatever public interest concerns that opponents, the FCC, and others have raised.

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These negotiated agreements are made pursuant to a consent decree or to gain transaction approval and are, practically speaking, not appealable.

Scholars criticize lawmakers' "jawboning"—a term for informal regulation and threats using dubious legal authority—of internet and media companies outside of transparent regulation. University of Arizona law professor Derek Bambauer notes that "informal enforcement ... cloaks what is in reality state action in the guise of private choice," and such "regulation by transaction" has far-reaching legal and constitutional effects.

Neither the FCC nor the courts have put meaningful limits on what the FCC can extract during license transfers, leading to arbitrary and unpredictable results. Increasingly, the FCC extracts nominally voluntary concessions from firms—including programming decisions, hiring practices, and "net neutrality" compliance—via coercive conditions to transaction approvals. In many cases, the FCC is legally barred from enforcing or is unwilling to enforce these policies through the normal regulatory process.

These circumstances eviscerate norms of good governance and rule of law and may also be unconstitutional because of the amount of discretion the FCC has over speakers. The FCC's transaction practices pose the speech infringement risks the Supreme Court warned of in the 1988 case *City of Lakewood v. Plain Dealer Publishing Co.*, regarding a city's licensing of newspaper racks: "The mere existence of the licensor's unfettered discretion, coupled with the power of prior restraint, intimidates parties into censoring their own speech, even if the discretion and power are never actually abused."

The FCC continues down its current path at legal peril. The expansion of FCC authority during license transfers, its ad hoc determinations of the public interest, and the impracticability of

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timely judicial review have pernicious effects on modern media and the rule of law. Given the immense discretion over media, the FCC's transaction reviews may be subject to facial First Amendment challenges. If the FCC does not voluntarily abandon its de facto merger review, the agency should at least promulgate guidelines for what its public interest standard requires.

BACKGROUND ON FCC AUTHORITY OVER COMMUNICATIONS TRANSACTIONS

By statute, the FCC must find that the transfer of a wireless license or a common carrier line serves "the public interest, convenience, and necessity." Notably, the Communications Act provides no general merger authority, but the agency has treated its authority over license transfers as reason to evaluate and approve media and telecom mergers.

This vague standard had little meaning even to the congressmen who promulgated it in the 1920s, but contemporaries believed that courts would give meaning to the standard. Courts had, after all, constrained seemingly discretionary antitrust laws via common law–like development. Despite the passage of decades, however, neither the FCC nor the courts have put meaningful limits on what the FCC can do under the public interest standard.

Since the 1970s, Congress and the FCC have moved away from formal industrial policy in telecommunications and programming mandates. Old habits die hard, however. Lacking the legal authority or political will to engage in, for instance, formal broadband rate regulation and cable TV programming mandates, the FCC extracts nominally voluntary commitments from merging firms about rates, programming, and other issues like net neutrality. Combined with the FCC's pervasive public interest standard, regulation by transaction commitments "may be the [FCC's] primary and most potent form of regulatory control," as Randolph Beard et al. noted in a 2015 paper. Merging firms that disagree with the need or legality of a merger condition are in no position to challenge the condition.

There are sensible debates about where voluntary action by a private firm ends and government coercion begins. We do not believe that distinction is relevant here and are aware of no scholarship defending the agency's coercive "regulation by transaction." We therefore argue that conditions extracted during the FCC approval process are coerced and not voluntary because of the severity of the penalty for not offering concessions: a rejected transaction. Further, as we explain below, when speech interests are at stake, the Supreme Court regards even modest regulatory oversight—such as licensure and a requirement to show public interest benefits—as unconstitutional because the risk of government intimidation is too large.

In the next section, we outline a basic model of bureaucratic action. Beginning with the premise that officials within the FCC are individuals that respond to incentives, it is important to model what incentives are driving decisions within the agency. By revealing the legal precariousness of the FCC's current practice, in the subsequent section we aim to change the incentives of agency officials to attempt more modest, defensible transaction reviews.

A MODEL OF FCC ACTION, AGENCY COERCION, AND THE RULE OF LAW

Scholars have long recognized that government actors are not selfless, disinterested actors seeking to maximize the public interest. Instead, regulators may use the appearance of altruism as cover to achieve their own goals and objectives. If the "public interest" is not the chief concern of individuals within the FCC, what then do bureaucrats within the agency seek to maximize? Max Weber, the German political economist, notes that in general bureaucrats seek to maximize "power." While this basic idea has laid the foundation for much of the public choice research on bureaucratic action, it nonetheless fails to adequately describe FCC decisions. A more specific description is necessary.

Elaborating on the idea that individuals within agencies seek to increase power, William Niskanen provided the first systematic analysis of bureaucratic action in his 1971 book *Bureaucracy and Representative Government.* The core insights of his initial framework are that individuals within agencies such as the FCC are primarily engaged in maximizing their budgets and expanding the overall scope of their agency's jurisdiction. This is what scholars have come to recognize as "empire building," and this insight has shaped the understanding of agency behavior. It is also central to understanding the FCC's use of its merger review authority.

The model has been refined over time and our use of its insights extends beyond the FCC's budget. While agencies may seek to enlarge budgets, there are other ways in which an agency such as the FCC may build its empire. In addition to simply seeking a larger discretionary budget, an agency may seek to build its empire by maximizing, among other variables, the agency's public reputation, patronage, output, ease of rulemaking, and ease of management. For the FCC, this can be best understood as seeking to increase a combination of the agency's discretionary budget, the scope of the agency's jurisdiction, and its independence from congressional oversight and the courts.

Using this framework as a lens to view FCC behavior, we reject the argument that the agency is simply seeking to pursue the public interest in imperfect ways. Instead, this framework provides a coherent theory that explains why much of FCC policymaking is done on an ad hoc basis and in the form of nominally voluntary concessions extracted from firms in exchange for transaction approvals. If the goal of the agency is to increase its jurisdiction, public reputation, patronage, and output, while also balancing a desire for ease of rulemaking and management, the FCC's reliance on its amorphous public interest standard to create rules through its transaction reviews rather than through its formal rulemaking is the most effective tool at the agency's disposal.

Moreover, if policy changes and agency management were otherwise accomplished through a formal process, it would require congressional participation as well as formal notice and comment under the Administrative Procedure Act. By relying on informal rulemaking, however, through voluntary concessions the agency is able to increase its jurisdictional domain without either an act of Congress or court review. Thus, the FCC will look to novel approaches to expand the agency's jurisdiction while minimizing congressional oversight and control. As a result, the FCC has a strong incentive to build its empire through ad hoc consent decrees and conditions extracted via transaction reviews.

This, in many ways, describes the FCC's approach to rulemaking since the Telecommunications Act of 1996. Over the past two decades, the FCC's merger review process has become far more active and the agency has increasingly relied on the use of "voluntary commitments" and merger conditions to accomplish its policy goals. This has been undertaken through concessions from merging parties to achieve what would traditionally be done through formal, industry-wide rulemakings. In addition, as suggested earlier, many of these voluntary concessions would not have been achieved if sought through the formal process.

The FCC will look to expand its jurisdiction while minimizing congressional oversight. Thus it has a strong incentive to build its empire through ad hoc consent decrees and conditions extracted via transactional reviews.

Given the lack of institutional constraints, the FCC can engage in de facto rulemaking via transaction review with little external oversight or control. Without a clear objective standard upon which merger approvals are granted, the agency can use its amorphous public interest standard to achieve its policy goals without any practical limitations. As noted above, merging parties are forced to establish—to the FCC's satisfaction—that the merger will affirmatively provide public interest benefits. Moreover, unlike other agencies, the FCC has no statutory time limits to review mergers.

This places the FCC in a position of power and creates a strong incentive to achieve extraneous policy goals through merger review. This has consistently played out in several high-profile examples. For instance, when News Corp acquired DirecTV in 2004, the FCC used its transaction review to impose program access conditions. Program access rules are authorized by Congress through formal, industry-wide rulemaking, but require public notice and comment periods as well as the potential for judicial review. Working through merger conditions, however, avoids notice and comment and is unreviewable by the courts.

Moreover, the FCC uses its transaction review to create policies that are beyond the scope of its statutory authority. For example, AT&T Broadband agreed to comply with the FCC's dubious regulations that capped a cable company's market share at 30% when AT&T acquired MediaOne in 2000. Those regulations were subsequently struck down in 2001 in *Time Warner Entertainment Co. v. FCC*. Similarly, the agency conditioned the Bell Atlantic-NYNEX merger on the merged firm's agreement to accept a complex price ceiling—a total element long run incremental cost (TELRIC)—for allowing competitors access to the firm's networks. This remained in force even though the Eighth Circuit had just ruled that TELRIC was impermissible and beyond the agency's jurisdiction.

The result is a clear threat to the rule of law. Merging parties may not know what conditions will be tied to their transaction and, more importantly, may not be able to escape those conditions even when the underlying policies are beyond the agency's authority. In effect, the FCC is able to create rules with the force of law that apply only to specific firms and are virtually unreviewable by courts.

By disregarding the formal rulemaking process and using transaction reviews to enforce policy positions, the FCC has left market participants in a position of knowing only the law once it is applied to them. This creates an environment with no ex ante predictability, no opportunity for notice and comment, and little ability to challenge the agency's decisions in court.

THREAT TO FREE SPEECH

If the FCC persists in extracting public interest benefits from firms that create and distribute speech, it may see its transaction authority limited after a facial First Amendment challenge. When courts are alerted to circumstances where government intimidation of the press is foreseeable and appeal is difficult, they typically take a dim view. The Supreme Court noted in its 1994 ruling in *Turner Broadcasting v. FCC* that "laws that single out the press, or certain elements thereof, for special treatment pose a particular danger of abuse by the State." Since court scrutiny is higher when government action is directed at portions of the press, the FCC's chosen path of empire building—extracting unreviewable concessions from firms during coercive transaction reviews—likely violates the Constitution's protection of the press and free speech.

Speech distributors that the FCC oversees, like cable and satellite TV companies, are protected by the First Amendment press protections. As Justice Potter Stewart wrote:

> The Free Press guarantee is in essence a *structural* provision of the Constitution. Most of the other provisions in the Bill of Rights protect specific liberties or specific rights of individuals: freedom of speech, freedom of worship, the right to counsel, the privilege against compulsory self-incrimination, to name a few. In contrast, the Free Press Clause extends protection to an institution.

As one federal court said in the 2000 case of *Comcast Cablevision of Broward County v. Broward County*, striking down access regulations directed at an ISP, "Not only the message, but also the messenger receives constitutional protection." Court sensitivity to state intrusions into the press arises because there is a historical appetite among many lawmakers and regulators to censor undesired speech, to compel desired speech, and to compel speakers to waive their speech rights. For hundreds of years, governments have targeted speech intermediaries for censorship rather than dispersed speakers and authors, who are more numerous, more difficult to identify, and more protected by social norms. Regulation of nascent distributors of speech throughout history is unfortunately the norm, not the exception. Ever since the spread of the printing press in the 1500s, when "broadcast" media first became economical, governments have initially sought to license and exert control over the producers and distributors—the printing press, the first newspapers, and motion pictures—of mass communications.

Whenever some new form of "broadcast" media becomes economical, governments have initially sought to license and exert control over its producers and distributors, whether newspapers, motion pictures, or electronic media.

Those illiberal instincts survive today. In the 20th century, U.S. scholars and judges—like the printing press licensors of old—manufactured justifications for why new speech distributors should face license renewals, should be compelled to carry speech, or should be prosecuted for transmitting speech the government or its constituencies dislike. Though First Amendment jurisprudence since the 1970s has weakened direct FCC regulation of speech, legacy FCC intrusions into a free media exist today. In the United States, radio and TV broadcasters can be subjected to programming mandates and cable and satellite TV companies are compelled to carry video and speech from local broadcasters.

Therefore, our model of empire building suggests that the FCC's transaction reviews will increasingly violate free speech norms. The appetite to put speech distributors under duress is always present and transaction reviews give the agency leverage and little risk of judicial review. Alarmingly, governments are increasingly looking to regulate content online even as internet-delivered media gains constitutional protection in the United States. Federal courts and legal scholars are concluding that internet-based media distributors—ISPs, search engines, online video distributors, and social media companies—create and disseminate information and therefore are speakers protected by the First Amendment. Congressional policy is that the internet should be unregulated and the Supreme Court applies strict scrutiny to internet regulation that has a nexus to speech, so regulation is more difficult, but online speech regulations continue to arise in the United States and around the world.

The FCC's recent Open Internet regulations, for instance, compel ISPs to carry video and other content they do not wish to carry. In recent years, several states and Congress have attempted to deputize ISPs and other online intermediaries to remove indecent material and prevent copyright infringement. Lawmakers recently requested the FCC chairman pressure Facebook to prevent terrorist and gang communications. In 2015, the United Nations Broadband Commission went so far as to encourage regulators to "use their licensing prerogative to ensure that only those Telecoms and search engines" that monitor and screen "cyber abuse and violence" against women are allowed to operate.

Coverage of the First Amendment has broadened in recent decades but advocates still call for compelled speech of new speech distributors. In the 1970s, courts began reversing the earlier trends, which permitted expansive regulation of media. The Supreme Court's 1974 *Tornillo* decision held that freedom of speech is violated not only by censorship but also by governmental attempts to compel speech. Since the First Amendment is a hindrance to regulation of modern distributors like cable TV, the internet, search engines, and algorithms, legal scholars are now searching for novel justifications for why search engines and ISPs lack First Amendment protection and can be compelled to carry speech.

Under existing law, the FCC can require more racial minority, children's, health, and public affairs programming on broadcast TV and radio through rulemaking. The FCC can also promulgate modest regulations about industry composition if intended to increase viewpoint diversity in broadcast and cable TV. Yet, today the FCC is wary of formal mandates because they bring unwanted congressional attention, irritate media companies, and provoke public complaints of censorship. In ways consistent with the empire-building model, the agency uses opaque, coercive pressures that end in ostensibly voluntary commitments, thereby avoiding headline risk while allowing the agency to take credit for any public benefits.

Jawboning and informal pressures on media cannot be eliminated. It is likely beneficial to have government officials joining advocates in encouraging media norms about, say, offering diverse viewpoints, respectful treatment of controversial issues, and educational programming. The problem of coercion arises when these expectations are paired with the FCC's coercive power in transaction reviews. Hortatory language about diverse viewpoints and local news transforms into something more pernicious for a free media, and media companies are increasingly cooperating to satisfy their regulator's whims, including decisions related to content.

Firms that have been through the FCC transaction process and are likely to have transactions in the future are, for fear of FCC retaliation and poor press, not forthcoming about their motivations for various concessions. Nevertheless, the political activity and advocacy surrounding a transaction suggests which concessions will quiet a powerful transaction opponent and sate the FCC's loudest constituencies. Occasionally, parties' transaction strategies become public information.

The size of the Comcast–NBCUniversal merger in 2010 and the nature and amount of the concessions received news and scholarly coverage. The episode reveals what firms are willing to accept in order to accomplish a merger, and many of Comcast's and NBCUniversal's concessions were related to hiring, pricing, and programming decisions. For instance, knowing the commission's desire for more TV programming targeted for racial and ethnic minorities, Comcast promised to add cable channels that were owned by minorities or aimed at minority audiences. After pressure from smaller cable distributors who feared a vertically integrated competitor, a commissioner also requested that Comcast allow small cable providers easier, inexpensive access to NBCUniversal content.

Comcast–NBCUniversal volunteered many other conditions that the FCC will enforce. The concessions require Comcast to continue providing NBC programming to online distributor Hulu. Hulu is a joint venture of NBCUniversal, 21st Century Fox, and Walt Disney Co., but NBCUniversal can no longer exercise influence over Hulu operations. The merged firm was required to create a new Spanish-language broadcast channel and to expand its Spanish-language video-on-demand programming choices from 35 to 300 within three years. Comcast–NBCUniversal agreed to purchase certain programming content ("a new weekly business news program") from an independent producer and use a certain business model (syndication) for that program. The content-based conditions included expanding local and public interest programming and entering into agreements with local nonprofit news organizations for local reporting. There are similar requirements for children's programming and the FCC required the company to add 1,500 choices of video-on-demand programming targeted to children and families. Comcast–NBCUniversal is also required to spend "$15 million each year on digital literacy, FDA nutritional guidelines, and childhood obesity" on networks targeted to young families, and must transmit public access, educational, and governmental programming to 85% of its cable subscribers, exercise no editorial discretion over these programs, and create additional video-on-demand options. The list goes on, and Comcast–NBCUniversal's agreement showed sufficient public interest benefits to gain approval.

The FCC asserts it is preserving Comcast–NBCUniversal's editorial discretion with regard to these conditions, but this is a fiction. The company must file semi-annual reports with the FCC identifying the parties with which it is working, the nature of its agreements, and the quantity of programming produced down to individual "videos, articles, blog posts, and photos." The fact that the content required in these programming concessions are pro-social or (more dubiously) relatively easy for the merged company to accomplish distracts from the questionable legality of the process. These are precisely the circumstances the courts would deem unconstitutional for print media.

