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Dodd-Frank Is a Pigouvian Regulation

ABSTRACT. Almost eight years after the passage of Dodd-Frank, financial institutions remain large, complex, and interconnected. Academics and policymakers across the ideological spectrum largely agree that Dodd-Frank has imposed substantial compliance costs on systematically important financial institutions (SIFIs) without solving the problem that they are too big to fail. This Note argues that Dodd-Frank's compliance costs have actually served an important regulatory purpose. By analyzing the spinoffs and divestitures that have occurred at eleven SIFIs since Dodd-Frank went into effect in 2010, this Note documents the extent to which the Act's compliance costs have led SIFIs to shed business lines of their own accord. The data reveal that regulators can adjust Dodd-Frank's costs in response to the perceived riskiness of specific business units, and that SIFIs can respond to these adjustments by divesting the business lines that caused their compliance costs to increase – that is, SIFIs' riskiest lines of business. In this way, Dodd-Frank has had an effect analogous to that of a Pigouvian tax – what we call a “Pigouvian regulation.” Furthermore, because Dodd-Frank grants regulators discretion to ramp up (or down) these compliance costs over time, it provides them with powerful tools to incentivize SIFIs to become less systemically important. We therefore conclude that Dodd-Frank's compliance costs are not a mere ancillary effect of the law, but rather support the Act's core purpose by empowering regulators to force SIFIs to divest themselves of their riskiest assets. In doing so, regulators can – and have – made financial institutions safer.

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INTRODUCTION

On April 13, 2016, the Federal Deposit Insurance Corporation (FDIC) – the agency tasked with overseeing the liquidation of systemically important financial institutions (SIFIs) during a financial crisis¹ – convened a meeting to discuss Dodd-Frank Wall Street Reform and Consumer Protection Act’s (Dodd-Frank) bankruptcy regime. During the meeting, Vice Chair Thomas Hoenig noted that Dodd-Frank had failed to achieve its primary goal of ending the problem of “too big to fail” – the idea that some financial institutions are so important to the broader financial system that the government could never allow them to go bankrupt. Observing that banks are “larger, more complicated, and more interconnected” than they were before the financial crisis of 2007–2008, Hoenig concluded that not a single SIFI had shown that it could “address all phases of a successful bankruptcy if its failure were imminent.”² On the same day, he issued a statement lamenting that “[t]he goal to end too big to fail and protect the American taxpayer by ending bailouts remains just that: only a goal.”³

Hoenig’s statements reflect the academic and political consensus: scholars and politicians from both sides of the aisle agree that Dodd-Frank has in many

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1. See Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, §§ 204-10, 124 Stat. 1376, 1454-60 (2010) [hereinafter Dodd-Frank] (describing resolution procedures and giving the FDIC authority to liquidate firms); see also Federal Deposit Insurance Corporation, 79 Fed. Reg. 20,762 (Apr. 14, 2014) (creating rules governing asset sales during SIFI failure).
 2. Thomas Hoenig, *FDIC Board Meeting Statement of Vice Chairman Thomas M. Hoenig Regarding 2015 Title I Plans Submitted by the Eight Domestic GSIBs*, FED. DEPOSIT INS. CORP. (Apr. 13, 2016), <http://www.fdic.gov/news/news/speeches/spapr1316a.html> [<http://perma.cc/8K5C-WD7V>].
 3. Ryan Tracy, *Regulators Reject ‘Living Wills’ of Five Big U.S. Banks*, WALL ST. J. (Apr. 13, 2016, 10:48 AM), <http://www.wsj.com/articles/regulators-reject-living-wills-of-five-huge-u-s-banks-1460548801> [<http://perma.cc/R2VC-77H9>].

ways entrenched—not ended—too big to fail.⁴ Although commentators recognize that Dodd-Frank has reduced systemic risk in the financial system,⁵ many fear that another financial crisis would still force Congress to choose between bailing out a SIFI or allowing a recession.⁶ What is more, some scholars have suggested that Dodd-Frank’s regulatory costs have actually compounded the too big to fail problem. Professor Roberta Romano, for example, has argued that

