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Measuring the Cost of Regulation

A Text-Based Approach

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Regulation is often justified by the gains to the public that come from outcomes such as cleaner water and air, safer travel, less-dangerous products, and more-honest advertising. The costs of regulation are borne by the firms that must comply with them. Costs can be roughly categorized into two sets: operational costs and compliance risks. In the former category are the direct costs related to regulation's mandated changes (relative to what firms would otherwise do) in production, distribution, and sales practices. In the latter category are the indirect costs of bearing the uncertainties related to the way regulation is created and enforced. For example, since the 1970s a broad trend in regulation has been for regulators to increasingly rely on guidance rather than formal rulemaking in setting regulatory standards, which has increased regulatory compliance risk. Guidance is attractive to regulators because the absence of formal rules gives them greater flexibility in implementing regulation. But that same flexibility implies greater uncertainties for firms about how regulation will evolve and precisely what they will be held accountable for doing or not doing. Such uncertainty may in turn prevent firms from undertaking attractive investments due to the fear of an unforeseen regulatory response.

Although many observers often express the belief that regulation is costly to the firms subject to it, through both its operational burdens and compliance risks, research has not made much progress in measuring those costs. For example, although there is substantial evidence that President Trump's first two years in office have resulted in a reduction in the flow of new regulation and some deregulation, precise measures

of these changes remain elusive. The administration claims that deregulation has been an important contributor to the acceleration of growth in the years since Trump's election, but there is no hard evidence to quantify whether that is true, or if so, how much of that growth should be attributed to deregulation. Furthermore, it is unclear whether whatever gains have come from less regulation are a consequence of lower operational costs or reduced compliance risks. The distinction is important because, to the extent compliance risk is costly, important implications for regulatory reform may follow—for example, the need to restore the importance of formal rulemaking in the regulatory process.

While regulation often has substantial benefits that can justify the costs borne by regulated firms, compliance risk can be mitigated substantially at little cost to society by reducing the unpredictability of regulation. From that perspective, intentional unpredictability can be seen as the result of an agency problem. Regulators, like all humans, prefer the latitude that comes from avoiding predictable behavior in accordance with adherence to clear rules, so they may choose not to bind themselves to formal rules. But unpredictability may have major net economic costs to society and the nation if unfettered regulatory discretion reduces growth.

Furthermore, excessive regulatory discretion also erodes the rule of law and the ability of the electorate to determine the laws under which they are governed, so excessive reliance on guidance may impose social costs beyond reductions in growth. To understand the impact of regulation on growth and society more broadly, it is important to measure how much regulation economic agents face and do so in a way that

permits one to measure regulatory risks, taking into account the effects of both formal rulemaking and guidance.

Several recent studies have employed natural language processing (NLP) to measure the flow of regulation. Some of those studies make use of the data produced by the Mercatus Center at George Mason University (GMU), which track the word flow of the federal government's formal rulemaking. Although these data may be useful for many purposes, there are three major problems with them as measures of regulatory costs to firms. First, the widespread use of regulatory guidance as a tool is a major problem for this approach because guidance is not included in the Code of Federal Regulations. Second, state-level regulation is not included in this measure. Third, counting words ignores differences in the importance of regulatory word flow. This is especially a problem for gauging changes over time related to attempts at regulatory reform. For example, in the first year of the Trump administration, the total growth in the amount of word flow as measured by the GMU data was identical to the average growth for each year of the Obama administration. This may reflect a "bureaucrats at keyboards" phenomenon: a given number of federal employees hired to write regulations will produce a constant amount of typed words per year, irrespective of whether those words are important. In times of deregulation but with a constant growth of the bureaucratic workforce, the importance of regulatory word flow diminishes on a per-word basis, and measures based on calculating the number of words will miss that diminution.

Measures that attempt to capture the importance of regulation—for example, the number of regulations passed with high estimated compliance costs, compiled by George Washington University, and reported as an aggregate time series—show a precipitous decline in regulation in the first year of the Trump administration. That suggests that the GMU method is particularly prone to understate changes in importance that are due to sudden changes in administration philosophy. Clearly, measures of the total flow of regulation words and total number of important regulations provide dramatically different pictures of regulatory change in 2017.

In their 2019 analysis, Michael Simkovic and Miao B. Zhang quantify regulation by tallying up the number of employees whose work has to do with regulatory compliance. Data limitations from the Bureau of Labor Statistics restrict their measure to a three-year moving average, which smooths

away much of the variation across time. And in his 2017 study, Steven J. Davis uses the number of mentions of "regulation" in firms' 10-Ks. But he does not construct a measure analogous to ours that captures increases and decreases in regulation; he only tracks its mentions. Furthermore, 10-Ks are presentations of information by firms. If management wishes to avoid inconvenient discussions relating to compliance problems, then those discussions may be absent from 10-Ks.

We take a new approach that uses NLP methods but applies them to a corpus that inherently filters the word flow related to regulation on the basis of the regulation's importance. Specifically, we undertake an NLP analysis of the transcripts of the earnings calls of publicly traded corporations. Earnings calls are the quarterly opportunities for stockholders to hear from and question management about all the important influences on the values of companies.

Earnings calls permit investors to question management, which means that important aspects of regulatory compliance costs that may be neglected in management's presentation can be raised by investors in their questions. Given the limited duration of the earnings calls, if management and investors use the scarce resource of time to discuss regulation, that is a reliable indicator of its importance.

We find that the flow of words related to regulation that appears in earnings calls has important implications for the future growth of firms and their future stock prices. These findings indicate that more regulation has major negative implications for the growth of firms and that compliance risk is likely an important channel through which regulation affects growth. We also find that regulation has less-negative consequences for large firms than it does for small ones. This result is consistent with a large amount of literature on the political economy of regulation that sees regulation as less harmful to large firms because of economies of scale in managing the operating costs and compliance risks associated with regulation. This in turn implies competitive advantages of large firms over small firms arising from greater regulation.

NOTE:

This research brief is based on Charles W. Calomiris, Harry Mamaysky, and Ruoke Yang, "Measuring the Cost of Regulation: A Text-Based Approach," NBER Working Paper no. 26856, March 2020, <http://www.nber.org/papers/w26856>.