Suppose the same regulatory process that applies to broadcast, cable, and internet companies applied for newspaper-related transactions. Any time major newspapers merged, or sold or acquired delivery trucks, printing facilities, or some other necessary input for operation, the newspaper would have to first show the FCC that the transaction served the public. Suppose further that in short time the commissioners made it publicly known to newspapers that they would substantially help the likelihood of a transaction if they made certain public interest concessions. The agency does not formalize these guidelines, but in short time merging newspapers promise to give a column to an activist, publish more stories about climate change, no longer endorse candidates, publish new Russian-language dailies, and give free advertising to local churches.

Most readers likely sense that these circumstances represent a First Amendment violation and predictably chill the free exercise of speech. They would be correct. This follows from the Supreme Court's holding in *City of Lakewood*, where a city ordinance that gave the mayor a much more modest regulatory power—the ability to reject and accept applications to install newsracks on public property according to public interest determinations—was found to violate the First Amendment. In that case, the Supreme Court established that a licensing law with a "nexus to expression" that gives discretionary power to a governmental official is subject to facial challenge and presumptively unconstitutional. The Court went on to note:

> A law requiring the licensing of printers has historically been declared the archetypal censorship statute.... Without standards to bound the licensor, speakers denied a license will have no way of proving that the decision was unconstitutionally motivated, and, faced with that prospect, they will be pressured to conform their speech to the licensor's unreviewable preference.

The Court noted that "nothing in the law as written requires the mayor to do more than make the statement 'it is not in the public interest' when denying a permit application." Recall, this

is the very standard to which the FCC is bound. The *City of Lakewood* Court called such a standard an "illusory constraint" on the mayor's discretion. The Court stated that absent binding judicial or administrative construction of the public interest or some other explicit limits, the law was impermissible.

The review of mergers by media companies and distributors gives the FCC substantial power to discriminate between speakers. Improper censorial motive is not required for an action to be a violation of the First Amendment. If Congress authorized expressly that the FCC could compel, say, Spanish-language programming and contracts with independent documentary producers, the law would likely be subject to facial challenge by any party subject to the rules. Many large cable companies, broadcasters, and ISPs have many financially significant dealings with the FCC and are unlikely to challenge the law even if there is a great possibility of success. The risk of retaliation in other proceedings is too great. Further, some large parties may regard the existence of opaque public interest reviews as a competitive benefit. Any challenge, therefore, would likely need to come from a smaller operator that is not as reliant on the commission's good graces for competitive survival. Such a challenge, however, may be successful in light of the FCC's more recent transactions that single out certain speech distributors and solicit "voluntary" programming obligations.

Many large cable companies, broadcasters, and ISPs have many financially significant dealings with the FCC and are unlikely to challenge the law even if there is a great possibility of success.

PROPOSALS FOR REFORM

If the agency does not articulate predictable standards in transaction reviews, it is vulnerable to a facial First Amendment challenge that could limit the FCC's existing authority.

The most straightforward proposal to guard against the problems inherent in the FCC's current approach is to simply stop reviewing mergers. The Communications Act provides no general merger authority. The agency has treated its authority over license transfers as de facto merger review authority. Reversing this position could be achieved by something as simple as the chairman of the FCC stating that the commission would no longer review mergers under the public interest standard because it is outside its authority under current law.

Second, if the FCC is unwilling to constrain itself, Congress could explicitly preclude the FCC's Communications Act authority to review transactions. It is important to note that constraining the FCC's authority to review transactions would not leave telecommunications industry mergers unreviewed. The Department of Justice currently reviews telecommunications mergers under the Clayton Act, with overlapping authority given to the FCC. Instead of FCC reviews, however, transaction review could be left with the DOJ or given to the Federal Trade Commission, whose scope and jurisdiction already cover mergers in most industries, rather than the FCC's industry-specific focus.

Ending the FCC's transaction reviews and leaving the reviews with the DOJ and FTC would achieve two goals. First, it would provide for a transaction review process that has clearly delineated standards. Currently, mergers reviewed by the FTC and DOJ are subject to welfare-based standards and analysis rather than the FCC's amorphous public interest standard. Second, since the FTC and DOJ focus almost solely on anticompetitive effects across a number of industries, the incentive to use transaction review as a tool to further other communications and media policies is much lower.

CONCLUSION

Regulatory agencies have a natural incentive to engage in empire-building behavior and the FCC, through its public interest standard, faces few formal legal constraints on growing its power. As the agency uses its transaction review authority to extract concessions from individual companies, it has created a powerful tool for informal rulemaking that binds parties to policy goals that are otherwise unachievable in the formal rulemaking process. Moreover, this tool allows the FCC to pursue policy goals that lie outside its jurisdiction.

Because of these abuses, we propose doing away with the FCC's transaction review authority altogether or, at the very least, reforming the process to better protect transacting parties from the designs of political actors. Such reforms would be an exercise in good governance and would mitigate the possibility of a successful facial First Amendment challenge to FCC transaction review. *R*

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IN REVIEW

Multiple Explanations for a Largely Invisible Crisis

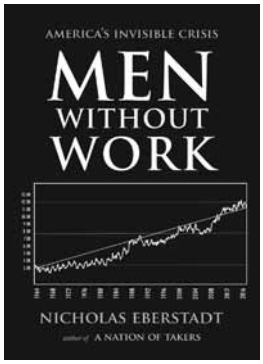
REVIEW BY DWIGHT R. LEE

Like a lot of economists writing on political issues, American Enterprise Institute scholar Nicholas Eberstadt focuses attention in his new book, *Men Without Work*, on what he believes is an extremely serious but "largely invisible crisis," and makes a case for government action to confront the problem. Unlike most such calls, however, instead of wanting government to do more, Eberstadt gently suggests that it do less. But his gentle suggestions are not gentle enough for two economists/policy analysts who respond to the arguments in the last part of his book.

The crisis that concerns Eberstadt is the relentless downward spiral of the labor force participation rate (LFPR) of prime-age American males between 1965 and 2015. He begins Chapter 1 by pointing out that so far in the 21st century we have seen three fundamental indicators of economic health that typically move together—wealth, output, and employment—lose their alignment. The growth in wealth as measured by net worth of U.S. households and nonprofit institutions has surged, almost doubling between early 2001 and late 2015. Yet, real per-capita output was barely 3% higher in the first quarter of 2016 than it was eight years earlier.

There are different explanations for this collapse in economic growth. A compelling (though partial) explanation is found in the labor market despite a steady stream of cheerful reports of a decreasing unemployment rate. Eberstadt points out, "If our nation's work rate today were back to its start-of-the-century highs, approximately 10 million more Americans would currently have paying jobs." The LFPR for prime-age males declined from 94.1% in 1948 to 84.1% in 2015, and almost all of that decline has taken place since 1965. The decline occurred as the LFPR for prime-age females more than doubled between 1948 and 2015.

Interesting details / In his first three chapters, Eberstadt expands on numerous details concerning the real and troubling flight from work by U.S. men. Chapter 4 begins with the observation that as countries become wealthier, their citizens generally consume some of their additional wealth in leisure. The U.S. experience, however, differs from that in other modern Western economies in "peculiar, if not anomalous" ways. Working Americans "spend markedly longer hours on the job than their counterparts in affluent European countries and Japan." Yet, in 2014 the United States ranked 22nd out of 23 countries in prime-age male LFPR, coming in ahead of only Italy.



Men Without Work: America's Invisible Crisis

By Nicholas Eberstadt

216 pp.; Templeton Press, 2016

Chapter 5 contrasts men who are, and who are not, participating in the labor force. Prime-age men who are not in the labor force are apparently paying little attention to information provided by labor markets on job opportunities, since "fully two-thirds of [them] who were not in the labor force (NILF) for any part of 2014 were out of it for the entire year." In terms of race, By 1965, both prime-age work rates and LFPR were already substantially lower for black males than whites. They also dropped far more steeply for blacks than whites over the next 50 years. It is worth noting, however, that those rates were higher for black men in 1965 than they are for white men today.

The data Eberstadt uses are for non-institutionalized populations. The more education a man has, the more likely he is to be working. Also, being married or having been married increases the chances that a man will have a job or be actively looking for one. Finally, regardless of ethnicity, foreign-born men of prime-employment age are more likely to be employed or looking for a job than their ethnic counterparts born in America. In addition, immigrants have higher LFPR than native-born Americans over all educational levels except for college graduates.

In Chapter 6, after making the traditional distinction between leisure (which refines and elevates) and idleness (which corrupts), Eberstadt considers how prime-age NILF men use their time. According to the Census Bureau's Annual Social and Economic Survey, when prime-age men who did not have a paying job at all in 1994 and 2014 were asked why they didn't work, only 16% and 15%, respectively, answered, "The inability to find work." Even at the bottom of the Great Recession in 2009, only 28% provided that answer.

So how are NILF men spending their day compared to employed men? Making use of the U.S. Department of Labor's "American Time Use Survey," Eberstadt finds that NILF men spend 1 hour and 16 minutes more than the latter on daily personal care, including sleeping; 31 minutes more on household care; the same amount of time on caring for household members; 5 hours and 54 minutes less on work—*which means*

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they worked just 7 minutes a day; 2 minutes less on eating and drinking; and 4 hours and 11 minutes more on socializing, relaxing, and leisure—which surely involved drinking not included in the "eating and drinking category. Regarding the leisure-based activities of prime-age NILF men, Eberstadt tells us that in 2014 they spent more time than working men and women or unemployed men listening to radio, watching television, using tobacco and drugs, gambling, and (perhaps incongruously, according to Eberstadt) engaging in hobbies involving arts and crafts. This chapter clearly leaves the impression that NILF men are not, as a group, very productive.

Demand-side or supply-side? / Chapter 7 considers two types of explanations for the men without work problem: demand-side and supply-side. Eberstadt clearly recognizes the importance of both, but doubts that demand-side factors, such as international trade, technological and financial innovations, and outsourcing and temporary work dominate supply-side factors.

He cites from the *2016 Report of the President's Council of Economic Advisers:*

> A number of studies have identified declining labor market opportunities for low-skilled workers as the most likely explanation for the decline for prime-age male labor force participation, at least for the period in the mid-to-late 1970s and 1980s.

He then discusses five qualifications suggesting demand-side explanations are less compelling than commonly believed. First, there has been a steady decline in LFPR males since 1965. Second, work rates for women have been less affected by recessions than have the rates for men. Third, work rates are not typically reduced much by slow growth in affluent modern economies. Fourth, the LFPR for some less-educated prime-age American males (in particular, foreign-born and lower-skilled males) have increased since 1994. And fifth, if demand-side influences were the primary reasons for low male LFPR, one would not expect the large regional differences in those rates to be more persistent than they would be with normal labor mobility. Long-term and large differences in male LFPR, even in adjacent states, indicate that workers are not moving in response to labor market opportunities. These qualifications suggest that it is supply-side influences that are reducing the LFPR of lower-skilled males, with dependence on government transfers an important influence by reducing the males' labor mobility.

Welfare and the underground economy / How dependent are prime-age NILF men on government transfers, and what are their living standards? The data Eberstadt cites and discusses in Chapter 8 seem to support the view that these men have become increasingly dependent on government transfers and they live in low-income households, which strengthens the supply-side explanation for the declining LFPR for men. There is no doubt that he is correct that it has become easier for men to qualify for disability payments, with Social Security Disability Insurance being the main source of these payments. The number of men taking advantage of these payments has significantly increased over the last 50 years.

Without going into the details of the data, let me consider an omission in his discussion that could have important implications for the seriousness of the problem he is considering. He fails to consider an important source of income available to prime-age NILF men that could be reducing the social costs of men dropping out of the labor force.

Recall from my discussion of Chapter 6 that Eberstadt cites data showing NILF men work only 7 minutes a day on average. This estimate seems to ignore the possibility that many men recorded as NILF are actually working clandestinely in the underground economy (a possibility about which there is—understandably—little solid evidence), which is estimated to be contributing $2 trillion, or a little over 12%, to U.S. GDP. Most of that contribution is believed to come from the poorest households, which according to Chapter 8 are the households containing most of the NILF men. This suggests that the average productivity of NILF men—though not as high as it could be if they were formally employed—is not as small as Eberstadt indicates. This could mean that the problem of men without work is not as serious as he would have us believe, at least in terms of lost productivity. To the extent this is true, however, it strengthens his view that government support payments motivate lower-skilled men to leave formal employment. The income lost by doing so can be more than made up by earnings from less-productive employment in the underground economy.

Furthermore, ignoring the productivity that men classified as being "without work" may be contributing in the underground economy does not necessarily mean that Eberstadt has overstated the social loss from the decreased LFPR of prime-age men. Consider that in Chapter 9 on crime and the decline in work, he wants "to understand the impact of [the upsurge in arrests, felony convictions, and incarcerations] on male work patterns in modern America." And he presents strong evidence that criminal activity and incarceration correlate with men becoming less employable, though he is careful not to make causal claims.

A plausible case can be made that welfare payments increase felony convictions and incarceration and therefore cause reductions in LFPR of prime-age males. That case goes as follows: As previously argued, the possibility of engaging in the underground economy adds to the incentive created by public assistance for less-educated men to drop out of the formal labor market. This likely increases the number of men who get involved in criminal behavior and end up doing time in prison, thus becoming a greater cost on society and less attractive as an employee. Even if not a major factor in employment trends, this could still explain how welfare assistance causes a long-term decline in LFPR for men by interacting with crime to generate that decline.

Some solutions / In his closing chapter, Eberstadt offers some brief policy recommendations. While acknowledging that addressing the men without work problem requires action on many different fronts—and certainly not just government action—he suggests devoting closer attention to three broad objectives:

- Revitalize American business and its job-generating capacities.
- Reduce the immense and perverse disincentives against male work embedded in our social welfare programs.
- Come to terms with the enormous challenge of bringing convicts and felons back into our economy and society.

Taking appropriate government action on these issues would require undoing much that government currently does. For example, eliminating a lot of government regulations and scaling back the government wars on poverty and drugs would go a long way toward accomplishing each of the three objectives (respectively). Given the prevalence of poor education among NILF men, it is surprising that Eberstadt doesn't mention the importance of undoing the barriers that currently protect public K–12 schools against competition.

Addressing critics / *Men Without Work* ends with two dissenting points of view, followed by a response from Eberstadt. The first dissenter is Henry Olsen, a senior fellow at the Ethics & Public Policy Center. Olsen recognizes the negative consequences of men dropping out of the labor force, but believes Eberstadt "overestimates the causal effect of government safety net programs ... and underestimates the causal effect [of] a changing labor market." Disappointingly, Olsen says nothing about the government policies that restrict the ability of men to prepare themselves educationally for productive employment or about the barriers that prevent them from getting entry-level jobs in which they could develop employment skills. He does recognize the disincentives of entitlements, but adds that "once men feel they cannot reenter the workforce, they need something to live on."

The second dissenter is Jared Bernstein, formerly chief economist and adviser to Vice President Joe Biden and now with the Center on Budget and Policy Priorities. He agrees that men without work is a serious problem, but disagrees with Eberstadt that it is underappreciated. Bernstein mentions concerns about automation, immigration, and globalization—all demand-side influences on the declining percentage of prime-age men in the labor force.

His more important disagreement with Eberstadt concerns the latter's belief that the downward trend in men's LFPR is largely a supply-side problem, which Bernstein considers a serious misdiagnosis. Not surprisingly, his suggested solutions are limited to policies he must believe will increase the demand for workers otherwise likely to leave the workforce. I admit to being mildly surprised when he listed—no doubt with plenty of demand-side enthusiasm—raising minimum wages. Obviously, raising the wage floor is a tough way to address weak labor demand. I am reminded of a man who responds to his boat taking on water by drilling a hole in the boat's bottom to let the water run out.

Ebersadt responds politely to these critics, pointing out that, except for a few labor economists at think tanks and universities, "men without work" remains largely ignored by almost everyone else in the country, including most policymakers in Washington. He also points out that he doesn't claim welfare and disability programs "*caused* the male flight from work, but rather *financed* it" (emphasis in original). As indicated earlier, I think Eberstadt is a little too reticent to assign causation, but his dissenters don't think he is reticent enough.

I strongly recommend *Men Without Work*. It is a well written and informative book on an important issue. I also recommend a previous book of Eberstadt's, *A Nation of Takers* (Templeton Press, 2012). That book considers the broad economic and social effects of public assistance programs. It exhibits less caution about causation, as indicated by its subtitle, *America's Entitlement Epidemic*. R

Finding the Money

REVIEW BY GREG KAZA

Heather Boushey's new book, *Finding Time: The Economics of Work–Life Conflict*, is topical for one reason: presidential hopefuls Hillary Clinton and Donald Trump both supported taxpayer-subsidized child care.

Clinton proposed to make "preschool universal for every four-year-old in America" by spending more tax dollars to provide a "living wage" to "America's child care workforce." Her goal was to "significantly increase" government expenditures, which she termed "investments," so that "no family in America has to pay more than 10 percent of its income to afford high-quality child care."

Trump called for "rewriting the tax code to allow working parents to deduct from their income taxes child care expenses for up to four children and elderly dependents." He would also "provide low-income households an expanded Earned Income Tax Credit—in the form of a childcare rebate—and a matching $500 contribution for their savings accounts."

Both wanted to expand the Family and Medical Leave Act of 1993, which requires employers with 50 or more employees to provide 12 weeks of *unpaid* leave. Trump proposed six weeks of paid maternity leave; Clinton would have required employers to pay for 12 weeks.