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4. See John C. Coffee, Jr., *Systemic Risk After Dodd-Frank: Contingent Capital and the Need for Regulatory Strategies Beyond Oversight*, 111 COLUM. L. REV. 795, 795 (2011) (observing that Dodd-Frank “significantly reduces the ability of financial regulators to effect a bailout of a distressed financial institution”); Steven L. Schwarcz, *Too Big To Fool: Moral Hazard, Bailouts, and Corporate Responsibility*, 102 MINN. L. REV. 761 (2017) (arguing that the solutions to too big to fail exacerbate, rather than alleviate, the risk that banks’ morally dangerous behavior will trigger another crisis); Priyank Gandhi & Hanno Lustig, *Size Anomalies in U.S. Bank Stock Returns: A Fiscal Explanation* 1–13, 30–34 (Nat’l Bureau of Econ. Research, Working Paper No. 16553, 2010) (determining, based on risk-adjusted stock prices of U.S. banks from 1970 to 2008, that (1) the largest banks received an implicit cost of capital “subsidy” of 3.1%, due to the financial markets’ belief that the federal government would protect those banks from “disaster risk” during financial crises, and (2) smaller banks paid an implicit cost of capital “tax” of 3.25% because they did not receive comparable protection from the government); Press Release, Senator Elizabeth Warren, Statement from Senator Warren on Rejection of Banks’ “Living Wills” by Fed and FDIC (Apr. 13, 2016), http://www.warren.senate.gov/?p=press_release&cid=1112 [<http://perma.cc/8Y2B-WXKA>] (“Too Big to Fail banks sparked a financial meltdown, then sucked up hundreds of billions of dollars in taxpayer bailouts. Today, after an extensive, multi-year review process, federal regulators concluded that five of the country’s biggest banks are still—literally—Too Big to Fail.”); Jeb Hensarling, *After Five Years, Dodd-Frank Is a Failure*, WALL ST. J. (July 19, 2015, 5:50 PM), <http://www.wsj.com/articles/after-five-years-dodd-frank-is-a-failure-1437342607> [<http://perma.cc/TLZ7-REEA>] (arguing that Dodd-Frank has failed to end too big to fail and endorsing the Republican-drafted alternative); Ryan Tracy, *The Dodd-Frank Rule Banks Want To Keep*, WALL ST. J. (Feb. 14, 2017, 2:24 PM), <http://www.wsj.com/articles/the-dodd-frank-rule-banks-want-to-keep-1487066402> [<http://perma.cc/8CT9-7T5R>] (quoting Gary Cohn as saying that “no one thinks that [Dodd-Frank] really solved ‘too big to fail’”); Peter J. Wallison, *Dodd-Frank and Too Big To Fail Receive Too Little Attention*, AM. ENTERPRISE INST. (Nov. 1, 2012), <http://www.aei.org/publication/dodd-frank-and-too-big-to-fail-receive-too-little-attention> [<http://perma.cc/S4RJ-X2LT>] (arguing that Dodd-Frank, in allowing the federal government quickly to bail out creditors of SIFIs, gives large firms a funding advantage over their smaller rivals).
 5. See *infra* Section III.C.3.
 6. See *infra* Section II.C; Kwon-Yong Jin, Note, *How To Eat an Elephant: Corporate Group Structure of Systemically Important Financial Institutions, Orderly Liquidation Authority, and Single Point of Entry Resolution*, 124 YALE L.J. 1746, 1765–77 (2015); Arthur E. Wilmarth, Jr. & Stephen J. Lubben, *Too Big and Unable To Fail*, FLA. L. REV. (forthcoming) (manuscript at 1–9); see also Nizan Geslevich Packin, *The Case Against the Dodd-Frank Act’s Living Wills: Contingency Planning Following the Financial Crisis*, 9 BERKELEY BUS. L.J. 29, 34–35, 84–85 (2012) (defining living wills and arguing that their costs might outweigh their benefits); Hoenig, *supra* note 2 (“Too easily one [SIFI] failure could become a systemic crisis.”).

Dodd-Frank mandates the adoption of “costly and burdensome regulations, many totally unrelated to the financial crisis, while failing to address key factors widely acknowledged to have contributed to the financial crisis.”⁷ As a result, she believes that “[Dodd-Frank] has not resolved the ‘too-big-to-fail’ syndrome. In fact, it could well exacerbate it.”⁸

Much of this pessimism rests on the assumption that Dodd-Frank could only solve too big to fail via the measures explicitly included in the text of the statute: namely, through “command-and-control” regulations.⁹ In fact, even scholars and policymakers who favor market-based solutions – that is, policy instruments such as taxes that force individuals and firms to account for the social costs of their activities¹⁰ – assume that Dodd-Frank does not currently utilize them.¹¹ One commentator, for instance, has bemoaned the Act’s failure to adopt typical market-based incentives and has urged Congress to improve financial regulation by implementing a tax on bank borrowing.¹² Others recognize that the Act imposes significant costs on bank size, but mistakenly assume that these costs serve no regulatory purpose.¹³ Indeed, some commentators even critique these costs

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7. Roberta Romano, *Dodd-Frank’s Regulatory Morass*, REG. REV. (Nov. 10, 2014), <http://www.theregreview.org/2014/11/10/romano-dodd-frank-consequences> [<http://perma.cc/68SK-9H8V>].
 8. *Id.*
 9. Melissa B. Jacoby, *Dodd-Frank, Regulatory Innovation and the Safety of Consumer Financial Protection*, 15 N.C. BANKING INST. 99, 100 (2011) (declaring that a “core theme of objectors” critiques to Dodd-Frank’s consumer protections laws is that the law “embodies a traditional command and control approach”); Adam J. Levitin & Susan M. Wachter, *Regulation or Nationalization? Lessons Learned from the Financial Crisis*, in REGULATORY BREAKDOWN: THE CRISIS OF CONFIDENCE IN U.S. REGULATION 69, 83 (Cary Coglianese ed., 2012) (“Dodd-Frank . . . signaled a different regulatory approach: command-and-control regulation.”); Jonathan S. Masur & Eric A. Posner, *Toward a Pigouvian State*, 164 U. PA. L. REV. 93, 130 (2015). David Dayen, *First Thing We Do, Tax All the Banks: Why Obama’s Middle-Class Economics Plan Makes Good Sense*, GUARDIAN (Jan. 21, 2015, 11:51 PM), <http://www.theguardian.com/business/2015/jan/21/obama-dodd-frank-tax-reform-banks-financial-crisis> [<http://perma.cc/34DK-HXDZ>]; *Fed’s Kashkari Unveils Plan To Tackle “Too Big To Fail” Banks and Funds*, REUTERS (Nov. 16, 2016, 7:51 AM), <http://www.cnbc.com/2016/11/16/feds-kashkari-unveils-plan-to-tackle-too-big-to-fail-banks-and-funds.html> [<http://perma.cc/8GXZ-X8NB>]; Office of the Press Secretary, *Fact Sheet: A Simpler, Fairer Tax Code that Responsibly Invests in Middle Class Families*, WHITE HOUSE (Jan. 17, 2016), <http://obamawhitehouse.archives.gov/the-press-office/2015/01/17/fact-sheet-simpler-fairer-tax-code-responsibly-invests-middle-class-fami> [<http://perma.cc/VX7V-59CY>].
 10. See, e.g., Nancy Kete, *Environmental Policy Instruments for Market and Mixed-Market Economies*, 4 UTIL. POL’Y 5, 5-7 (1994).
 11. Masur & Posner, *supra* note 9, at 100.
 12. Dayen, *supra* note 9.
 13. Romano, *supra* note 7.