Boushey leads the Washington Center

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for Equitable Growth, a think tank founded by John Podesta, Clinton's campaign chair. Boushey was named chief economist of Clinton's presidential transition team in August. Her book can be summarized in one sentence: taxpayer-subsidized child care is a pressing economic issue.

She links taxpayer-subsidized child care to changes in the domestic economy. She argues:

> American businesses used to have a silent partner. This partner never showed up at a board meeting to make a demand but was integral to profitability. That partner was the American Wife.

She goes on to note:

> In 1960, two-thirds of children lived in a family where their parents were married and only their father worked outside the home. This kind of family was common across all income levels.

Today, women's greater labor force participation influences upper-, middle-, and lower-income household decisions, demanding "a rethinking of the social contract between governments, firms, and families."

Middle-class households, she contends, face lower expectations. "Most middle-class children now grow up in a dual-earner or a single-parent family," she writes, leading households to lower economic expectations, make "Mom the New Breadwinner," or increase debt loads. Low-income households face a "lack of income-mobility," their members confronted with "erratic and unpredictable schedules" that force them to turn to "extended kin networks" for support. Professionals also face challenges. For many of them, Boushey writes, "maintaining their place in the economic hierarchy requires a great deal of time and effort." This leads to "face time" demands at work and disregard for life outside the office. All three groups are affected by American businesses' loss of their silent partner.

She cites 1930s-era New Deal legislation as precedent to advance her case for policy changes in 2016. Among those precedents are the 1935 Social Security and National Labor Relations acts, and the 1938 Fair Labor Standards Act. Clinton's policy agenda would have added taxpayer-subsidized child care as well as paid sick days, short-term time off, and "paid family and medical leave." Boushey wants to add greater scheduling predictability and a limit on what she calls "overwork." "An option to telecommute may not help a working parent whose home office has been turned into a playroom or the receptionist and line workers who must physically be at work," she writes. "But better scheduling practices may be especially helpful to all these workers." Her arguments advance an ambitious agenda.

Finding Time: The Economics of Work–Life Conflict

By Heather Boushey

360 pp.; Harvard University Press, 2016

The most ambitious goal is universal child care. She links "early childhood education and the quality of care" to economic growth and argues for free or low-cost universal access to pre-kindergarten for all 3- and 4-year-olds. She notes approvingly that the U.S. Senate and House passed legislation in 1971 that would have "established a network of nationally funded, locally administered, comprehensive child-care centers." President Richard Nixon vetoed the measure, though today's Republicans might embrace the idea if they can be convinced to view the issue through the lens of economic, not social, policy.

How to pay for these programs? Boushey claims that "my proposals will cost taxpayers—and businesses—very little." Elsewhere, though, she concedes that "there are some added costs for businesses when implementing work-life policies," though they aren't quantified. She argues that "flexibility saves firms money" and that the stock market tends to respond positively when firms introduce workplace flexibility. She tries to persuade business, citing a 700-firm study that found employers consider adoption of workforce flexibility policies to be managerial common sense.

Some firms and the U.S. government provide care onsite or have flexible work schedules. "About eight in ten firms allow some employees some flexibility over when they start or end work." The problem? It's still "far from the norm in the workplace for all or even most." Boushey cites real-world examples: San Francisco and Connecticut's paid sick-day policy; Alaska and Minnesota's prohibition on employment discrimination for family responsibilities; and paid family leave in California, New Jersey, and Rhode Island (financed by a tax on employees). Do these policies boost family incomes? Data through a complete economic cycle are not presented.

Unfortunately, she does not discuss a host of other important matters: firms' current economic incentive to be flexible in scheduling to retain skilled labor; federal economic policies' contribution to the weak jobs growth described in the book; the role of churches, service clubs, and other voluntary organizations in providing support to families; and robots as household labor savers.

Interestingly, Arkansas—home of several real-world Clinton policy experiments involving labor and families—is not discussed. Arkansas per-capita personal income was stagnant from 1983 (when Clinton chaired the state's Educational Standards Committee) until a decade ago. In 1983, Arkansas' per-capita personal income was 75.4% of the nation's, and it hovered in the mid-70s through 2006, when it was 76.8%, according to the U.S. Bureau of Economic Analysis. In 2007, state lawmakers voted to reduce Arkansas' regressive grocery tax. That appears to have helped; in the last few years Arkansas' per-capita personal income has been around 80% of the nation's. Interestingly, Clinton's husband raised that tax when he was Arkansas governor.

My wife and I read Boushey's book and were left with the impression that the

author considers parents like us helpless to craft voluntary solutions to the time constraints we face balancing work and family life. These solutions range from voluntary decisions to reduce consumption in support of increased education spending, to the use of time-saving technologies that increase efficiency and productivity at the household level. Parents seeking voluntary solutions that fit their unique situations will likely be disappointed by those important omissions. R

Banning Cash: This Time is Not Different

REVIEW BY PIERRE LEMIEUX

Ken Rogoff is a former chief economist at the International Monetary Fund and now professor of economics at Harvard University. Just after the recent recession, he published with Carmen Reinhart a best-seller entitled *This Time Is Different,* an ironic and iconic title pointing to the hubris of thinking that our times were different and immune to financial crises.

As we shall see, this general idea is not unrelated to Rogoff's latest book, *The Curse of Cash*, in which he proposes nothing less than a government prohibition, or near-prohibition, of cash in order to cripple the underground economy and promote monetary policy. He has been making this argument for two decades and has been joined by a few pundits, economists, and bankers.

The term "cash" has many meanings, all referring to liquid assets—that is, assets whose values can be realized rapidly. In its narrowest sense, cash refers to paper currency (dollar bills in the United States), which is what Rogoff and other proponents of abolition are referring to. Coins are typically not included in this definition of cash, and their value would add a mere 3% to paper currency anyway.

Paper currency makes up about 10% of the total stock of U.S. money (using the M2 measure of money). The rest is essentially electronic money represented by accounting entries in the computers of banks, transferable by check, debit cards, direct transfers, and similar means. If all cash were abolished, only electronic money (and coins) would remain.

Rogoff claims to take a moderate stance. He stresses that cash would be phased out over 10 or 15 years. The largest denominations would go first, starting with $100 and $50 bills, and then the $20. Smaller denominations ($10 and lower) might be kept because they are useful for small transactions and for low-income people who may not have bank accounts and debit cards. But those bills might be banned too, and replaced by "equivalent-denomination coins of substantial weight." It's more difficult to become a criminal if you always have to push a wheelbarrow of money before you.

During the phase-out period, the government would replace paper currency with interest-bearing bonds, which could of course be cashed and converted to electronic money. There would be no overt confiscation, except for those who chose not to turn in their money earned illegally.

Whether the ban would be total or near-total, Rogoff's argument is that cash is bad because it facilitates crime and because it prevents monetary policy from pushing interest rates much below zero. The two main parts of *The Curse of Cash* explain these two reasons for considering cash a curse to be eliminated.

Fighting crime / Rogoff believes that reducing crime is the major reason for banning cash. He argues that cash is mostly used in criminal activities. Its advantage for criminals is that it is anonymous and that large denominations are relatively easy to transport and store.

Surveys suggest that American consumers hold less than 20% of the part of U.S. currency that circulates domestically. Moreover, 80% of the value of U.S. currency is made of $100 notes, which ordinary consumers do not often use. ("Note" or "banknote" is the technical term for a paper currency bill.) It is inferred that a large part of cash must therefore be used in criminal activities: tax evasion (notably in small, cash-intensive retail businesses), drug transactions, and other illegal transactions in the underground economy. The same appears to be true in other countries with their own currencies.

Reducing tax evasion, Rogoff calculates, would produce government revenues that would more than compensate the loss of seigniorage. Seigniorage is the difference between the government's cost of printing dollar notes and their market value.

This argument underestimates the need of a free society for institutional constraints on state power. That these constraints often benefit criminals is not a sufficient argument for depriving others of that protection. Criminals are probably more likely than blameless citizens to invoke the Fifth Amendment against self-incrimination, or the Fourth Amendment against "unreasonable searches and seizures." The Eighth Amendment, against "cruel and unusual punishments," looks even more tailor-made for criminals. But limiting government power is necessary to protect the innocent. Even the prohibition of cruel and unusual punishments does, because many innocents would plead guilty to lesser charges if the alternative in the plea-bargain offer were excruciating torture.

"It is no accident," Rogoff wrote in a *Wall Street Journal* op-ed previewing his book,

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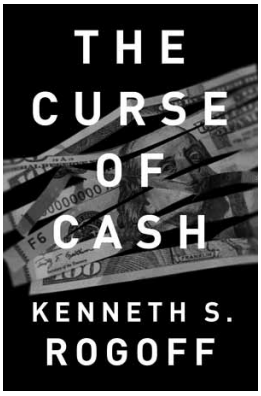
"that whenever there is a big-time drug bust, the authorities typically find wads of cash." I suspect they also find cars. Suppose a law mandated that cars had to be equipped with factory-installed, non-removable GPS devices and airplane-like black boxes in order to combat their involvement in organized crime. As a consequence, criminals might switch to horses and the authorities would find horses at big-time drug busts. Could one then argue that horses—that inconvenient relic of the past, just like cash—should be prohibited for everybody?



The Curse of Cash

By Kenneth S. Rogoff

296 pp.; Princeton University Press, 2016

At the margin, some cost-benefit guesses are unavoidable in legislation, but banning neutral things and exercising prior controls are generally shunned in a free society, and for very good reasons. For example, alcohol is involved in about a third of crimes (according to Department of Justice estimates), but that does not justify a new Prohibition. A similar argument can be made for cars, guns, and many other goods. Twitter is used by terrorists. But in a free society, deterrence through punishment is preferred to general prohibitions and prior controls.

Legitimate demand / There is obviously a legitimate demand for cash, which is used in some 60% of small purchases (up to $10). Many find cash convenient, and not only for emergencies. Even for large purchases, some individuals may have a legitimate reason to protect their privacy. Ultimately, all preferences are subjective, and economic efficiency is defined in terms of what individuals want according to their own preferences.

Interestingly, cash is one of the few goods that government seems to be efficient at producing. Such has not always been the case and it is not true in all circumstances. Rogoff documents several historical cases when governments have debased paper currency by running the printing press too fast. In today's rich countries, governments have more sophisticated ways than the printing press to debase money. So let's keep the focus on cash.

About one-half of U.S. paper currency circulates in foreign countries. In "dollarized" countries such as Panama or Ecuador, the U.S. dollar is the official currency. In other countries, people use dollar notes illegally (in view of local laws) to protect themselves against the debasement of their national currency by their own government. This happened in Zimbabwe just a few years ago after the government had printed so many Zimbabwean dollars as to render them nearly worthless. Galloping inflation became so rapid that the Reserve Bank of Zimbabwe was printing notes in denominations of 100 trillion Zimbabwe dollars.

That the poor Zimbabweans had to use U.S. cash to protect themselves against their government's exactions reminds us that not all crimes are created equal, even in Western countries. There is certainly a big difference between terrorism (where the use of cash is only "a relatively minor factor") on the one hand, and tax evasion or hiring an illegal immigrant for cash in the underground economy on the other.

On the benefit of a cash ban in fighting illegal immigration, Rogoff wrote in his *Wall Street Journal* piece that "it sure beats building walls." I'm not so sure, if only because banning cash is a virtual wall that would also capture citizens. At any rate, the economist venturing into normative matters would normally attach the same weight to a foreigner's welfare as to a national's. This is what the individualist methodology of economics suggests.

Built-in constraint / Furthermore, Rogoff does not see that some actions legally defined as crimes constitute useful constraints on the state. He writes that "if the government is able to collect more revenue from tax evaders, it will be in a position to collect less taxes from everyone else." This common argument assumes an angelic government that dutifully raises the minimum amount of taxes necessary to produce the public goods that all individuals want. In the real world described by public choice theory, Leviathan always lurks behind government; it will be tempted to maximize its revenues, charging what the market will bear, in order to benefit its electoral clienteles and enlarge the power and perks of politicians and bureaucrats. In this perspective, the built-in constraint of tax evasion prevents government from grabbing more money from all taxpayers.

We can extend this reasoning to the underground economy, which exists in large part because of both taxes and regulation, including prohibitions. When taxes or regulations reach a certain level, people start retreating into the underground economy, which provides a built-in brake on state encroachment. Harold Demsetz, the famed University of California, Los Angeles economist, hypothesized that as government expenditures reach 25% of gross national product (a concept closely related to gross domestic product), "the feedback system of underground transactions starts to become significant." He continued, "The feedback becomes more forceful as the government sector increases beyond 30%, making the size of that sector difficult to push much beyond 45% of real GNP in a democracy."

Writing in 1982, Demsetz may have been too optimistic about where exactly the built-in constraints of tax evasion and the underground economy stop the state's voracity. But these constraints are certainly stronger in a freer country, and that is a benefit, not a cost.

Negative interest rates / The second broad argument that Rogoff invokes against cash is that it prevents monetary policy from pushing interest rates far into negative territory, which he thinks is sometimes required. To understand this argu-

ment, a little detour into monetary theory is necessary.

Keynesian-inspired macroeconomic theory holds that recessions or slow recoveries (like the current one) are due to a deficiency of "aggregate demand." Government has to boost aggregate demand by either fiscal or monetary policy. Keynes preferred fiscal policy—increasing government spending or reducing the tax burden—but monetary policy has been fashionable lately. Monetary policy is supposed to work through the central bank pushing down interest rates and thus stimulating investment and consumption expenditures. (Real and nominal interest rates are the same if expected inflation or deflation is zero; otherwise they differ. To simplify this brief summary of the argument for negative interest rates, I assume no expected inflation or deflation, except otherwise specified.)

Pushing down interest rates will not work when they are already at zero. In theory, the central bank could continue buying bonds for more than their price at maturity, thereby pushing their yields into negative territory. It could also charge a negative rate to the banks that deposit money with it. But as interest rates go below zero, it becomes less onerous for savers and banks to keep their money in cash—that is, in dollar notes—because at least then they don't lose the negative interest. The existence of cash prevents the central bank from pushing interest rate below the zero bound constraint.

In reality, the "zero bound" constraint is not at zero, but slightly below. Storing cash is risky: it can be stolen or destroyed by fire. Secure storage, including insurance, costs something, especially for large volumes of cash—perhaps between 0.5% and 1% of the value stored. So interest rates can be pushed down to –0.5% or –1%, but not further.

A negative interest rate looks like a strange creature. It means that lenders (including holders of bank deposits) must pay to lend, and borrowers get paid to borrow. Lenders will accept this only if they think that their savings are otherwise threatened with even larger depreciation. Note that real interest rates can be temporarily negative if nominal interest rates, although positive, are lower than the inflation rate; but inflation expectations would soon push up nominal rates and correct the situation. A negative nominal interest is a new phenomenon.

During the past few years, central banks have run "quantitative easing" programs whereby they purchased bonds on the open market, bidding up their prices and pushing down their yield. Recently, they have pushed them slightly below zero in some European countries and Japan. These negative rates have not yet been passed on to bank depositors except for some large corporate deposits. In America, short-term interest rates are still positive but close to zero. If cash did not exist, the argument goes, the central bank could decisively push interest rates below zero.

It would be tempting for government to push interest rates far below zero and keep them there for long periods of time to reduce government borrowing costs.

Hubristic risk / There are many arguments against central banks pushing (or trying to push) interest rates below zero.

For one thing, it overestimates the state of economic knowledge. Our very imperfect knowledge of the nature of the business cycle is illustrated by the fact that economists still debate the causes of the Great Depression and even of the 2008–2009 recession. Politicians and the general public don't know more. The power of monetary (or fiscal) policy to manipulate aggregate demand is limited. We don't really know the consequences of monetary policies, especially unconventional ones like negative interest rates—except that they don't seem to show much success in Europe and Japan thus far. As *The Economist* observes, "Each new round of central-bank action seems to bring less stimulus and more side effects."

The argument for a policy of negative interest rates may also overestimate the influence of central banks, which is debated among economists. Do central banks exert a determining influence on interest rates or do they mainly follow broader market trends? There is no agreement on whether the currently low interest rates are a continuation of a downward market trend that started in the 1980s, an effect of monetary policy, or a joint effect of both factors. It can be argued that central banks are just accentuating the downward trend. There is much that we don't understand.

Rogoff underestimates the economic and political risk of negative interest rates. It would be too tempting for government to push rates further below zero and keep them there for longer periods in order to reduce its own borrowing costs. Exporters would exert pressure for more negative interest rates, as this should lead to a lower exchange rate and higher exports. (The lower interest rates are, the less foreign investors will want the currency.) This way, the world could end up in a protectionist race to the bottom. Negative interest rates would prove detrimental to savers, future retirees, and insurance companies.

Even if politicians and bureaucrats become saints and only manipulate interest rates in the public interest (assuming we can agree on a definition of this elusive concept), they may unintentionally generate bubbles in other markets such as commercial real estate or stocks.

Rogoff recognizes these dangers, but he has faith in government. He admits that monetary policy is plagued by ignorance and uncertainty, but he thinks that proceeding cautiously would be safe. He seems to think that, in case of ignorance, government should intervene.

It is safer to assume that politicians and bureaucrats will not become saints, so it's wise to constrain their power in the field of economic policy as in other areas. Cash provides individuals with a

measure of protection against their own governments. If it becomes necessary, they can move their money over borders in cash form. If cash can facilitate private crime, it also renders government crime (by confiscation) more difficult.

Regulatory state / As Rogoff admits, a total or partial ban on cash would necessarily be accompanied by a new crop of regulations and controls. As cash is being phased out, restrictions on the maximum size of cash payments (like in some European countries) could be required. Other measures would be needed; for example, government would have to subsidize the provision of debit cards to low-income people—or supply them itself—in order for people without them to be able to use money. The spread of foreign cash would have to be prevented. Cryptocurrencies, which now provide a refuge for anonymity and privacy, would have to be regulated, perhaps with backdoors for regulators. Prepaid cards would be "discouraged," to use Rogoff's mild term. Fees on withdrawals and deposits of any remaining cash may be required. With negative interest rates, prepayment of taxes would have to be controlled and banks may need bail-outs. Many savers would no doubt ask for state help. Other regulations would be adopted to close newly discovered loopholes.

Cash hoarders would be shamed and bullied. Rogoff suggests that, after U.S. cash has been abolished, any business "that comes to the bank each week with a pile of euros might as well have 'money laundering operation' emblazoned on its stationery." He praises a British police agency that bullied banks into restricting the supply of €500 notes. As he says, government always wins anyway: "It is hard to stay on top of the government indefinitely in a game where the latter can keep adjusting the rules until he wins." Many people get the word: submit! And the rule of law rides away into the setting sun of liberty.

Welcome to the brave new world of the regulatory state. With due respect to Rogoff, his plea smacks of a naive trust of the state and a dangerous elitism or paternalism toward ordinary people who want to use cash and escape the clutches of the regulatory state.

The real question is very different from the one Rogoff considers. It is not whether government should prohibit cash, but why it supplies cash in the first place. Consider this intriguing fact: government-supplied cash helps individuals escape intrusive surveillance by government.

Supplying cash is a rather minor intervention provided that competition is not forbidden. In the United States and many other countries, legal tender laws are dead-letter. Individuals or corporations may in theory agree to deal in other currencies and use other forms of cash, although I suspect that a host of indirect regulations and bullying kill any competitive temptation. To paraphrase Rogoff, the users of other currencies would have a money laundering target painted on their backs.

Better alternative / A world where government does not supply cash and prevents anybody else from doing so—which is close to what Rogoff recommends—would be as dangerous as a world where government supplies cash and forces everybody to use it. But between these two extremes (cash ban or cash monopoly), there is a third alternative: economic freedom.

Let each individual choose whether he wants to use cash or not and in which currency, and give suppliers the freedom to respond to this demand (short of counterfeiting somebody else's currency), whether they be governments—foreign or domestic—or private suppliers, and whether their offerings are fiat money or commodity-based money (such as gold). Following Friedrich Hayek, an economics Nobel Prize winner, many contemporary economists have presented cogent arguments for allowing competition in the field of money as in other areas of life.

One thing is sure: we need another prohibition like we need another Berlin Wall.

As Rogoff would say in another context, this time is not different. Human nature has not changed, knowledge has not attained perfection, politicians and bureaucrats have not become angels, Leviathan is still lurking, and public policies can wreak havoc. Abolishing cash would increase government power, undermine the rule of law, facilitate risky monetary policies, start a cascade of new regulations, and negate individual choices and the legitimate demand for cash. It would bring another brick to the construction of the police state.

Steve Ambler, a professor of economics at the University of Québec in Montréal's business school, says about the proposal of banning cash, "I think that the proposal is strongly tied to the desire to control, track, and tax any and all forms of expenditure." (The recent cancellation of cash and confiscation of part of it by the Indian government confirms such suspicions.)

Citizens would be well advised not to trust the state, but a state that claims to be democratic should trust its citizens. Switzerland is one of the economically freest countries in the world: in the latest ranking of the Economic Freedom of the World index, it comes in fourth (compared to the United States' 16th). It is probably significant that Switzerland has one of the largest banknote denominations in the world: 1,000 Swiss francs—equivalent to about $1,000 at the time of this writing. *That* is a beacon of liberty.

The Curse of Cash is a well-argued book and Rogoff is a good economist. If it were possible to prove that government should abolish cash, he would have done it. But his demonstration is not conclusive because this time is not different. *R*

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IN REVIEW

Down the Memory Hole

REVIEW BY DAVID R. HENDERSON

Ask any American born before 1960 for an example of corporate greed resulting in environmental disaster and the odds are good that he or she will name Love Canal. Love Canal, for readers who don't know, is a neighborhood in the city of Niagara Falls, N.Y. that was once a chemical waste dump. The dump became a major news story in the late 1970s, including sensational articles in the *Niagara Falls Gazette* by registered nurse turned reporter Michael Brown, who would later write the book *Laying Waste: The Poisoning of America by Toxic Chemicals* (Pantheon, 1980). The incident led to passage of the so-called Superfund legislation of 1980, which imposed a tax on petroleum and chemical companies to generate revenue for government-directed cleanup of toxic chemical sites.

But the real story of Love Canal isn't the "corporate guys: bad; government guys and community activists: good" tale that many people believe. In its February 1981 issue, *Reason* magazine published an exhaustive, fact-filled, 13,000-word article on Love Canal written by independent investigative reporter Eric Zuesse. The article dramatically recast many of the characters in Brown's reports, including Brown himself. I recently asked *Reason*'s longtime science writer, Ron Bailey, whether further information in subsequent years had led him to doubt any important factual claims in Zuesse's piece and he replied, "I am not aware that his article has been contradicted or found deficient in any important way."

When I read about Love Canal, I do so with an eye on two topics: (1) Does the work discuss Zuesse's version of the story? (2) Does it challenge his claims? Those questions were on my mind as I read historian Richard Newman's new book *Love Canal.* Newman does not mention Zuesse, but he does raise some of the issues that Zuesse did. Disappointingly, Newman ultimately ignores those issues and adopts much of the story that Brown presented.

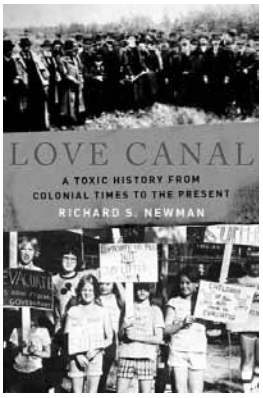
Backstory / Before diving into the book, some backstory is needed. In the 1890s, an entrepreneur named William Love proposed to build a canal bypassing the falls on the Niagara River, which would allow shipping between Lake Erie and Lake Ontario. As part of his vision, Love proposed a planned community along the waterway. His project ultimately was dashed by the Panic of 1893 and a congressional prohibition on diverting water from the Niagara River, resulting in the abandoning of the partially dug canal. However, some of the residential development Love envisioned did become reality.

Decades later, the unfinished canal, which had become filled with water, became a dumpsite for the city of Niagara Falls' municipal waste. During World War II, a city–based chemical company, Hooker Electrochemical Company (later Hooker Chemical) received permission to dispose of chemical waste in the canal. Late in the decade, Hooker drained it, lined it with clay, and began depositing drums of chemicals at the site. Dumping continued through the early 1950s, when Hooker capped the site with clay.

Development / But the site was soon disturbed. The Niagara Falls City School District wanted the property for a school and threatened to use eminent domain to gain the land. Rather than fight the action, Hooker offered to sell the property to the school board for $1. The school board agreed, even though it was aware of the site's history.

In the deed of sale, Hooker included the following closing paragraph:

> Prior to the delivery of this instrument of conveyance, the grantee herein has been advised by the grantor that the premises above described have been filled, in whole or in part, to the present grade level thereof with waste products resulting from the manufacturing of chemicals by the grantor at its plant in the City of Niagara Falls, New York, and the grantee assumes all risk and liability incident to the use thereof. It is therefore understood and agreed that, as a part of the consideration for this conveyance and as a condition thereof, no claim, suit, action or demand of any nature whatsoever shall ever be made by the grantee, its successors or assigns, for injury to a person or persons, including death resulting therefrom, or loss of or damage to property caused by, in connection with or by reason of the presence of said industrial wastes. It is further agreed as a condition hereof that each subsequent conveyance of the aforesaid lands shall be made subject to the foregoing provisions and conditions.



Love Canal: A Toxic History from Colonial Times to the Present

By Richard S. Newman

306 pp.; Oxford University Press, 2016

The new owner of the land automatically became liable for any damage done by toxic waste on the land, making such a clause legally unnecessary. Why, then, did Hooker insert the clause? Zuesse's explanation is that Hooker wanted to underscore that the chemicals could be dangerous and should not be disturbed. Consider that in March 1952, a Hooker official escorted school board officials to the site and, with them present, made test borings into the protective clay

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cover to convince the school board officials that the potentially dangerous chemicals were there. Yet, in August 1953, the school board unanimously voted to remove 4,000 cubic yards of fill from the waste site to complete the grading at another school site. The school board then began building the school on the Love Canal site, and that school opened in February 1955.

In 1957, the school board considered trading part of the property to two developers in exchange for other land and $11,000 in cash. Hooker executives, upon hearing about the proposal, sent company attorney Arthur Chambers to attend the board meeting where the proposal was discussed. Chambers reminded the board members that chemicals were buried under the land's surface and pleaded with them not to let houses be built on the land. The board deadlocked 4–4, with the result that the resolution to sell the land failed.

Unfortunately, at the same time, city workmen, while constructing a sewer, punctured the walls of the site and its clay cover. They did this even though articles in the local paper at the time regularly warned that the construction was "dangerous" and "injurious."

In short, Hooker Chemical tried on several occasions to warn people about the dangers of the buried chemicals, and the irresponsible players in the drama were government officials. Two decades later, as groundwater tests began finding toxic chemicals and assertions were made that the chemicals were causing birth defects, Brown began writing his articles.

Newman's version / Newman tells some of this story. But at some points, he undercuts it with doubts about Hooker's actions. He writes, for example:

> Hooker later claimed that developers removed the [clay] cap when building new homes and streets. But subsequent investigations doubted that the company had actually capped the entire dump (perhaps only part of it). ... In short, the Love Canal dump may never have been completely contained.

Here's the problem: In a 306-page book with 32 pages of footnotes, this very important claim is not footnoted. So either Newman has failed to back up a correct claim, or he's simply stating some unspecified person's opinion. The way to plant credible doubt is to show, not just assert, that there is doubt.

Newman quotes much-celebrated Love Canal activist Lois Gibbs' claim that "residents of this blue-collar community have come to see that corporate power and influence are what dictated the actions at Love Canal, not the health and welfare of its citizens." Yet, if Zuesse's version of the story is correct, then it was a major corporation that *warned against* various politicians' plans to cut through the cover over the toxic dump. Perhaps Hooker Chemical was truly worried about "the health and welfare" of Love Canal's citizens. Perhaps it merely wanted to avoid adverse publicity and possible legal action (despite the legal protections in the deed). Regardless, the problem was not corporate power and influence but corporate *impotence*. The politicians had their narrow goal—building a school over a potentially toxic dump—and they were not about to be stopped by a mere corporation. Of course, the quote is from Gibbs, not from Newman, but Newman does not even attempt to gainsay her strong claim.

Hooker Chemical tried to warn people about the dangers of the buried chemicals, while the irresponsible players in the drama were government officials.

This failure is not just a careless slip. In one section, for example, Newman writes, "It all came back to the concept of justice, for Love Canal families felt that they had been sacrificed on the altar of profit and power." It seems far more accurate to say that they were sacrificed on the altar of the local school board's power; the idea that for-profit Hooker sacrificed them is hard to maintain in light of Hooker's warnings not to disturb the site. Moreover, elsewhere in the book, Newman refers to Hooker's "newfound concern" in 1980 with the "public's health and safety." Newfound? As documented above, Hooker stated and, more important, acted on its concern in the 1950s.

And what were the chemicals' health consequences for Love Canal residents? One would think that a 2016 book would at least partially answer that question. But even though Newman refers to bad health consequences, he is disturbingly vague about their nature. He refers, for example, to some blood tests of young children living in the area without even giving a hint about what those blood tests found. Elsewhere he refers to a "much debated genetic test showing that roughly one-third of the thirty-six people sampled may have suffered chromosome damage." One-third is high. What, then, was debated? Only when you actually read a 1983 *New York Times* article referenced in the footnote do you find the following: "Residents and former residents at the Love Canal toxic-waste site in Niagara Falls, N.Y., are no more likely to have suffered chromosomal damage than residents elsewhere in the city, a Government study concluded today." The study was conducted by the Centers for Disease Control. Note the asymmetry: Newman puts the horrific claim about genetic tests in the body, references a *New York Times* study in a footnote, and doesn't even hint in the footnote either what the study found or that it was conducted by the Centers for Disease Control.

At one point, Newman refers to reporter Brown's being driven "by an old-fashioned sense of justice." I beg to differ. Consider, for example, Brown's claim, which Zuesse highlights: "At that time [1953], the company issued no detailed warnings about the chemicals; a brief paragraph in the quitclaim document disclaimed company liability for any injuries or deaths that might occur at the site." A brief paragraph? As Zuesse points out, this paragraph,

quoted above, is the longest paragraph in the whole deed. Newman's idea of an old-fashioned sense of justice is certainly not mine.

Conclusion / It's usually a good idea to revisit important historical issues in light of new information. Unfortunately, Newman's revisit of the Love Canal story omits much of what Zuesse discovered 35 years earlier. People who read it will get many of the apparently false impressions produced by Brown's original reports.

If you want to know the history of Love Canal in the 19th century and first half of the 20th century, Part One of Newman's book is for you. But if you want to really understand the key events from the early 1950s to 1980, Zuesse's 1981 article is the place to look. R

Restoring Checks and Balances

REVIEW BY GEORGE LEEF

America's constitutional structure, too few people today understand, was crafted for a good purpose: to disperse governmental power. It was dispersed *vertically* (little allocated to the national level and most to the states) and *horizontally* within the national government, where the three branches were assigned specific areas of authority and expected to check and balance each other. The Founders had experienced life under the British Crown with its concentration of power in the monarchy and so disliked it that they risked their lives in a rebellion against it.

The United States prospered under that dispersion of power, but the system began to break down a century ago. The Progressives and especially President Woodrow Wilson believed that the nation would be better off if governmental authority were concentrated in Washington, D.C., primarily exercised by enlightened administrators working in the executive branch. Ever since then, our constitutional structure has been under siege with the dispersion of power steadily giving way. It isn't an exaggeration to say that today's presidency wields more power than King George III ever imagined.

Why and how all of that matters is the subject of *Liberty's Nemesis*, a superb collection of 26 essays exploring different facets of our increasing concentration of power. Edited by Dean Reuter (a senior staff member at the Federalist Society) and John Yoo (a law professor at the University of California, Berkeley), the essays cover the range of federal action (and sometimes inaction) that is giving us, as the subtitle says, the unchecked expansion of the state.

Readers will probably be at least passingly familiar with most of the topics covered, including the legal wrangling over the 2010 Affordable Care Act, the Obama administration's efforts at preventing people from acquiring guns and ammunition, the unprecedented aggression of the National Labor Relations Board in pushing unionism, Operation Choke Point's illegal strangling of lawful businesses through abusive banking regulation, federal interference in state voting laws, the Internal Revenue Service's targeting of groups that oppose the president's agenda, and much more. Seeing all of these perversions of the rule of law discussed in one place gives readers a heightened sense of anxiety over the nation's future.

In his introduction, Reuter maintains that we are "dangerously near a tipping point" in that the balance of power is so eroded in favor of the president that the very concept of checks and balances may be irretrievably lost. Preserving that concept, he writes, "requires a certain faithfulness by all." The problem is that many politicians today do not act in good faith toward the Constitution they are sworn to uphold. The balance of power inhibits them because it makes governing slow and deliberate, requiring compromise and the willingness to take "no" for an answer. But they are impatient to get things done and happy with the breezy idea expressed by Democratic consultant Paul Begala, "Stroke of the pen—law of the land. Kind of cool." That, however, is not how our government is supposed to work.

Abuses of power / It isn't possible to do justice to each of these meaty essays in a short review, so I will concentrate on just a few that I think readers will find the most troubling.

Consider the much debated Second Amendment. The political left loathes the idea that citizens have the right to keep and bear arms and has engaged in a fierce campaign against it. In his contribution, former congressman Bob Barr details the non-legislative, extra-legal means employed by the Obama administration to undermine that right.

One of them was "Operation Fast and Furious," a gambit undertaken by the Department of Justice to sell firearms to Mexican drug cartel figures with the intention of demonstrating the supposed need for a greater crackdown on arms sales. Some of the weapons involved in this rogue plan were used in a 2010 gun battle that cost a border patrol agent his life. But when Congress investigated and sought information about Fast and Furious, then–attorney general Eric Holder refused to turn over documents and was held in contempt of Congress.

Another abuse of power is Operation Choke Point, which targets legitimate businesses that sell guns and ammunition (as well as other activities deemed unsavory, such as payday lending and coin sales). The operation directs the Federal Deposit Insurance Corporation to pressure banks into refusing to continue to deal with these kinds of businesses because they are "high risk" as declared by the Obama administra-

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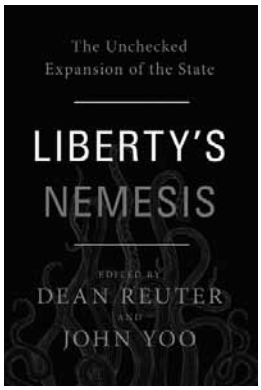
tion. No law authorizes this operation and when Congress attempted to investigate it, Attorney General Loretta Lynch dismissively promised to "look into it."