as allowing savvy banks to arbitrage away from highly regulated activities and toward tax avoidance strategies that may be just as risky.¹⁴ And other scholars see Dodd-Frank as benefiting certain firms over others, which might exacerbate the too big to fail problem.¹⁵

This mistake is understandable. The plain text of Dodd-Frank appears either to bar SIFIs from engaging in certain behaviors or to direct SIFIs to follow certain rules and procedures when contemplating specified transactions.¹⁶ As a result, most scholars who have examined Dodd-Frank through a Pigouvian lens

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14. See Christian Johnson, *Regulatory Arbitrage, Extraterritorial Jurisdiction, and Dodd-Frank: Implications of US Global OTC Derivative Regulation*, 14 *NEV. L.J.* 542, 542-43 (2014); Saule T. Oumarova, *The Dodd-Frank Act: A New Deal for a New Age?*, 15 *N.C. BANKING INST.* 83, 88 (2011) (“Other than this merger, the Dodd-Frank Act contains no attempt to consolidate the existing regulatory structure. It leaves intact the much criticized product- or license-based system of regulation and supervision, in which financial institutions are placed in mutually exclusive regulatory categories. This vertical silo-based structure creates opportunities for regulatory arbitrage, particularly within a financial holding company (FHC) structure, which allows the holding company to take advantage of the differences in the regulatory treatment of economically equivalent activities conducted in different subsidiaries.”); Ben Protess, *Official Warns of “Regulatory Arbitrage,”* *N.Y. TIMES* (Mar. 28, 2011, 6:44 AM), <http://dealbook.nytimes.com/2011/03/28/c-f-t-c-official-warns-of-regulatory-arbitrage> [<http://perma.cc/D924-YLSP>]; Kian Abouhossein et al., *Regulatory Arbitrage Series: OW Europeans over US ISBs*, *J.P. MORGAN CAZENOVE* (Mar. 8, 2011), http://www.marketsreformwiki.com/mktreformwiki/index.php/Dodd-Frank_Act_-_White_Paper_-_J.P.Morgan_Cazenove:_Regulatory_Arbitrage_series:_OW_European_over_US_IBs [<http://perma.cc/A73X-DCJ3>].
 15. See *Dodd-Frank Act’s Effects on Financial Services Competition: Hearing before the Subcomm. on Intellectual Prop., Competition, and the Internet of the H. Comm. on the Judiciary*, 112th Cong. 4 (2012) (statement of Rep. Melvin L. Watt, Member, Subcomm. on Intellectual Prop., Competition & the Internet), <http://www.gpo.gov/fdsys/pkg/CHRG-112hhrg74976/pdf/CHRG-112hhrg74976.pdf> [<http://perma.cc/V6ET-6LW7>] (“In my view, Dodd-Frank significantly leveled the playing field between larger and smaller banks, and it seems to me that a major part of the dissatisfaction with Dodd-Frank is that we could never absolutely level the playing field.”). Others in Congress disagreed. *Id.* at 2 (statement of Rep. Bob Goodlatte, Chairman, Subcomm. on Intellectual Prop., Competition & the Internet) (“The Dodd-Frank Act could also harm competition by designating certain banks and nonbank financial institutions as systemically important and creating special liquidation procedures for them outside of bankruptcy. These special liquidation procedures treat systemically important companies’ creditors better than the bankruptcy law. As a result, systemically important institutions, already among the biggest companies in America, may receive favorable treatment in the credit markets. This could lead to even more concentration.”). *But see id.* at 14-15 (statement of Adam Levitin, Professor, Georgetown Univ. Law Ctr.) (noting that the SIFI regulations should have the “collateral effect of leveling the competitive playing field between ‘too big to fail’ firms and smaller financial institutions”).
 16. See *infra* Section II.B.

tend to assume that, because Dodd-Frank adopts this command-and-control approach, it necessarily rejects market-based incentives, and therefore cannot have a Pigouvian effect.¹⁷

However, two former members of the Board of Governors of the Federal Reserve have argued that Dodd-Frank's compliance costs—the very costs that are purportedly “unrelated to the financial crisis”¹⁸—can actually be understood as an economic tool.¹⁹ In two short speeches, former Federal Reserve Chair Ben Bernanke and former Federal Reserve Governor Jeremy Stein observed that Dodd-Frank functions like a Pigouvian tax—that is, a tax that corrects market imperfections by forcing individual actors to bear the costs of the externalities

17. See, e.g., Masur & Posner, *supra* note 9, at 129-31; Dale B. Thompson, *Beyond Dodd-Frank: Pinning Down the Octozilla of Too-Big-To-Fail with Multiple Market Instruments*, 35 BANKING & FIN. SERVICES POL'Y REP. 1, 1 (2016) (“[W]e need to go beyond the command-and-control approach of the Dodd-Frank Act, and adopt economic instruments to correct these market failures [of Dodd-Frank].”).