Another instance where the executive branch operated without congressional sanction is the Education Department's directive for how colleges and universities are to handle allegations of sexual assault on campus. No statute gives the department that authority, but under its "interpretation" of the law and a rule promulgated without adhering to the Administrative Procedure Act, department officials decreed that colleges must follow their dictates.

In their essay on this, Greg Lukianoff and Samantha Harris of the Foundation for Individual Rights in Education show how the vague language of Title IX of the Education Amendments of 1972 was twisted to mean not just that schools receiving federal student aid money could not discriminate against women (the statute's clear intention), but to give the Education Department carte blanche to dictate every aspect of school policy having anything to do with sex. Under a 2011 department "guidance letter," colleges risk the loss of government funds unless they do their utmost to prevent and punish all conduct that could be deemed harassment.



Liberty's Nemesis: The Unchecked Expansion of the State

Edited by Dean Reuter and John Yoo

584 pp.; Encounter Books, 2016

This has First Amendment implications, the authors note. "If a listener takes offense to sex- or gender-related speech for any reason, no matter how irrationally or unreasonably, the speaker has engaged in sexual harassment," they explain. So we now have college officials frantically monitoring speech that might lead to an investigation by federal bureaucrats. Moreover, a substantial number of male students have been punished or expelled as a result of the blatantly one-sided, quasi-judicial procedures demanded by the department. Thus, both free speech and due process of law have become victims of the Education Department's overreaching officials.

Neglect of law / Not only does the executive branch make up new laws on its own, but it also neglects to enforce laws it decides don't fit with its agenda. Several essays deal with that problem, including the administration's decision not to defend the Defense of Marriage Act when it was challenged in court, its decision to ignore the law on the deportation of illegal immigrants, and its decision to ignore the law requiring states to clean up their voter lists. Since the first two examples are fairly well known, I'll discuss the third.

In his essay, "Unilateral Actions of President Obama in Voting and Elections," Heritage Foundation legal scholar Hans von Spakovsky examines the various ways the current administration has intervened to improve the chances that Democratic candidates will win elections. This has been accomplished through litigation to block state efforts at making their elections less prone to fraud and by ignoring existing laws when enforcing them would work against Democratic prospects.

Particularly important here is the 1993 National Voter Registration Act, which requires the states to undertake "a reasonable effort to remove the names of ineligible voters from official lists." There is evidence that in many if not most states, the rolls are laden with the names of people who have died or moved away. Inaccurate lists make vote fraud much easier. But the Obama administration chose to ignore this law, a Justice Department official calling it "uncongenial" because it did not fit in with the political goal of increasing voter turnout.

Similarly, von Spakovsky charges, the Obama administration was not interested in pursuing cases of voter suppression and intimidation that may have helped its political allies, such as reports of Black Panther Party toughs patrolling Philadelphia precincts to frighten away voters.

Von Spakovsky sums up, writing:

> What appears clear is that the administration has misused its authority under various federal voting rights laws to advance its own ideological agenda, and to help ensure the election of candidates of the president's political party. This is an abuse of executive power delegated to the president by the Constitution to "take Care that the Laws be faithfully executed." ... This administration has failed that obligation.

Indeed so. When a political leader decides not to enforce the laws impartially, but instead to pick and choose which ones to enforce for partisan advantage, a crucial element of democracy's social contract has been violated.

Yoo's conclusion / Yoo ends the book with a sobering conclusion. The administrative state that was supposed to make everything more efficient has merely "eased the way for special interests" because they need only to capture the heads of federal agencies rather than the far more difficult task for persuading majorities in both the House and Senate to adopt whatever policies they desire. There is no consent of the governed when the laws are made by unaccountable bureaucrats.

What is to be done? Yoo argues that it is time to "disable and hobble" the administrative state. He would like to see the courts resuscitate the old "non-delegation doctrine" that used to keep Congress from handing its authority over to agencies. He also wants the courts to abandon their position of deference toward most agency actions and their statutory "interpretations." And he favors a conservative offensive to restore the old concepts of individual rights, going so far as to say that the almost universally reviled decision in *Lochner v. New York* (1905) was actually correct in that it protected the worker's freedom to contract as he thinks best.

IN REVIEW

That Yoo argues for such controls on executive power may seem ironic, given that some have charged him with helping to expand the chief executive's power while head of the Office of Legal Counsel in the George W. Bush administration. Nonetheless, the ideas he offers in this essay are good ones. However, the judiciary is mostly in the hands of people who see only good in the administrative state and who often have disdain for claims of individual rights.

Reading *Liberty's Nemesis* is like going to see your doctor over what you think is a minor problem, only to learn that you have an aggressive, fast-spreading cancer. You might survive it, but the odds aren't good. The unchecked expansion of the state has ruined many other nations and our case is advancing rapidly. R

Centrally Planning Fuel Economy

REVIEW BY DAVID R. HENDERSON

In the next few years, companies that sell cars and light trucks in the United States will have to comply with increasingly stringent federal regulations on fuel economy. The government's regulations call for a required average of 54.5 miles per gallon on new cars and trucks by 2025. The requirement will vary with the size of the car or truck, so each company will face a different required fuel economy average that varies with the size-mix of its sales. This is after the Obama administration had already raised the overall required average to 34.1 mpg for 2016.

On its face, such mandates would seem unnecessary. Auto consumers have ample reason to want fuel economy (balanced against other desirable traits such as safety, performance, and comfort), and car makers have ample reason to supply it. And, as *Regulation* has repeatedly documented, there is plenty of evidence that the market operates well in this regard. (See, e.g., "Do Consumers Value Fuel Economy?" Winter 2005–2006; "Working Papers: CAFE Standards," Winter 2015–2016.)

How did such a large increase in required fuel economy happen? Margo Oge, former director of the Office of Transportation and Air Quality in the U.S. Environmental Protection Agency, tells the story in her book, *Driving the Future*. Oge had a large role in designing these regulations and negotiating for them within the Obama administration and with the auto makers, both foreign and domestic. Her book helps readers understand how this extreme regulatory requirement came about.

She argues for the regulations, basing her case on the climate change that she fears would occur without a large reduction in the carbon footprint of cars and trucks. She takes for granted that there would be catastrophic global warming without such regulations. She does not consider other ways that economists have conceived for reducing carbon dioxide emissions, such as cap-and-trade or taxes on carbon use or CO_2 emissions. She also ignores or fails to understand any unintended consequences of the regulations she favors.

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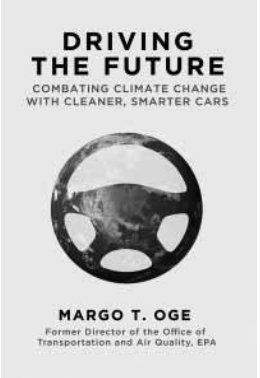
Climate change debate / Given how heavily Oge leans on climate science to make a case that the world is dangerously warming, it would have been nice had she taken the various criticisms of this view more seriously. At one point she refers to "climate change deniers," although there are a number of climatologists at good universities, none of whom deny climate change, but all of whom are skeptical of current professions of certain doom. She is having none of it, insisting that "the cause of these earth-changing deviations should no longer be subject to debate."

But *should* there be some debate? She has so much trouble granting that there might be a debate that at one point she refers to former President George H.W. Bush's chief of staff John Sununu's "effort to undermine the credibility of climate science." How did Sununu undermine it? She writes: "Sununu ran computer models that he claimed showed uncertainties clouding the understanding of global warming." What she misses is that undermining scientists' conclusions with computer models is—unless the models are dishonestly or inappropriately programmed—*part* of the scientific method.

She also criticizes Sherwood Idso, whom she calls, correctly, "a respected scientist." In his book *Carbon Dioxide: Friend or Foe?* Idso argues that increased greenhouse gas emissions "would actually increase food yield and provide other benefits." Oge admits that this is "true for some parts of the planet for short periods of time." But she writes that, overall, "Idso's arguments gave a false impression of the future impacts that climate change would have on agriculture." Unfortunately, she doesn't bother to explain precisely why this "impression" is false, instead dismissing Idso's book as being "popular and controversial" and, therefore, "exactly what industry interests wanted." We can't have that.

But let's assume, as she does, that without a large cut in CO_2 emissions, global warming would continue. What would the consequences be? There is a large, serious economics literature on this, written by people who share her concerns. I have in mind people like Yale economist William Nordhaus. But she doesn't reference his work, settling instead for a report by three people who are neither

economists nor climate scientists: former treasury secretary Henry Paulson, former New York mayor Michael Bloomberg, and wealthy investor Tom Steyer. She cites a claim from their study that by 2050, if current trends continue, "up to $106 billion of the nation's coastal property will likely be below sea level." Put aside the important hedges "up to" and "likely"; does Oge realize how relatively small a $106 billion loss is? In 2013, according to the Federal Reserve's Flow of Funds data, the value of all privately owned land and property in the United States was about $21.6 trillion. It's almost certainly higher now. That $106 billion loss, therefore, though large in absolute value, would be less than 0.5% of the total.



Driving the Future: Combating Climate Change with Cleaner, Smarter Cars

By Margo T. Oge

351 pp.; Arcade, 2015

Misunderstanding markets / To her credit, Oge understands why it would be a bad idea to require auto companies to use specific methods for reaching the ambitious regulatory mpg goals. She writes:

> The EPA didn't tell automakers what technology they had to use to make the improvements [in fuel economy]. It didn't pick winners and losers. Instead, the mandate created a huge market for whatever new technology could get the job done. Private industry would have to figure out the rest.

Implicit in this passage is the idea that firms given a mandate will figure out the least-cost way of complying with the mandate. It's good that she acknowledges this.

But once you understand why it would be a bad idea to require a particular technology, it's pretty easy to see why it's a bad idea to require a particular fuel economy for cars and trucks. Remember that Oge's and others' ultimate goal is not better fuel economy per se but, rather, lower CO_2 emissions. The least-cost way to get lower emissions is not to single out a particular sector of the economy—in this case, new cars and trucks—and require a minimum number of mpg. Instead, it is to have people cut the uses of CO_2 that have the least value for a given amount of emission.

How would government do this? Economists offer two answers: a cap-and-trade system or a tax on CO_2 emissions. I note parenthetically that even economists have gone a little astray in talking about *carbon* taxes. If global warming is a real threat, then the enemy is not carbon but CO_2. Equating a tax on carbon with a tax on CO_2 implicitly assumes that one could not use a given amount of carbon in a way that produces less CO_2. (There might even be a cheaper way to deal with future CO_2 emissions: geoengineering. But Oge does not consider this.)

With a tax on CO_2 or a cap-and-trade system, everyone who uses carbon has an incentive to economize on emissions. So not only new car buyers, but also users of old cars would economize. Outside the auto sector, barbecue users, people heating their homes, manufacturers using fuel, and electric utilities—to name just a few—would economize. Yet Oge does not consider the option of cap-and-trade or a tax on CO_2 emissions. This omission is quite striking given how vocal economists have been in recent years about a tax or cap-and-trade.

It's not as if she had no discussions with economists; she did, in both the George W. Bush and Obama administrations. She tells of one interaction with Michael Greenstone, chief economist on the Obama White House's Council of Economic Advisers. In her telling, she had reported a finding that the higher price of the more fuel-efficient car would be more than offset by the savings in fuel expenditures. Greenstone challenged her. She quotes him as saying, "The consumer won't fully value these fuel economy benefits, so we should discount them by 50 to 80 percent."

Oge doesn't say why he believed this. So I called him at the University of Chicago, where he is an economics professor, and asked him. He explained to me that if car buyers were not already demanding cars that had the fuel efficiency she was trying to achieve, it must be because there were other negatives besides the higher upfront price of the car. Those negatives might be the cars' performance, esthetics, safety, or other features.

Oge writes, "Academics like Greenstone would still worry that we are messing with the magic of the market." He explained to me that consumers know what they want better than central planners do. Summarizing her interaction with Greenstone, Oge writes, "The idea that the market functions perfectly is a powerful political and theoretical obstacle to fuel economy regulations." The idea that economists think that the market functions perfectly is a caricature that many non-economists share. You don't have to think that markets function perfectly—whatever that means—to think that they function well or, at least, better than government.

If one sentence crystallizes the problems caused by Oge's lack of understanding of economics, it is this one, written about the then-freshly formed Obama administration: "There will be others, even within the new administration, who are ideologically opposed to the regulations—as is almost inevitable in any room filled with Washington lawyers and academic economists." She, in short, sees economists—even ones in the Obama administration—as being ideologically opposed to regulation rather than being opposed because of their understanding of both markets and regulation.

Her lack of understanding of markets also leads her to miss a basic fact about the 1973 Arab oil embargo on the United States. The embargo, by itself, had no effect on the United States because oil is fungible. In a world market, selective embargoes against particular countries cannot work because buyers who get the oil from the embargoing countries can resell it. What hurt us and other oil-

consuming countries in 1973 was not the embargo. At the time world demand was growing but world production was growing more slowly, pushing prices up. Oge attributes the gasoline lines of 1973 to the embargo, but that is wrong. The villain behind the gasoline lines was the one for whom she later worked: the U.S. government with its price controls on oil and gas. Countries whose governments avoided price controls, such as Switzerland, also avoided gasoline lines.

She is not alone in this basic misunderstanding. She tells of a conversation she had in the summer of 2013 with James Woolsey, a director of the Central Intelligence Agency during Bill Clinton's presidency. In October 1973, when he was general counsel for the Senate Armed Services Committee, he had planned to run a congressional hearing on the Yom Kippur War. Instead, he "missed most of the hearing waiting in the long line at the pumps." Oge quotes Woolsey, "I turned pretty hostile to oil then, and that was forty years ago." Wow! One wonders what important decisions he made because he lacked this basic understanding of microeconomics.

Oge seems to be someone who tried to do what she thought was the right thing. It's too bad that she didn't have more understanding of economics. If she had, then we might not be contending in a few years with cars that get much higher fuel economy but suffer on yet unknown other dimensions. R

The Ulysses/Punch Bowl View of the Fed

REVIEW BY VERN MCKINLEY

A decade or so ago the Federal Reserve was riding high. In the midst of what was called the "Great Moderation," a 20-year run during which inflation was under control and two quite mild recessions graced us with their fleeting presence, things were looking good for the Fed. The tables had been turned on the stagflation of the 1970s and the Fed was getting much of the credit.

In a speech on this phenomenon titled with the same moniker as the period itself, then-governor Ben Bernanke of the Federal Reserve extolled his colleagues, gushing that their conduct of monetary policy, in contrast to the bleak memories of the 1970s, "makes me optimistic for the future." Overall there was little public consideration or appetite for revisiting the core idea of deference to the Fed on its management of the economy and the financial system.

What a difference a decade makes.

The Power and Independence of the Federal Reserve is a timely primer on how the Federal Reserve has evolved in its structure and functions in its century of existence. The book is timely because all manner of commenters—some qualified, others not—have provided a range of views since the onset of the financial crisis on: (1) why the Fed needs additional powers, or why it does not need to exist at all; (2) why the Fed needs to reduce its dual mandate of price stability and low unemployment to a single mandate of price stability, or why it needs to expand its mandate to include financial stability; or (3) why the Fed needs to go through a regular policy audit of monetary policy by the Government Accountability Office, or why it can get by with its current financial statement audit and other data releases.

Peter Conti-Brown is an assistant professor of legal studies and business ethics at the University of Pennsylvania's Wharton School. He has also held positions as a fellow at Stanford Law and in the history department at Princeton, as well as at a law firm and as a law clerk. He has never worked at the Fed or one of the other financial agencies, or at a commercial bank for that matter. But he just seems genuinely fascinated with how this strange animal known as "the Fed" works in practice and he has apparently dedicated a large portion of the last five years thinking about how it has evolved over time and if it indeed works well overall. Conti-Brown highlights the dearth of quality legal and historical scholarship on the Fed (beyond the point of its creation) and he intends to fill that void.

Independence for whom and from what? / As implied by the title, the focus of Conti-Brown's book is on how the Fed's Byzantine structure affects its power and independence. He uses a generalized definition of power to mean simple influence on the global financial system. He then cobbles together, based on his review of the literature, a very Fed-specific definition of independence as the "separation, by statute, of the central bankers (specifically the Fed chair) and the politicians (specifically the president) for purposes of maintaining low inflation."

Conti-Brown puts the definition of independence in the context of the blended metaphors of the "Ulysses/punch bowl view of Fed Independence," to which he refers often throughout the book. Ulysses is a metaphor for a system where "we write central banking laws that lash us (and our politicians) to the mast and stuff beeswax in the ears of … technocratic central bankers [who] guide the ship of the economy to the land of prosperity and low inflation." The punch bowl refers to the oft-told quote of former Fed chairman William McChesney Martin of how central bankers are "in the position of chaperone who has ordered the punch bowl removed just when the party was really warming up."

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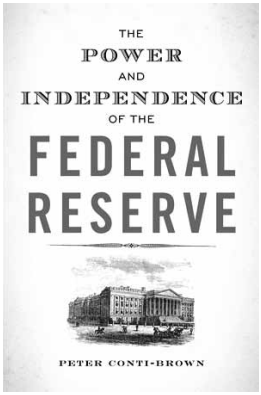
Conti-Brown claims that this widely held view of the Fed in fact "doesn't work" and is actually "wrong," which leads into the substance of his analysis of the Fed's structure and history. However, Conti-Brown tips his hand that he judges that the Fed ultimately "did the right thing" during the last decade's financial crisis when he states (without much supporting detail), "As we all saw in the 2008 financial crisis, policy failures and triumphs within the Federal Reserve stirred financial havoc but likely spared us from financial cataclysm."



The Power and Independence of the Federal Reserve

By Peter Conti-Brown

354 pp.; Princeton University Press, 2016

Covering all the bases / Conti-Brown's historical and legal analysis of the Fed largely breaks down into four major questions (which by the way do not precisely crosswalk to the four parts of *The Power and Independence of the Federal Reserve*):

- "How is the Fed governed?" traces the evolution of the governance through what he calls the "three foundings of the Federal Reserve" in 1913 (Federal Reserve Act), in 1935 (Banking Act of 1935), and 1951 (Fed-Treasury Accord). Those developments evolved the Fed from the "institutional chaos" of its early days to its current position of pursuing "institutionally separate" sets of economic and monetary policies. He applies legal scrutiny to what he calls the "unconstitutional" Federal Reserve Banks.
- "What functions does the Fed perform?" contemplates the strange brew of technical functions the Fed is responsible for from monetary policy, to lender, to supervisor and regulator.
- "What people at the Fed have stood out over time and influenced its development?" delves not only into the specialists who comprise the leadership, but also the economists, lawyers, and international specialists. It also takes on case studies of the expected comparisons of major chairmen of the Fed: the Martins, the Volckers and the Greenspans that the man on the street is familiar with. But it also scrutinizes the Tarullos, the Alvarezes and the Blinders, names that are mostly just familiar to hard-core, Fed-obsessed geeks.
- "What major interactions does the Fed have outside its walls?" scrutinizes the Fed's relationship with the president as implied by the Fed-specific definition of independence, and also Congress and bankers (including international banks and central banks). This includes a thoughtful section on regulatory capture at the Federal Reserve Bank of New York.

What he gets wrong / Near the end of the book, Conti-Brown advances case studies to apply his detailed framework for the Fed. He turns to an assessment of two current proposed legislative amendments to the Federal Reserve Act: a policy audit of monetary policy ("Audit the Fed") and a mandate for a rules-based methodology for monetary policy. Conti-Brown concludes that both are unnecessary. He starts off by making an excellent case to justify a policy audit, one that I have advanced myself:

> The public audit part of the proposal is consistent with an essential component of this book's argument, that we cannot understand what the Fed is, what it does, and who on the outside influences Fed behavior without knowing more about how the Fed operates.

So far so good. He then turns the discussion on its head and ultimately concludes that the audit effort is "motivated by a desire to punish specific Fed actions" and therefore is not a good idea. Where did the valid concerns about making the Fed more transparent go in this analysis? His argument is not convincing.

The second proposed legislative amendment that Conti-Brown assesses is the simple idea of requiring the Fed to adopt a rule to guide its implementation of monetary policy. This is as opposed to the current practice of vesting plenary discretion in the Fed to conduct monetary policy as the voting members see fit, unhinged from a logical, consistent monetary rule. Based on what I know about the legislative proposals on Capitol Hill (primarily sponsored by House Financial Services Committee Chairman Jeb Hensarling), Conti-Brown misstates the proposed legislation when he says that the "rule selected and written into the Federal Reserve Act is the so-called Taylor Rule." In fact, Hensarling in multiple press releases has explained that there is no such mandate that the Taylor Rule be used, that the rule would be "of the Fed's own choosing with the power to amend it or deviate from it at the Fed's own choosing."

I should also point out that Conti-Brown makes a few factual mistakes in the book—mostly mistakes your typical policy reader would not catch. For example, he speaks of Continental Illinois and the unprecedented $3.6 billion bailout provided to it in 1984, then states, "It wasn't enough; the bank failed anyway." Advocates of bailouts called Continental "too big to fail" for a reason. The bailout meant it did not ultimately fail and it lived on to become part of Bank of America in the early 1990s. Additionally, he states that the last decade's financial crisis was focused in the "uninsured investment banks, insurance companies, money market funds, and other uninsured financial institutions" because they lacked deposit insurance, which mitigates such panics. Yet he fails to explain why massive Citibank—a subsidiary of Citigroup, which is a Fed-regulated entity—had a run on its deposits, notwithstanding the fact that it was a good old-fashioned commercial bank with FDIC insurance. But misstatements and omissions like these are few and far between

and he mostly gets his facts right in this detailed analysis of Fed operations.

Conclusion / Despite these stumbles that this Fed critic latches onto, Conti-Brown's book provides a thorough history and legal analysis. I agree with his characterization that it fills a large void in the literature. My favorite find that Conti-Brown mined as part of his research is a 1914 quote from Sen. Carter Glass about how the Fed would not issue "fiat money":

> Fiat money is an irredeemable paper money with no specie basis, with no gold reserve, but the value of which depends solely upon the taxing power of the Government emitting it. This Federal Reserve Note has 40 percent gold reserve behind it, has 100 percent short-term, gilt-edge commercial paper behind it.

I think we know how Federal Reserve Notes "evolved" in the ensuing century. R

Should We Want More Government?

REVIEW BY PHIL R. MURRAY

The title of this book, *How Big Should Our Government Be?* by Jon Bakija, Lane Kenworthy, Peter Lindert, and Jeff Madrick, raises an interesting question. The authors' goal is "to broaden the nation's understanding of how big government actually should be by presenting the best research on the subject." They claim to shun "ideology and politics." Their question in general is, "Will bigger government hurt the economy?" They reason it will not.

Social transfers / Lindert, an economics professor at the University of California, Davis, opens his contribution deftly with rhetorical support from Adam Smith. In Smith's *Lectures on Jurisprudence*, Lindert reminds us, the founder of economics refers to the "many expences necessary in a civilized country." Lindert equates those necessary expenses to government spending on "infrastructure." In his *Wealth of Nations*, Smith refers to "publick works which are beneficial to the whole society" that may need to be financed by "the general contribution of the whole society." Lindert's take is that Smith "clearly understood that external benefits could justify tax-based social expenditure." He then moves from economic literature to an empirical investigation of how transfer payments affect macroeconomic performance.

His first piece of evidence is a graph that shows real gross domestic product per capita and "social transfers as a % of [gross domestic product]" for "four of Smith's civilized countries—the United Kingdom, the United States, Sweden, and Japan." The graph shows that both real GDP per capita and social transfers as a percentage of GDP have increased over the long run. One interpretation is that standards of living in those four countries have increased despite more government spending on public pensions, health care, unemployment benefits, etc. Another interpretation is that the welfare state is compatible with a high standard of living. Lindert prefers the latter. He recognizes that reverse causality might be at work: "Perhaps the prosperity bred the wasteful social spending." He responds, "Yet if the social spending is nothing but a rich country's bad habit, like obesity or recreational drugs, why don't we see any easy evidence of it dragging down GDP per capita?" Perhaps observing just four high-income countries isn't enough to respond to that question.

The next piece of evidence is a table that shows correlations between transfer payments and economic performance among a greater number of countries in the Organisation for Economic Co-operation and Development over several decades. Lindert straightforwardly calculates a correlation coefficient between "initial share of social transfers in GDP" with the growth rate of GDP per capita during each decade for all the countries. It is unclear, though, exactly how he did this; did he use average GDP per capita for each decade? Nevertheless, he concludes, "History again shows no significantly negative relationship between the start-of-decade public social spending share and either the growth or the level of GDP per capita." At this point, he encourages neither advocates of the welfare state nor advocates of limited government. "From all the correlations," he declares, "we cannot infer a positive causal influence of social spending on economic growth, yet any claim of a negative historical relationship is easy to doubt." He adds:

> I have surveyed the econometric studies available as of a decade ago. None has found a significant negative effect of the whole welfare state package on GDP, at least not any study that has used sound econometric techniques and has made its underlying data available to others. Even the few that announced negative effects but hide their data have failed to show negative effects large enough to imply the major economic damage claimed by some theorists, journalists, and politicians.

And with that, Lindert vigorously advocates for the welfare state. Taxing and transferring income will not, according to him, reduce the standard of living or its rate of growth. He invites us, moreover, to expect these bonuses from the welfare state: less income inequality, reduced poverty, increased longevity, honest government officials, small budget deficits, and even happier people.

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He knows that some readers will be skeptical, so he offers justification. Successful welfare states rely on "the broader kinds of taxes that economists consider more efficient." These include "broad consumption taxes and sin taxes on harmful and addictive products such as tobacco, alcohol, and gasoline." Bureaucrats that administer successful welfare states spend efficiently too: "Universalist public transfers and services, those to which everybody is entitled, are cheaper to administer because there is less bureaucratic need to investigate who should be excluded from the benefits."

The efficacy of welfare state spending on health care, "skills accumulation for mothers," and "social programs for children and those of working age" apparently overcomes any deleterious effect of the welfare state on productive effort. That's why we don't observe a negative correlation between welfare spending and GDP. Lindert boldly proclaims, "No welfare state has become poor." Not even the example of Greece contradicts his findings, according to him, because "Greece has never had a true welfare state and, compared to other rich nations, it does little for the poor." Yet the author defines a welfare state as "any democratic country for which public social transfers, and the taxes implicitly paying for them, exceed 20 percent of GDP." The book's Figure 2.6 shows "public social expenditure as a % of GDP" beyond 20 percent in Greece, which seems to satisfy his definition of a welfare state. The same figure also shows that Greece's welfare state exhibits "elderly bias," which may be why Lindert rejects it as "true." Perhaps we may draw the lesson that the best intentions of a welfare state may be thwarted by special interest groups in the political process.

How Big Should Our Government Be?

By Jon Bakija, Lane Kenworthy, Peter Lindert, and Jeff Madrick

207 pp.; University of California Press, 2016

Size of government / The authors of *How Big Should Our Government Be?* do not only argue that generous welfare spending is compatible with high standards of living and growth. Bakija, an economist at Williams College, argues at length that government officials can purchase a larger share of all goods and services as well as increase taxes, and there will be no decrease in economic well-being. His first piece of evidence is a graph showing that "across all countries in the world for which data are available, there is a strong *positive* correlation between taxes as a share of GDP and real GDP per person." He acknowledges that higher real GDP per person might be causing higher taxes as a share of GDP, but he does not concede that this possibility refutes his finding.

His next piece of evidence is a group of graphs showing the evolution of real GDP per person and the size of government (specifically, government spending as a percentage of GDP) for 12 successful economies over a 100-year period. Each country has a bigger government today than it did about a century ago, and each has a higher standard of living. Bakija emphasizes that "there is no evidence of a slowdown in the long-run economic growth rate in the era of big government." The case is not closed, however. There is a possibility that bigger government reduces the standard of living without reducing its trend rate of growth. In order to see whether this happens, the author charts the percentage-point change in the ratio of government spending to GDP from 1913 to 2013 versus the average annual percentage change in real GDP per capita over that period for 13 countries. Even if real GDP grew at the same rate almost every year, say 1.75 percent, occasional decreases in real GDP per person because of bigger government will reduce the average annual growth rate over all the years. Bakija's figure shows that standards of living evidently did not grow at slower rates on average as governments grew larger. But the case is still not closed, as he admits: "A potential confounding factor arises because economic theory suggests that countries starting at lower levels of GDP per person might find it easier to grow quickly." Even when holding constant this effect of "catch-up growth," there is "no significant association between increase in size of government and economic growth, despite enormous differences in the magnitude of changes in the size of government."

Econometric methods might clarify our understanding of the relationship between size of government, economic well-being, and the "many other confounding factors." Bakija reviews the literature. These number-crunching exercises appear thorough and sophisticated. Although econometric studies don't resolve the debate over what happens in the economy when the government gets larger, they create what the author calls a "common ground." Some researchers accept Lindert's point that efficacious government spending is sufficient to counteract the adverse effects of taxes. Some imply that policies consistent with greater economic freedom—such as free trade, low inflation, and the absence of employment protection laws—offset taxes and government spending. Those economists, according to Bakija, "are essentially arguing that the Nordic countries could have even higher economic growth if they maintained all their market-friendly policies but scaled back on their taxes and social welfare policies." He admits that this view is possible, even "plausible," but not "convincingly demonstrated." He suggests that citizens in a democracy might be more willing to accept the uncertainty that accompanies global capitalism if they get a welfare state along with it.

Which programs and taxes? / Given their evidence that bigger government does not reduce economic growth, Kenworthy and Madrick (the former a sociologist and political scientist at the University of Arizona, the latter a senior fellow at the Century Foundation) call for increasing taxes

and government spending by 10 percentage points of GDP. In general, they recommend spending on "infrastructure, economic security, equality of opportunity, and fairly shared prosperity." In particular, they propose: "universal health care," "one-year paid parental leave," "universal early education," and 13 more programs. The authors do not itch to regulate every aspect of economic life. "Indeed," Kenworthy and Madrick grant, "the country would be better off if the degree of government intervention in some areas were to shrink." The areas they have in mind include patents on pharmaceutical drugs, occupational licenses, and land use.

In order to finance bigger government, Kenworthy and Madrick recommend a federal consumption tax, a higher "effective income tax rate for the top 1 percent of households," "a carbon tax and a small financial transactions tax," and a higher "earnings threshold for the payroll tax." In the chapter he contributed, Bakija "dug a little deeper" into the question of whether higher taxes would diminish the incentive to work. The data show that as the highest marginal income tax rate paid by "people in the top 0.1 percent of the distribution of pre-tax income" fell from 70 percent in 1960 to about 40 percent in 2014, their share of the income zoomed over 200 percent. We may not, Bakija cautions, take this to mean that the supply of labor is sensitive to the tax rate on income, and thereby fear that reduced work effort would result from the authors' plans to increase taxes.

Bakija presents cross-country evidence over the long run that shows no relationship between reductions in marginal income tax rates and growth rates in real GDP per person. He gives reasons why countries do not experience accelerated growth rates in their standards of living along with lower marginal income tax rates. He wants to shed light on what will happen to the standard of living following an increase in marginal tax rates. "The important point for our purposes," he summarizes, "is that none of the alternative explanations—rent-seeking, technological change and globalization, or shifting of reported income between personal and corporate tax bases—implies that increasing tax rates on high-income people involves large costs in terms of economic efficiency." Expand government, increase taxes to pay for it, and expect, in the authors' words, a "free lunch."

If, a century ago, a progressive proposed increasing taxes and government spending from around 10 percent of U.S. GDP to around 40 percent today, an advocate of limited government would have predicted economic stagnation. Such an expansion of government is now historical fact, and today's advocate of limited government cannot deny that growth has occurred. He might argue that growth could have been brisker, but he probably boasts of the standard of living we have today.

Yet Bakija, Kenworthy, Lindert, and Madrick face their own paradox. Bigger government is what their intellectual ancestors wanted, and it is what we have today, but the authors still want more government. They thereby admit that today's size of government is inadequate to maintain infrastructure and solve social problems. How do they know that increasing taxes and spending another 10 percentage points of GDP will upgrade infrastructure and relieve social problems? Would a bigger American welfare state show outcomes similar to Nordic welfare states?

This book will challenge readers wary of big government. Both they and those who embrace big government may look forward to the next round of this debate in the new book by Centre for Policy Studies research fellow Nima Sanandaji, *Debunking Utopia: Exposing the Myth of Nordic Socialism* (WND Books, 2016). *R*

What You Always Wanted to Know about GDP But Were Afraid to Ask

REVIEW BY PIERRE LEMIEUX

Gross domestic product (GDP) pops up everywhere in the news. Last summer, for example, the news that Ireland's GDP had increased by 26.3% in 2005 (compared to 8.5% the previous year) had people scratching their heads. The Sept. 3, 2016 issue of *The Economist* raised the perennial question of whether GDP figures released by the Chinese government are reliable. Then Japan began revamping its GDP calculations after some contradictions appeared in official statistics. This is not counting the routine articles that follow the quarterly release of estimates and the monthly revisions by the Bureau of Economic Analysis (BEA), the federal agency that calculates U.S. GDP and other numbers contained in the National Income and Product Accounts (NIPA).

PIERRE LEMIEUX is an economist affiliated with the Department of Management Sciences of the Université du Québec en Outaouais. His latest book is ***Who Needs Jobs? Spreading Poverty or Increasing Welfare*** **(Palgrave Macmillan, 2014).**

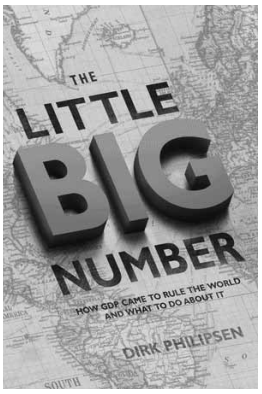
GDP is a complicated concept that raises many issues. Understanding them requires a good grasp of the concept of GDP, its methodology, and the economic theory behind it. As an illustration of these treacherous grounds, the Irish GDP increased so much in 2005 because the "domestic" in "gross domestic products" refers to the residents (including corporate entities) of the territory over which it is measured. In 2005, several multinational corporations relocated to Ireland to avoid higher taxes elsewhere, giving the Emerald Isle an enormous one-year GDP boost.