18. Romano, *supra* note 7.

19. Ben S. Bernanke, *Ending “Too Big To Fail”: What’s the Right Approach?*, BROOKINGS INSTITUTION (May 13, 2016), <http://www.brookings.edu/blog/ben-bernanke/2016/05/13/ending-too-big-to-fail-whats-the-right-approach> [<http://perma.cc/BV7T-JZ69>]; Jeremy C. Stein, *Regulating Large Financial Institutions*, BOARD GOVERNORS FED. RES. SYS. (Apr. 17, 2013), <http://www.federalreserve.gov/newsevents/speech/stein20130417a.htm> [<http://perma.cc/42ZD-D9US>]; see also Steven Davidoff Solomon, *Despite Its Problems, Dodd-Frank Is Better than the Alternatives*, N.Y. TIMES (Oct. 16, 2012 6:56 PM), <http://dealbook.nytimes.com/2012/10/16/despite-its-problems-dodd-frank-is-better-than-the-alternatives> [<http://perma.cc/9P7R-VCL9>] (“Dodd-Frank tries to figure out who [“too big to fail” institutions] are and charge them for being too big. This is done by raising their regulatory costs through more oversight and supervision [O]ne purpose of this increased regulation is to impose a regulatory tax on big banks to push them to be smaller.”). Solomon, like Bernanke and Stein, envisions Dodd-Frank’s compliance costs as akin to a general tax on financial institutions that are too big to fail. Banks themselves have also noted that Dodd-Frank’s compliance costs act like a tax. See Glob. Mkt. Inst., *Who Pays for Bank Regulations?*, GOLDMAN SACHS 2 (June 9, 2014), <http://www.goldmansachs.com/our-thinking/public-policy/regulatory-reform/who-pays-for-bank-regulation-pdf.pdf> [<http://perma.cc/6S3P-SCA6>] (“While many of these [regulations] are designed to strengthen the safety and soundness of the banking system, they also act as a tax on banks: by changing relative prices, regulation makes some activities more expensive and others cheaper.”). All of these commenters, however, simply remark that the regulations charge banks for being systemically important. They do not show that regulators have been using those costs to push banks away from risky activities. Of course, not all compliance costs serve a regulatory purpose. It is hard, for instance, to justify inconsistencies between rules promulgated by financial regulators. See Joshua C. Macey, Note, *Playing Nicely: How Judges Can Improve Dodd-Frank and Foster Interagency Collaboration*, 126 YALE L.J. 806, 812-32 (2017) (criticizing the Securities and Exchange Commission (SEC) and Commodity Futures Trading Commission (CFTC) for failing to coordinate swap regulations).

resulting from their actions.²⁰ Stein, for example, commends Dodd-Frank's "price-based approach" for "creat[ing] some incentive . . . to shrink" while also "let[ting] [banks] balance this incentive against the scale benefits that they realize by staying big."²¹ In other words, even though large financial institutions do not naturally bear the social costs of being systemically important, Bernanke and Stein contend that Dodd-Frank forces banks to internalize some of these costs by making them pay additional compliance costs for being systemically important.

This Note both substantiates and extends Bernanke's and Stein's claims that Dodd-Frank works like a Pigouvian tax. We substantiate their argument by analyzing the SIFI divestitures that have occurred since Congress passed Dodd-Frank in 2010 and by identifying which divestitures were motivated—or at least heavily influenced—by compliance costs associated with Dodd-Frank. In this way, we document how Dodd-Frank incentivizes SIFIs to internalize the costs of being systemically important. In addition, we show that these costs have induced SIFIs to shed risky assets and thereby fundamentally change the nature of their operations. Put another way, while Bernanke and Stein have argued that compliance costs serve an *economic* purpose by allowing regulators to fix market imperfections, this Note argues that those compliance costs can also serve an important *regulatory* purpose by incentivizing SIFIs to shed the business units that generate financial risk in the first place. Because of these regulatory effects, we call Dodd-Frank a "Pigouvian regulation."²²

Viewing Dodd-Frank as a Pigouvian regulation has several important consequences. First, it reveals Dodd-Frank's novel and effective regulatory model. Scholars may be correct that firms remain too big to fail, but by creating incen-

20. See *supra* note 19 and accompanying text; see also William J. Baumol, *On Taxation and the Control of Externalities*, 62 AM. ECON. REV. 307, 307 (1972) (explaining Pigouvian taxation).

21. Stein, *supra* note 19.

22. Professors Daniel Schwarcz and David Zaring recently made a related argument in *Regulation by Threat: Dodd-Frank and the Nonbank Problem*, 84 U. CHI. L. REV. 1813, 1813 (2017). Schwarcz and Zaring argue that an effective part of Dodd-Frank is that firms have an incentive to avoid taking excessive risks because they thereby reduce the likelihood that they will be designated a SIFI. *Id.* at 1817. They refer to this phenomenon as "regulation by threat." *Id.* In other words, the threat of the SIFI designation—and the enhanced regulatory costs that accompany the designation—has prompted firms to avoid risky activities in order to evade oversight by the Federal Reserve. This argument differs from our own because we consider how the SIFI designation influences the behavior of firms that have *already* been designated SIFIs—not firms that *could* receive the designation. However, insofar as our analysis shows that nonbank SIFIs have adjusted behavior in order to shed their SIFI designation, our argument provides support for their thesis: if firms divest themselves of risky activities in order to shed their SIFI designation, then it stands to reason that they will avoid risky activities in order to avoid being designated a SIFI in the first place.

tives for SIFIs to shed risky assets, Dodd-Frank provides a blueprint for addressing systemic risk without requiring regulators to formally break up large financial institutions or to establish a viable bankruptcy regime. Instead, Dodd-Frank gives SIFIs a simple choice: either pay the hefty SIFI compliance costs or shed risky business lines and, in doing so, reduce the chance that their failure will trigger an economic crisis.

Furthermore, because regulators can tailor Dodd-Frank's compliance costs to the perceived riskiness of certain financial activities, they can target the most systemically destabilizing business units and can adjust those costs as market conditions change. This flexibility has three informational advantages over alternative regulatory frameworks. First, regulators can tailor the costs to the unique risks posed by different financial institutions. Second, regulators can adjust costs over time as they acquire additional information and as market conditions change. And third, Pigouvian regulations take advantage of relative institutional expertise. Traditional command-and-control regulations require regulators to calculate both the costs and benefits when determining the socially optimal level of a risky activity. By contrast, under Dodd-Frank, regulators simply determine the social costs of being systematically important and allow financial institutions – which better understand the value of being large and engaging in certain transactions – to determine the benefits.

This Note proceeds in five Parts. Part I presents two current regulatory paradigms – command-and-control regulations and market-based incentives – as context before situating Pigouvian regulations between these two theories. Part II briefly explains how Dodd-Frank sought to end too big to fail and describes the current view of Dodd-Frank as a command-and-control response to the problem of too big to fail and the criticisms of the command-and-control approach. Part III presents our theory of Dodd-Frank as a Pigouvian regulation and our empirical findings that document how the Act has prompted firms to divest risky assets. Part IV considers the benefits of the Pigouvian approach and explains why regulating too big to fail in this way is preferable to other options generally discussed by scholars and politicians. Part V concludes with a discussion of potential downsides and prescriptive recommendations for how to make Dodd-Frank a more effective Pigouvian regulation.

I. TWO THEORIES OF REGULATION

This Part describes the two primary regulatory approaches – command-and-control regulations and market-based incentives – before explaining in the remainder of the Note how Dodd-Frank fits between these two approaches.

A. Command-and-Control Regulations

In a command-and-control regulatory scheme, the regulator – which can be an administrative agency, a judicial body, an executive, or a legislature – either prohibits or requires a certain action. Prohibitions – often called bans²³ – pervade the American regulatory system and address a variety of problems, such as drug use²⁴ and speeding.²⁵ Mandates are also prevalent and cover diverse regulatory areas, such as minimum wage²⁶ and seatbelt requirements.²⁷ Dodd-Frank is replete with both prohibitions and commands.²⁸

The most obvious benefit of command-and-control regulations is that they are a direct way for the government to prohibit or mandate behavior. Some regulatory goals are better served when the government does not need to engage in a complicated cost-benefit analysis to determine how much of a behavior should be permitted. Instead, a blanket prohibition or requirement is preferable. For instance, when implementing Dodd-Frank, Congress decided that most swaps should be traded on exchanges²⁹ and that companies should report certain information about swap deals.³⁰ Rather than charging financial institutions for refusing to report swaps or trade on an exchange, Dodd-Frank simply requires

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23. We recognize that a regulation could enact a ban, and that a tax could function effectively as a ban by making an activity prohibitively expensive. We regard bans as a separate category to highlight the difference between incentivizing or disincentivizing behavior and blocking it altogether.
24. See, e.g., 21 U.S.C. § 812 (2012).
25. Of course, a speed limit should be understood not as a ban on driving, but as a ban on driving a certain speed. See, e.g., *California Driver Handbook—Laws and Rules of the Road*, CAL. DEPT. MOTOR VEHICLES, http://www.dmv.ca.gov/portal/dmv/detail/pubs/hdbk/speed_limits [<http://perma.cc/QA4T-T4R2>].
26. See, e.g., 29 U.S.C. § 206 (2012).
27. See, e.g., FLA. STAT. § 316.614 (2017) (mandating safety belt usage).
28. See *infra* Sections II.B and II.C.
29. Swap exchanges are generally run by swap execution facilities (SEFs). Dodd-Frank defines a SEF as “a trading system or platform in which multiple participants have the ability to execute or trade swaps by accepting bids and offers made by multiple participants in the facility or system” 7 U.S.C. § 1a(50) (2012). SEFs operate either (a) under the regulatory oversight of the CFTC, pursuant to Section 5h of the Commodity Exchange Act, see 7 U.S.C. § 7b-3 (2012), or (b) under the regulatory oversight of the SEC, see Registration and Regulation of Security-Based Swap Execution Facilities, 76 Fed. Reg. 10,948 (Mar. 1, 2011) (to be codified at 17 C.F.R. pts. 240, 242, 249).
30. See, e.g., Business Conduct Standards for Security-Based Swap Dealers and Major Security-Based Swap Participants, 76 Fed. Reg. 42,396 (July 18, 2011) (to be codified at 17 C.F.R. pt. 240) (providing standards for external business conduct); Trade Acknowledgment and Veri-

banks to abide by these rules.³¹ There was no need for the government to give parties the option not to report swaps since its aim was to force companies to report information on swap deals in every situation in order to promote pre-trade price transparency.³² In situations like this, when the government is certain that an action should be required or prohibited, it need not waste resources implementing a complicated market-based scheme in order to accomplish its regulatory goal.