There is much to learn in order to understand the use and misuse of GDP. Princeton University Press's recent release of two books on GDP gives us an opportunity to do this. Let's start with some basics, and then take a look at the books.

GDP: A Brief but Affectionate History

By Diane Coyle

186 pp.; Princeton University Press, 2014



The Little Big Number: How GDP Came to Rule the World and What to Do about It

By Dirk Philipsen

416 pp.; Princeton University Press, 2015

Oranges, apples and happiness / What is GDP? It is defined as the market value of final goods and services produced in a given country (or other area) during a given period of time. GDP is intended to measure an economy's production. It incorporates only the production of final goods, which will not be further transformed during the period under consideration (usually one year). Intermediate goods—goods that are to be inputs for other goods—are excluded in order to avoid double-counting. For example, only the value of a finished loaf of bread is counted; adding the value of the flour that went into the bread would be double-counting since it is already accounted for in the price of the bread.

Soviet planners, who did not want to consider prices because they smacked of capitalism, aimed at measuring all production in physical volume. One drawback is that, with this method, they could not produce a single number that measured the production of their economy; they only had the amounts of apples, oranges, or tanks produced. They did not accept the concept of GDP. But then, without market prices, it is unclear how Soviet planners could have meaningfully calculated GDP.

Prices determined on free markets and used to calculate the value of GDP are not arbitrary. The free-market price of a good equals the marginal utility of that good—all consumers will buy additional units up to the point where the utility of the last unit is equal to its price. (Think of "utility" as satisfaction or happiness, although the technical concept is more complicated. See "John Hicks and the Beauty of Logic," Winter 2014–2015.) GDP thus sums up production as valued by the consumers themselves in their quest to maximize their utility. GDP is a measure of economic efficiency.

One must tread very carefully here. Saying that the free-market prices used to compute GDP represent the value that consumers attach to the last units consumed of all goods does not mean that GDP measures the total utility of consumers, called "social welfare." A person gets more utility from what he consumes than what he pays for it; economists call this "consumer surplus." So GDP is worth more than its money value.

Another reason why GDP does not measure social welfare is that utility can be distributed differently among individuals and inter-individual comparisons of utility are scientifically impossible. In a 1950 paper, "Evaluation of Real National Income," the future Nobel economics prizewinner Paul Samuelson provided definitive proof that GDP computed from prices and quantities cannot measure social welfare.

There are three equivalent ways to calculate GDP. On the *expenditure side*, it can be calculated as the sum of final expenditures by consumers, governments, businesses purchasing equipment, and foreign importers. Equivalently, it can be calculated as the sum of values added in all industries: this is the *value-added side* of the ledger. Finally, it can be calculated as the sum of incomes received—the *income side*. We thus have a triple-entry accounting system that makes it difficult to falsify GDP figures. Production must generate incomes that serve to purchase everything. (What is not purchased is held in inventories, which are defined as a sort of investment alongside machines, equipment, and buildings.)

AN AFFECTIONATE VIEW

GDP: A Brief but Affectionate History is a short book by Diane Coyle, an economist, professor at the University of Manchester (United Kingdom), and former adviser to the UK Treasury. The book explains the basic concepts and statistics behind GDP while reviewing its intellectual history. Three economists who worked on GDP-related concepts ultimately earned Nobel economics prizes: Richard Stone (1913–1991), Simon Kuznets (1901–1995), and Wassily Leontief (1906–1999), but there were many other precursors. Coyle's book also broadly traces the history of economic growth, which is measured by GDP per capita. The book constitutes a defense of GDP, affectionate perhaps but very critical at times.

Coyle notes that "very few people ... truly understand how the regularly published GDP figures are constructed." She adds, "This excludes many of the economists who comment on GDP," but I suspect this is a typo: she must have meant to include many economic commentators in her blame. Both conceptually and statistically, GDP relies on a vast set of assumptions. Coyle explains many issues in GDP accounting and data collection, from "chained" GDP to purchasing power parities and hedonic prices.

She also reviews many limitations of GDP. Because of data collection problems, GDP excludes the underground economy (drugs, prostitution, illegal labor, and such). This is beginning to change, however; European Union governments have recently started to incorporate estimates of their underground economy. Another

limitation: GDP excludes non-market production such as household work (cooking, taking care of children, gardening, etc.).

Coyle notes that GDP does not measure welfare or happiness, but at times she seems to forget it. She does note that several other indexes that attempt to do this, such as the Human Development Index, are strongly correlated with GDP. Money does not bring happiness, but it seems to help.

Some of Coyle's criticisms of GDP are not as convincing as others. For example, she claims that new digital services with zero price—think Google search—drive a growing "wedge between what GDP measures and aggregate economic welfare." I am not sure this claim is correct, and not only because GDP does not measure welfare. Goods that are zero-priced for consumers do carry a positive price for others—advertisers in the case of Google. They generate new incomes and new value added. The advertisers make a profit and help Google make one. In the accounting logic of GDP, nothing seems to be lost.

Coyle criticizes the special and convoluted treatment of the financial sector in GDP. I am not totally sure she is right in her criticism of how the contribution of finance is calculated. She certainly is wrong when she questions "whether finance should be included in GDP at all." If a market good or service is demanded by some consumers, it should be included in GDP. Except for extreme cases (like, say, murder contracts), GDP is not a moral concept. Or, at least, we try to keep it from becoming so.

Environment / Environmentalists have argued, and Coyle seems to agree, that depletion of natural resources or natural capital should be deducted from GDP, just as depreciation of physical capital is deducted to give Net Domestic Product (NDP). This environmentalist idea is not as useful as it may first appear. As suggested by Kuznets in 1973, the volume of resources available depends on human knowledge and technology, which influence efficiency in the use of those resources. Since the production of this sort of knowledge is not incorporated in GDP, why and how should natural capital and its depreciation be calculated?

We can go a bit further with a normative argument. The moral desirability of deducting depreciation of natural capital from GDP assumes that future generations—which, except for government follies, should be wealthier and healthier than we are—have a claim on today's resources. Will they not be at least as altruistic as we are and wish we had enjoyed the best possible life? Or else, what monsters are we breeding?

From a positive (as opposed to normative) viewpoint, the pro-depreciation argument assumes that environmental and governmental apparatchiks are the best candidates to exercise the claims of future generations (who don't often demonstrate or riot in favor of social justice and against globalization). Why shouldn't decisions about the use of current natural resources be left to their private owners, who may have children or grandchildren to whom they would want to leave *their* resources?

Private property rights on natural resources partly solve the depletion and depreciation issue. The owner of an oil-rich piece of land decides whether the rent he would get is worth depleting his resource as opposed to leaving it to his children or, indirectly, to the children of a potential buyer bidding up the land price. This way, the optimal time path of depletion is, at least partly, reflected in GDP.

It is true that not all resources can be easily privatized and priced on markets—pure air or perhaps glaciers potentially affected by global warming are examples. But the first solution should be to try and better define and enforce private property rights. Shadow pricing of resources should only be resorted to when a Coasian solution does not work. (On Ronald Coase's theory, see "The Power of Exchange," Winter 2013–2014.)

Coyle explains how GDP and NIPA as we know them were offspring of the Great Depression and WWII. In both cases, governments needed to measure the economy in order to better control it. Keynesian macroeconomics soon provided a theoretical framework to justify government expenditures: "*By design*," writes Coyle (the emphasis is hers), "GDP would increase when those policy levers were operated, at least in the short run."

Government services / One major flaw of GDP relates to the treatment of government services. What is the value of these services, which are not priced on the market? In the early 1940s, it was decided to include in GDP all government expenditures on goods and services (including labor services, but excluding pure money transfers like, say, Social Security), as if government services were pure "profit" or value added. In other words, government services are valued at cost, contrary to ordinary services.

It is difficult to value something that is not sold on markets, but the main reason for overstating so blatantly government's contribution to GDP was to valorize war expenditures and hide how they reduced consumption expenditures. Many economists involved in the development of GDP, including Kuznets himself, disagreed with this government decision. Coyle makes it clear that GDP and the NIPA as we know them were developed mainly as a tool for government.

I have other quibbles with Coyle's book and I am not the only one (see the long and instructive review of the book by Moshe Syrquin in the *Journal of Economic Literature*). For example, I don't know how she can blame deregulation and "the creation of toxic financial instruments that multiplied and focused risk" for the Great Recession without mentioning that mortgage-backed securities were created by a federal housing agency, Ginnie Mae. Coyle often seems to show as much affection for government as for GDP. Yet, her book remains a useful introduction to the meaning and limitations of GDP.

TOTALITARIAN GDP

Dirk Philipsen's *The Little Big Number* is a very different animal. Despite lengthy

endnotes, this book looks more like the work of a political pamphleteer. The author, an economic historian at Duke University, argues that GDP is a dangerous number that forces an inappropriate focus on economic growth, wasteful material goods, and unsustainable capitalism.

Against what he sees as a sort of GDP totalitarianism, the author longs for a new economy based on "belonging" and "tight-knit communities that integrate all aspects of life" and would lead to "rising access to fertile land for purposes of physical and social nourishment," whatever that last bit means. Many of his pronouncements are more clichés or incantations than economic arguments: "people and nature are increasingly reduced to commodities" and we need to contribute "to a larger social whole," etc.

Economics? / The reader may sometimes question Philipsen's understanding of economics, let alone GDP. The author of *The Little Big Number* does not seem to grasp the nature of value and the function of prices. He argues that there is no relation between price and value. "Few people," Philipsen writes, "would have to think long when faced with a choice between either $10 million in cash or, say, oxygen. Which would they value more?" He is puzzled by the low price of oxygen.

He seems unaware that Adam Smith raised this very problem in *The Wealth of Nations*, using water and diamonds instead of oxygen and cash. Economists have referred to this problem as the "water–diamond paradox," and its solution was completed with the theory of marginal utility in the late 19th century. The solution is that, for a normal individual, the total utility of water is higher than the total utility of diamonds, but the marginal utility of diamonds, which are relatively scarce, is higher than the marginal utility of water, which is in large supply. An individual would prefer no diamond to no water but he would rather have another diamond than another glass of water.

The author of *The Little Big Number* apparently does not understand the function of property rights. He sees externalities everywhere and constantly calls on government, which is both a knight in shining armor and a black box, to legislate and regulate. He cites Coase twice in footnotes, apparently and strangely invoking him against GDP.

Under Philipsen's pen, finance is a dirty word and a fuzzy concept. It is used as a synonym sometimes of money, sometimes of physical capital. Another time, "financialized" is identified with "given a price." He does not seem to understand that financial assets are claims on physical capital and that it is normal that capital exceed annual GDP, just as a machine is worth more than the profits it generates in one year.

Philipsen argues that society and the economy must be reinvented according to "intelligent political design." He does not explain how such constructivism works. He does not cite Friedrich Hayek even once.

Understanding GDP / It is not obvious that Philipsen understands what GDP is. For example, he claims that "modern governments … generate almost half of GDP." This is not correct. Although public expenditures *including transfers* are often close to and sometimes above 50% of GDP, government production (strangely measured by its purchases, as we saw) is around 45% of public expenditures. In the United States, where total government expenditures represent about 40% of GDP, government thus "generates" slightly more than 20% of GDP.

Philipsen also falls prey to Frédéric Bastiat's broken-window fallacy: he sees "robust GDP growth in the wake of disasters." This makes sense only if there was Keynesian unemployment when the catastrophe hit; otherwise, resources for repairs and reconstruction are just diverted from what they would otherwise have produced. The accounting of GDP is consistent with this criticism of the broken window fallacy.

Some statistics reported in the book are questionable or unfindable. Some statements are at best metaphorical. For an example of the latter, we read in *The Little Big Number* that "humans are the only species that tolerates in its midst things like poverty and unemployment, despite an overabundance of wealth." I am not sure that all chimpanzees have access to the best food (and all males to the best females) and are employed full-time at twice the primates' minimum wage.

Petersen constantly attacks the "one percent"—the top percentile of income earners—and suggests that income equality is unacceptable both in the United States and in the world. But if inequality is unacceptable in the world, most Americans are on the wrong side of "social justice." According to humanprogress.org (a project of the Cato Institute, publisher of *Regulation*), any American with a net income of more than $32,400 is among the top 1% of incomes in the world. Some back-of-envelope calculations with tax statistics suggest that four in 10 American taxpayers are among these. Similarly, a person receiving only the basic income entitlement that Philipsen proposes ($15,000 per year) would rank among the top 10% of income earners on the planet.

Anti-GDP elitism / What Philipsen fundamentally does not like about GDP is that the measure represents, however imperfectly, what consumers want. The preferences of most consumers do not correspond to *his own* preferences. He does not seem to like tobacco, fast food, guns, bottled water, "a sedentary life on stuffy couches," Walmart, Facebook, or cars. He likes what the intelligentsia like, such as education, walks in the woods, beautiful bathrooms, tasty food, poetry, and "tight-knit communities" (although, as a practical matter of revealed preferences, intelligentsia denizens often live in cosmopolitan environments).

Philipsen proposes to redefine the economy around his own preferences, with the possible help of "several international leaders of either the caliber or political understanding of … Elizabeth Warren." But "another scenario," he tells us, could give the job to "enlightened bureaucrats

and academic elites." I suspect he is not opposed to his "reconstituted political and legal enforcement agencies" having guns to enforce his preferences.

Philipsen would protest that it is not what he likes that must be produced, but what "we, as a society" want. He does not understand that individual preferences cannot easily (if at all) be aggregated into social preferences and expressed as collective choices. He believes in methodological unicorns like the "satisfaction of the social body."

He does not see that no "democratic dialogue" or "public conversation" can lead to unanimity, except perhaps at the level of an abstract constitutional contract à la James Buchanan. (Philipsen does not mention Buchanan's work.) He does not understand Hayek's point that each individual has his own goals and that a free society cannot impose a single goal on everyone.

Collective choices—"an economy that works for what we want"—imply that some will impose their views and lifestyles on others. To paraphrase H.L. Mencken, Philipsen's proposed political system is one in which common people don't know what they want and will get it good and hard.

If you do read this book, which will be released in paperback this spring, it may actually make you fall in love with GDP. It is an imperfect measure for sure, but one

A Glaring Misuse of GDP

Among the many forms of GDP misuse, one is obvious, frequent, and dazzling. It stems from an interpretation error that officials of national statistical bureaus readily recognize but apparently do not care to correct. (See "Are Imports a Drag on the Economy?" Fall 2015.)

One of the main accounting identities of NIPA states that GDP is equal to the sum of consumption, investment, government expenditures (excluding transfers), and exports. In other words, it is the sum of domestic production flows to domestic consumers, domestic purchasers of investment goods, domestic governments, and foreign importers. In still other words, the production side of GDP is equal to its expenditure side: everything that is produced is purchased.

This is an accounting identity, which means that it is true by definition and cannot be false. It is necessarily true because anything produced that is not purchased by domestic consumers, businesses, governments, and foreign importers will pile up in inventories, which is a form of (unintentional) business investment. Investment is *defined* as including (besides fixed capital) whatever remains after intentional purchases. This is how accounting identities are necessarily true in the real world: some residual adjusts as a matter of definition.

We could write our accounting identity as:

GDP = consumer expenditures + business investment + government expenditures + exports

provided that we took consumer expenditures, business investment, and government expenditures as including only goods and services *produced domestically*. As its name indicates, gross domestic product is made of domestic production only.

In the statistics that are actually collected, however, consumer expenditures (normally represented by C), business investment (I), and government expenditures (G) include some imported goods and services. The Chinese-made fishing rod you bought at Walmart was captured in C; the printing press a newspaper company bought from Germany was part of I; and the salary of the foreign consultant hired by the government was included in G. Consequently, it would not be correct to write our accounting identity as GDP = $C + I + G + X$ (where X represent exports), because imports are captured in the right side of the equation and should not be included.

To solve this statistical problem, the accounting identity is written as:

$$\text{GDP} = C + I + G + X - M$$

The term $-M$ cancels the imports that are hidden in C, I, and G, as any good macroeconomics textbook explains.

If one did not have a good textbook in his introductory macroeconomics class or never took such a class, being misled is easy. The problem is compounded by the fact that $X - M$ is often grouped inside parentheses so that the accounting identity is remembered as:

$$\text{GDP} = C + I + G + (X - M)$$

For the non-expert, the last equation can easily suggest that $(X - M)$ is the balance of trade. This interpretation error is further encouraged by experts who call $(X - M)$ "net exports." To repeat, it is only "net exports" if you forget that $-M$ is used only to cancel the imports that, in the process of data collection, were included in C, I, and G. In other words, the term $-M$ is a statistical trick.

Imports are *not* deducted from GDP. They cannot reduce the statistical measure of GDP because, by definition, they are not part it.

In its press releases, the BEA continues to write that imports "are a subtraction in the calculation of GDP" (see, for example, its release of August 26, 2016). This is not wrong when you know, as BEA economists do, that imports are subtracted after being added; but it is highly misleading. The typical journalist concludes that imports reduce GDP and transmits this impression to his readers, fueling protectionist sentiments.

that is not based on the personal preferences of ivory-tower elitists. "'No growth,'" notes Coyle in her book, "is for the rich."