Command-and-control regulations can also be optimal even when the government is not entirely sure that the relevant activity is worthy of indiscriminate prohibition or promotion. If the government lacks information about the private value a company places on an activity, but knows that the social costs of that activity are exorbitant, it may be advantageous to ban the activity entirely rather than to embrace an incentive-based regime that risks under-deterrence. Some have found SIFI regulations flawed for just this reason. For instance, the President of the Federal Reserve Bank of Minneapolis, Neel Kashkari, announced a

fication of Security-Based Swap Transactions, 76 Fed. Reg. 3,859 (Jan. 21, 2011) (to be codified at 17 C.F.R. pt. 240) (providing trade acknowledgement rules); Regulation SBSR-Reporting and Dissemination of Security-Based Swap Information, 75 Fed. Reg. 75,208 (Dec. 2, 2010) (to be codified at 17 C.F.R. pts. 240, 242) (detailing reporting rules); Registration and Regulation of Security-Based Swap Execution Facilities, 76 Fed. Reg. 10,948 (Feb. 28, 2011) (to be codified at 17 C.F.R. pts. 240, 242, 249) (adopting a registration framework for execution facilities); Registration of Security-Based Swap Dealers and Major Security-Based Swap Participants, 76 Fed. Reg. 65,784 (Oct. 24, 2011) (to be codified at 17 C.F.R. pts. 240, 249) (detailing registration rules for dealers and major swap participants); 76 Fed. Reg. 2,287 (Jan. 13, 2011) (to be codified at 17 C.F.R. pts. 240, 249); Security-Based Swap Data Repository Registration, Duties, and Core Principles, 75 Fed. Reg. 77,306 (Dec. 10, 2010) (codified at 17 C.F.R. pts. 240, 249), corrected at 75 Fed. Reg. 79,320 (Dec. 20, 2010) (codified at 17 C.F.R. pts. 240, 249) (providing data repository rules).

31. Of course, in a certain sense, all regulations could be considered command-and-control regulations because failure to abide by a command-and-control requirement could result in a penalty, and so command-and-control regulations arguably only gain their force through the costs imposed by noncompliance. Still, despite these functional similarities, we distinguish between the two on the ground that the *goal* of command-and-control requirements is to require the regulated party to do (or not do) something, whereas market-based regulation aims to adjust incentives associated with an action.
32. *Swaps Execution Facilities (SEFs)*, U.S. COMMODITIES FUTURES TRADING COMMISSION, <http://www.cftc.gov/IndustryOversight/TradingOrganizations/SEF2/index.htm> [<http://perma.cc/U9HC-KNU3>] (“[T]he stated goals of the Dodd-Frank Act are to promote the trading of swaps on SEFs and to promote pre-trade price transparency in the swaps market.”).

plan to raise capital requirements dramatically in large part to force SIFIs to reduce dramatically the scope and scale of their operations.³³ The idea is that capital requirements are currently not sufficiently onerous to incentivize banks to downsize. Recognizing that too big to fail firms remain a problem, Kashkari proposed increasing SIFI capital requirements to 23.5% in order to reduce the risks posed by these kinds of financial institutions.³⁴ Although Kashkari grounds this position in the desire to ensure that banks have sufficient capital to withstand an economic downturn without resorting to bail outs,³⁵ he acknowledges that his proposal would have the side benefit of forcing banks to restructure themselves.³⁶ The compliance costs would be so onerous that they would effectively amount to a hard cap on bank size because banks would be forced to take immediate corrective actions and shrink dramatically.³⁷ According to Kashkari, current capital rules do not provide a strong enough incentive for banks to downsize and simplify of their own accord, but more onerous capital requirements would.³⁸

B. Market-Based Incentives

In contrast with command-and-control regulations, market-based solutions neither prohibit nor require activities; instead, they influence behavior by changing the costs associated with certain actions. The government uses market-based incentives to regulate all sorts of behavior. Section 163(h) of the Tax Code, for example, provides a tax deduction for interest paid on home mortgages.³⁹ The purpose of this provision is to incentivize people to buy homes – to give them “a stake in society and induce[] them to care about their neighborhoods and towns”

33. Neel Kashkari, President, Fed. Reserve Bank of Minneapolis, Address at the Economic Club of New York on the Minneapolis Plan to End Too Big To Fail 5-8 (Nov. 16, 2016), <http://www.minneapolisfed.org/news-and-events/presidents-speeches/neel-kashkari-presents-the-minneapolis-plan-to-end-too-big-to-fail> [<http://perma.cc/67NB-NNPV>]; *The Minneapolis Plan To End Too Big To Fail*, FED. RES. BANK MINNEAPOLIS 10 nn.8-9 (Nov. 16, 2016), <http://www.minneapolisfed.org/~media/files/publications/studies/endingtbtft/the-minneapolis-plan/the-minneapolis-plan-to-end-too-big-to-fail-2016.pdf> [<http://perma.cc/MYX2-KUYK>].

34. *The Minneapolis Plan To End Too Big To Fail*, *supra* note 33, at 3.

35. *Id.*

36. *Id.*

37. This example shows how something that might look like a market-based regulation – in this case, a capital requirement – can amount to a ban if the costs become truly prohibitive.

38. Kashkari, *supra* note 33, at 3.

39. I.R.C. § 163(h) (2012).

by providing them a financial bonus when they do so.⁴⁰ In this vein, the Tax Code has also been used to incentivize, among other things, the use of green energy,⁴¹ employer-provided health insurance,⁴² and charitable donations.⁴³

As discussed in greater detail in Parts II and III, one of Dodd-Frank's more onerous market-based regulations is the SIFI designation.⁴⁴ Although the purpose of the SIFI designation is ostensibly to force banks to take steps toward becoming more resilient to economic downturns,⁴⁵ the regulations also effectively charge financial institutions for being large. Banks are automatically subject to SIFI regulations if they have assets exceeding \$50 billion.⁴⁶ As soon as a bank crosses that threshold, it must pay a capital surcharge, conduct annual stress tests, and abide by certain liquidity requirements.⁴⁷ And SIFI requirements get more onerous as banks get bigger.⁴⁸ In short, these costs deter banks from growing larger.

There are significant advantages to market-based solutions.⁴⁹ In fact, most economists regard "Pigouvian taxes" – a classic form of market-based incentives in which the government imposes a tax on a private activity equal to the social costs created by that private activity – as generally preferable to other forms of

40. Edward L. Glaeser & Jesse M. Shapiro, *The Benefits of the Home Mortgage Interest Deduction 2* (Nat'l Bureau of Econ. Research, Working Paper No. 9284, 2002), <http://www.nber.org/papers/w9284.pdf> [<http://perma.cc/A7C7-9EL3>].

41. I.R.C. § 45 (2012).

42. I.R.C. § 106 (2012).

43. I.R.C. § 170 (2012).

44. As discussed in Part II, most scholars and policymakers regard the SIFI rules as command-and-control regulations. See *infra* Sections II.B and II.C.

45. See Lael Brainard, Bd. of Governors, Fed. Reserve Sys., *Dodd-Frank at Five*, Speech at the Bipartisan Policy Center and Managed Funds Association (July 9, 2015), <http://www.federalreserve.gov/newsevents/speech/brainard20150709a.htm> [<http://perma.cc/CYF4-BG57>] ("The capital surcharge is designed to build additional resilience and lessen the chances of an institution's failure in proportion to the risks posed by the institution to the financial system and broader economy.").

46. Dodd-Frank § 165, 12 U.S.C. § 5365 (2012).

47. 12 C.F.R. pt. 252 (2015).

48. *Id.*

49. See CASS R. SUNSTEIN, *RISK AND REASON* 270-71 (2002) (noting that Pigouvian taxes have dramatically increased government revenues around the world); Steven Shavell, *Corrective Taxation Versus Liability as a Solution to the Problem of Harmful Externalities*, 54 J.L. & ECON. S249, S249 (2011) ("The corrective tax has long been viewed by most economists as a, or the, theoretically preferred remedy for the problem of harmful externalities.").

regulation in most market conditions.⁵⁰ One scholar framed the tension between the academic exuberance for Pigouvian taxes and the reluctance of policymakers to implement them in the following terms: “To many economists, the basic argument for increased use of Pigouvian taxes is so straightforward as to be obvious. But as George Orwell once put it, ‘We have now sunk to a depth where the restatement of the obvious is the first duty of intelligent men.’”⁵¹

One of the most significant advantages of Pigouvian taxes is that they permit the best-suited parties to determine the costs and benefits of an activity to do so.⁵² Writing about Pigouvian taxes in the context of environmental regulations, one scholar has observed that regulatory goals are often “frustrated by a lack of information” when regulators adopt a command-and-control approach.⁵³ By contrast, market-based solutions “create a system of incentives in which those who have the best knowledge about control opportunities, the environmental managers for the industries, are encouraged to use that knowledge to achieve environmental objectives at minimum cost.”⁵⁴

In other words, market-based solutions — and especially Pigouvian taxes⁵⁵ — have informational advantages because command-and-control regulations require regulators to estimate both the costs and the benefits of a behavior.⁵⁶ For example, if the government pursued the nonmarket-based solution of capping

50. See Louis Kaplow & Steven Shavell, *On the Superiority of Corrective Taxes to Quantity Regulation*, 4 AM. L. & ECON. REV. 1, 2 (2002) (“[T]he traditional notion of the superiority of corrective taxes should continue to be a benchmark for economists’ thinking about the control of externalities.”); Martin L. Weitzman, *Prices vs. Quantities*, 41 REV. ECON. STUD. 477, 477 (1974) (“[I]t is a fair generalization to say that the average economist in the Western marginalist tradition has at least a vague preference towards indirect control by prices . . .”).
51. N. Gregory Mankiw, *Smart Taxes: An Open Invitation To Join the Pigou Club*, 35 E. ECON. J. 14, 15 (2009).
52. See Brief of Economists Thomas C. Schelling, Vernon L. Smith & Robert W. Hahn as Amici Curiae Supporting Petitioners at 15, *Chamber of Commerce v. EPA*, 134 S. Ct. 1051 (2014) (No. 12-1272), 2013 WL 6673703, at *14-15 [hereinafter Brief of Economists] (noting that the difficulties in assessing both the costs and the benefits to determine the efficient level of behavior favor moving away from command-and-control regulations).
53. Thomas H. Tietenberg, *Economic Instruments for Environmental Regulation*, 6 OXFORD REV. ECON. POL’Y, Spring 1990, at 21.
54. *Id.* at 21-22.
55. All market-based solutions permit regulated parties to play a greater role in making decisions about how to comply with regulations than do command-and-control regulations, but some forms of market-based solutions limit that discretion to a certain degree. For instance, although cap-and-trade proposals permit parties some flexibility in how to meet regulatory standards, they would still ultimately cap total carbon emissions. See Brief of Economists, *supra* note 52, at 3-7, 12-14.
56. *Id.* at 15 (“Uncertainty — as to costs and benefits — increases the difficulty for regulators seeking to judge whether a policy gives rise to net benefits to society.”).

the size of banks, then the government would need to determine both the costs *and* the benefits associated with exceeding particular size thresholds. In order to determine the optimal level of regulation, the regulator would need to know not only the negative externalities created by every large financial institution, but also the benefits of scale that each firm enjoys from being large. Under a market-based approach, by contrast, the government would only need to know the social costs of the activity. By imposing those costs on the firms, the firms themselves would be responsible for determining whether the scale benefits derived from achieving a particular size outweigh those costs.