MIXED BAG

Technically, as Samuelson demonstrated, more GDP is neither a sufficient nor a necessary condition for increased welfare. Economist Robert Higgs counters that "if GDP is to make any sense at all, it *must* do so in relation to some concept of economic welfare" (emphasis in original). Otherwise, why would we be interested in such a figure? But, Higgs argues, it is an "exceedingly poor" measure of welfare. However, it seems to me, a poor measure is not always useless. GDP statistics can sometimes provide useful information. For example, observing a large increase in GDP per capita over a long period of time, or a much higher GDP per capita in one country than in another, helps document the likelihood that welfare is higher for most people.

A related criticism is that GDP is mainly, in practice, a tool for state dirigisme. It is bound to be misused (see sidebar). This is a serious problem, and our evaluation of GDP (and other NIPA statistics) must be mixed. GDP is not useless, but it must be used with caution.

With a view to the long term, we may ask if it should be government that produces these statistics. Why not leave them to academic research groups such as the National Bureau of Economic Research (which was a pioneer in the field)? The advance of Big Data could lead to competing estimates from various private institutes. Already, ADP Research Institute and Moody's Analytics, two private organizations, jointly produce monthly employment statistics based on payroll data collected by ADP, a payroll services company. The problem with the Japanese GDP figures, which I mentioned in the introduction, appears to stem partly from fewer people answering government surveys and censuses (*Financial Times*, September 29, 2016), a problem that Big Data analysis could potentially solve.

In the shorter term, we should try to minimize the dangers of GDP in at least two ways. First, we should push for a methodological rethink of the contribution of government to GDP. Second, we should insist that official statistical agencies do not use GDP figures to mislead journalists and the general public. *R*

READINGS

- "A Review Essay on *GDP: A Brief but Affectionate History* by Diane Coyle," by Moshe Syrquin. *Journal of Economic Literature*, Vol. 54, No. 2 (2016).
- "Evaluation of Real National Income," by Paul A. Samuelson. *Oxford Economic Papers*, January 1950.
- "Gross Domestic Product: An Index of Economic Welfare or a Meaningless Metric?" by Robert Higgs. *Independent Review*, Vol 20, No. 1 (Summer 2015).
- *Measuring the Economy: A Primer on GDP and the National Income and Product Accounts*, published by the Bureau of Economic Analysis. September 2007.
- "U.S. National Income and Product Accounting: Basic Definitions and Concepts," by Liegh Tesfatsion. Iowa State University, undated.

Working Papers

BY PETER VAN DOREN

A SUMMARY OF RECENT PAPERS THAT MAY BE OF INTEREST TO *REGULATION*'S READERS.

Effects of Student Loans on Tuition and Enrollment

"The Incidence of Student Loan Subsidies," by Mahyar Kargar and William Mann. July 2016. SSRN #2814842.

In the Summer 2016 issue, Robert Archibald and David Feldman examined the effect of federal student loan programs on the behavior of university "list" tuition and financial aid. They argued that at most nonprofit universities, the (presumably wealthy) marginal student's willingness to pay list tuition is not affected by financial aid. But universities may "tax" federal financial aid by reducing their own financial aid offered to students.

Mahyar Kargar and William Mann examined a different federal loan program in a setting in which the marginal student's ability to pay was affected and hence tuition effects are likely to be observed. Parent Loans for Undergraduate Students (PLUS) are unlimited up to the cost of attendance. Some 13% of parents of fulltime undergrads have PLUS loans, averaging $13,000 per year.

Prior to 2010, PLUS loans were available under two federal loan programs: the Federal Family Education Loan program (FFEL) and the Direct Loan (DL) program. In 2010 the two programs merged. As a result, credit history rules that had applied only to PLUS loans under FFEL were applied to *all* PLUS loans. The net effect of this rule change was to increase PLUS loan denials. Prior to the change, PLUS loan denials were 42% under FFEL but only 21% under DL.

The authors examine the effect of this unexpected reduction in credit availability on tuition at schools in which the marginal student's decision to enroll is most likely to be affected by this reduction in credit availability: schools with more credit-constrained low-income students and more use of PLUS loans. They construct two variables: the percentage of students who use PLUS loans and the percentage of financial aid students whose family income is $30,000 or less. They take the product of these two variables and divide schools into two groups based on above (treated) and below (untreated) median values of this variable.

Undergraduate charges for the two groups of schools grew at a similar rate prior to 2011. But after 2011, tuition charges grew more slowly for the "treated" group of schools. Enrollment also dropped in the treated schools. Treated schools experienced a 5% tuition decrease and 2.5% enrollment decrease. The authors conclude that a grant equal to 10% of tuition would expand enrollment by 10% and tuition by 7.5% at schools in the treated group.

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IN REVIEW

Corporate Accounting

"Estimating the Compliance Costs of Securities Regulation: A Bunching Analysis of Sarbanes-Oxley Section 404(b)," by Dhammika Dharmapala. July 2016. SSRN #2817151.

The Sarbanes-Oxley Act of 2002 (SOX) was enacted after the bankruptcies and subsequent findings of questionable accounting practices at Enron and WorldCom. Academic criticism of SOX was fairly intense in the years immediately after its enactment. Yale law professor Roberta Romano deemed the law "Quack Corporate Governance," to quote the title of her article that appeared in this journal (Winter 2005–2006). But in a paper evaluating the first 10 years of the SOX regime, Harvard law professor John Coates concluded that SOX's costs and benefits are roughly equal or net positive (Working Papers, Spring 2014).

Dhammika Dharmapala uses a different method to evaluate the net costs and benefits of SOX: examining the distribution of firms that are near an important legal threshold requiring SOX compliance. Most significant provisions of SOX apply to firms that have a "public float" (market value of shares held by others than firm insiders) of $75 million or more. The author collects public float information for firms from 1993 to 2015, allowing for many years of data before and after SOX. Given the legal threshold of $75 million, the author asks whether there is evidence of "bunching" of firms just above or below that threshold. Bunching above would be evidence of net benefits of SOX, while bunching below would be evidence of net costs.

In the pre-SOX period (1993–2002) there is no evidence of bunching. The frequency distribution of public float data shows no discontinuities around $75 million. But in the years 2003–2015, following the enactment of SOX, there were 257 more firm-years below the $75 million threshold than would be expected. And those firms reduced their public float by $1.7 million on average. Using the average relationship between public float and market capitalization, the market value reduction implied by a $1.7 million reduction in public float is about $6 million dollars or 4–5% of the typical firm near the threshold. Thus, small firms facing the prospect of SOX compliance forgo $6 million to avoid SOX regulation.

Patent Trolls

"Patent Trolls: Evidence from Targeted Firms," by Lauren Cohen, Umit G. Gurun, and Scott Duke Kominers. August 2016. SSRN #2464303.

Non-practicing entities (NPEs) are firms whose sole assets are intellectual property rights that they have purchased rather than developed themselves. Such firms' main activity is suing other companies for patent infringement. They have been criticized (see "The Private and Social Costs of Patent Trolls," Winter 2011–2012, and Working Papers columns in Fall and Winter 2013) as well as defended (see "The $83 Billion Patent Litigation Fallacy," Spring 2016) in *Regulation*.

The current paper is a comprehensive analysis of all NPE lawsuits (21,300) from 2005 through 2015. NPEs appear to behave opportunistically. NPEs disproportionately sue cash-rich firms. A one–standard deviation increase in cash holdings results in an increase in the probability of being sued from 8.6% for the average firm to 16% for the firm with more cash.

NPEs even sue cash-rich firms whose cash isn't from the business segments that allegedly engaged in infringing. In contrast, practicing entity firms, which develop intellectual property and then manufacture products based on that knowledge, do not disproportionately sue cash-rich firms. Nor, for that matter, do small inventors.

NPEs also forum-shop, looking for courtrooms where their suits are more likely to succeed. NPEs litigate 43% of their cases in the Eastern District of Texas, which is considered "friendly" to such cases. Only 7% of the cases brought by PEs are litigated in East Texas.

"While none of our results alone proves opportunistic legal behavior (patent trolling) on the part of NPEs, the mass of the evidence to this point appears most consistent with NPEs behaving as patent trolls," write the authors.

NPE suits have consequences for spending on research and development. After NPE settlement, defendant firms reduce R&D investment by more than 25%. Small inventors, the alleged beneficiaries of NPEs, do not appear to be getting much of the settlements nor increasing invention activity.

Minimum Wages

"Minimum Wage and Real Wage Inequality: Evidence from Pass-Through to Retail Prices," by Justin Leung. September 2016. SSRN #2786411.

Economic analyses of the minimum wage often focus on the negative employment effects for low-skilled, young workers. Using scanner data from 35,000 retail stores in the United States, this paper asks whether minimum wage increases result in increased prices for some products.

The author concludes that a 10% increase in the minimum wage raises retail prices at grocery stores in poor counties (defined as those with ratios of minimum wage to average wage [the Kaitz index] above the median for the country) by 0.7%. When counties are divided into quartiles according to the Kaitz index, the poorer the county the larger the pass-through effect on prices.

This result is not simply because of an increase in labor costs at grocery stores in poor counties. The percentage of minimum wage workers in grocery stores in poor counties is not higher relative to rich counties. And the quantities purchased in grocery stores increase rather than decrease when the minimum wage is increased consistent with the minimum wage augmenting demand.

A 10% increase in the minimum wage results in a wage increase for workers in the 10th percentile of the wage distribution of about

1.6% relative to the median wage. But price increases in food stores reduce this increase by about 0.3–0.6% in poor counties.

Congressional Regulatory Mandates

"Preventing a Regulatory Train Wreck: Mandated Regulation and the Cautionary Tale of Positive Train Control," by Jerry Ellig and Michael Horney. August 2016. SSRN #2821113.

Regulatory agencies are often blamed for imposing costs on the economy that result in few if any benefits. But much of the blame should be directed at Congress. According to Jerry Ellig of the Mercatus Center, 49% of the economically significant regulations (costs exceeding $100 million) proposed from 2008 through 2013 were required by law. That is, Congress specifically instructed agencies or departments to issue the rule. The executive order that requires review of economically significant regulations to determine whether they create benefits that exceed costs has little effect in such situations because the executive branch does not have discretion over whether to implement congressionally mandated regulations.

In 2008 Congress enacted legislation requiring the National Highway Traffic Safety Administration to issue a rule by 2011 to enhance rear view visibility for drivers. NHTSA did not issue the rule until 2014. Normally, such a delay would be an example of bureaucratic ineptitude and waste. But in this case, NHTSA was responding to its own analysis that determined that driver error is the major determinant of the effectiveness of backup assist technologies such as cameras. In addition, NHTSA concluded that the cost per life saved for the cameras ranged from about 1.5 to three times the $6.1 million value of a statistical life used by the Department of Transportation to evaluate the cost effectiveness of its regulations. Given those poor cost-benefit results, NHTSA delayed until the possibility of intervention by the courts forced it to issue the rule.

This paper examines another such rule, the requirement that railroads install automated positive train control to prevent train collisions and derailments. Health and safety regulations are often enacted after scandals or disasters, and this example follows that pattern. Congress required positive train control in October 2008 after a September 2008 commuter train crash in California killed 25 people.

The Federal Railroad Administration had conducted cost-benefit analyses of positive train control in 1994 and 2004. The estimated 20-year costs were $10–$13 billion while the safety benefits from lives saved and damages prevented were only $440–$670 million. The railroads balked at the cost and Congress punted, extending the compliance deadline from the end of 2015 to the end of 2018. *R*

FINAL WORD BY TIM ROWLAND

Citizens Not So United

Progressive groups are not shy in telling us that the Supreme Court's 2010 *Citizens United* decision "opened the floodgates" for "super PACs." Those political action committees gather contributions from individuals, corporations, and unions and use the money to wage independent campaigns for or against a candidate or cause. The progressives grimly declare that the super PACs' fountains of cash are most assuredly ruining America.

So it's noteworthy that one of the people doing the flooding was progressive hedge-fund manager Donald Sussman, who gave more than $20 million to a super PAC supporting Hillary Clinton. Sussman's hope was that his contributions would help get the *Citizens United* decision overturned. He acknowledged to the *Washington Post* that it was "very odd to be giving millions when your objective is to actually get the money out of politics."

More ironic still is the early and obvious failure of Sussman's initiative, which suggests that *Citizens United* might not be so good at doing what everyone seems to assume it does: skew the political system in favor of the uber-wealthy.

The 2016 election may not be a yardstick for measuring the entire political ecosystem but it does lay bare some apparent problems with the conventional wisdom about campaign finance. Most notably, Donald Trump won despite being outspent by Clinton. As of October, she was leading him in the money wars, $1.3 billion to $795 million, according to the *Washington Post.* That gap only grows when one considers the aligned super PACs, where the pro-Clinton faction was outraising the pro-Trump folks by a three-to-one margin.

No one is arguing that this isn't a lot for money, but given the stakes involved, it is not the obscene amount that it's usually said to be. The total amount of money raised by both sides—political parties and super PACs combined—represents about the cost of a single B-2 stealth bomber. That's not chump change to be sure, but considering all the businesses and industries and causes that are out there in the modern world, that sum cannot be seen as out-of-line.

Or electorally definitive, for that matter. This year was unique in that it was the first presidential election since 1976 in which the losing candidate outspent the winner. Yet in only the second presidential election of the super PAC era, the money failed to deliver the goods.

So the most vocal of the super PAC critics might want to reassess.

An obvious takeaway is that not all billionaires think alike. And since we are so sensitive to profiling races, should we not be equally careful to avoid profiling billionaires? What this means is that a lot of the super PAC contributions will ultimately wind up cancelling each other out. The idea that fundraising by definition tilts the field to the right simply is more popular than it is accurate.

And going forward it will be interesting to see whether money as it's applied to politics has a tipping point. Pundits have argued for years, inaccurately as it has turned out, that at some point a barrage of negative advertising will sour the public on the candidate who is slinging the most mud. But this election—in which two disagreeable candidates only fed these perceptions by relying on disagreeable ads—might at least give future campaign managers permission to try a different, more positive tack.

There is also danger in an over-reliance on super PACs. Ted Cruz discovered this during the Republican primary, when his campaign gave life to multiple super PACs that promptly began squabbling over how all that money was to be spent. One of the more amusing and lesser reported stories of the primaries was the bad blood between the pro-Cruz super PACs (love the names) Keep the Promise and Stand for Truth.

Super PACs, it turns out, can have all the harmony and rationality of the Middle East. Worse, since they are not under direct control of the campaign, they can go off and spend their haul in ways that wind up embarrassing a candidate or tinging him with scandal. Mass quantities of money, it appears, can have a ham-handed effect on delicate political balances.

And as the world changes, so will the methods that are used to reach voters. Donald Trump got more attention out of a 3 a.m. tweet than he would have out of a big-market, multi-million ad buy.

In addition, big audiences are getting harder to find, further diffusing the value of money. How is any self-respecting billionaire supposed to reach a mass market when everyone in the neighborhood is partaking of disparate media? To bastardize Mark Twain, a clever meme can travel around the world while an attack ad is putting on its shoes.

Based on the results of the fall election, *Citizens United* and its mountains of money are not going away anytime soon. But it might turn out that the cavalry of cash is arriving on the scene just in time to discover that its ability to sway the results has been significantly compromised. *R*

TIM ROWLAND is a columnist and humorist for the (Hagerstown, Md.) *Herald-Mail* newspaper.

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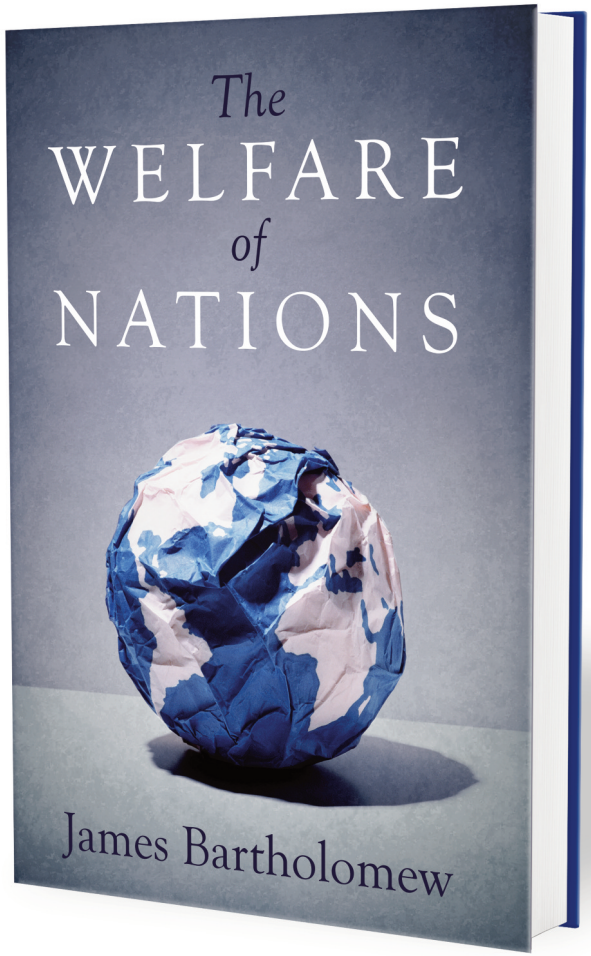

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