Unlike command-and-control regulations, a tax on bank size does not require that the government determine whether the costs of bank size outweigh the benefits. It may be the case that, although bank size introduces a systemic risk, large banks enjoy scale benefits that allow them to, for example, charge lower interest rates, and that those scale benefits actually outweigh the social costs. If the market continues to prefer large banks after they have been forced to internalize the social costs of being large, then it seems that the scale benefits of being large provide a net benefit that outweighs the social costs. Significantly, it may be the case that a tax prompts only some firms to downsize. This information is also useful for regulators because it suggests that some firms – those that did not downsize – realized scale benefits that outweighed the costs generated by bank size. By contrast, the scale benefits realized by the firms that shrunk in response to the tax were not sufficient to justify remaining large once they were forced to bear those costs. For this reason, scholars have concluded that market-based regulations have the additional benefit of being more precise than command-and-control alternatives.⁵⁷

Incentive-based regulations therefore allow the market to determine the optimal level of production. As regulators attempt to correct the market distortion that results when firms do not bear certain costs of producing a particular good, there is no reason why a firm should not realize the benefit of that good in the form of consumers' willingness to pay for it. Thus, in market-based approaches, the government only runs the risk that it will miscalculate the cost of the good. Command-and-control regulations, by contrast, also run the risk that the government will miscalculate the benefits of the good.

Finally, market-based incentives are typically less invasive than command-and-control regulations because market-based approaches leave the regulated parties free to decide whether and how to comply.⁵⁸ For example, under Dodd-Frank, the government not only permits financial institutions to remain large

57. See Masur & Posner, *supra* note 9, at 101.

58. See Brief of Economists, *supra* note 52, at 12-14.

and to engage in risky activities, but also gives banks an opportunity to restructure those activities in a manner that would be less systemically risky. This flexibility ultimately fosters innovation by promoting technological development⁵⁹ and creative problem-solving.⁶⁰

II. ENDING TOO BIG TO FAIL

This Part introduces the problem of too big to fail and examines some of the ways in which Congress tried to address the problem when enacting Dodd-Frank. Until now, almost everyone has treated Dodd-Frank as a purely command-and-control regulation, and commentators agree that those command-and-control measures have failed to solve too big to fail. Although these criticisms have some merit, they overlook a critical way in which Dodd-Frank has ameliorated the problem of systemic risk through the imposition of compliance costs – an argument that we will take up in greater detail in Part III.

A. *The Too Big To Fail Problem*

“Too big to fail” describes firms that pose a systemic risk to the overall financial system because of their size, complexity, or interconnectedness.⁶¹ Because the failure of one of these firms could jeopardize the entire financial system, policymakers cannot let them fail without risking an even greater harm or cost to government and society.

Bernanke has pointed out that too big to fail firms impose three costs on the broader economy.⁶² First, too big to fail institutions create a moral hazard problem. Because firms and their creditors assume that the government will bail out

59. See Tietenberg, *supra* note 53, at 17.

60. See *id.* at 18. This benefit can be analogized to the preference for performance standards over design standards. See David Besanko, *Performance Versus Design Standards in the Regulation of Pollution*, 34 J. PUB. ECON. 19, 19-21, 41-43 (1987); Jerry L. Mashaw & David L. Harfst, *From Command and Control to Collaboration and Deference: The Transformation of Auto Safety Regulation*, 34 YALE J. ON REG. 167, 292-93 (2017); see also Jerry Mashaw & David Harfst, *Regulation and Legal Culture: The Case of Motor Vehicle Safety*, 4 YALE J. ON REG. 257, 289 (1987) (critiquing administrative law for making it more difficult for agencies to promulgate performance standards than design standards).

61. See Ben S. Bernanke, Chairman, Bd. of Governors of the Fed. Res. Sys., Statement Before the Financial Crisis Inquiry Commission 20 (Sept. 2, 2010), <http://www.federalreserve.gov/newsevents/testimony/bernanke20100902a.pdf> [<http://perma.cc/ZNF8-DHJT>].

62. *Id.* at 20; see also Jin, *supra* note 6, at 1760.

a failing SIFI, such firms engage in excessive risk-taking.⁶³ Second, the too big to fail reality puts small firms at a competitive disadvantage. Because the prospect of a government bailout lowers the cost of funding for bigger institutions,⁶⁴ big institutions can offer cheaper credit than smaller ones, which in turn allows them to increase their market share.⁶⁵ Since Dodd-Frank went into effect

63. Bernanke, *supra* note 61, at 21.

64. *Id.*

65. *Id.*

in 2010, rating agencies,⁶⁶ financial regulators,⁶⁷ and academics⁶⁸ have shown that the market still assumes that the government will save failing SIFIs. Thus, the biggest banks enjoy a competitive advantage not only because their size creates economies of scope and scale, but also because the market's perception that the government will bail them out creates an implicit subsidy that enables those banks to borrow at lower interest rates.⁶⁹ Finally, as financial institutions become

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66. Standard & Poor's (S&P) publicized in 2011 that repeated government assistance would be a permanent factor in forming banks' credit, as "[b]anking crises will likely happen again" and the government's likelihood of support to systemic banks is "moderately high." *Banks: Rating Methodology and Assumptions*, STANDARD & POOR'S 10, tbls. 20 & 22 (Nov. 9, 2011), <http://www.taiwanratings.com/portal/front/showCustomArticle/2c9c31d74c798104014c97c71f810008> [<http://perma.cc/CS5S-CNM8>]; see also Tom Braithwaite, *S&P Warns Top U.S. Banks Are Still "Too Big To Fail"*, FIN. TIMES (June 11, 2013) <http://www.ft.com/content/fb63e7ce-d2a6-11e2-88ed-00144feab7de> [<http://perma.cc/C62C-YJUZ>] (indicating that Standard & Poor's believes the government could still bail out big banks, despite some contrary statements from the FDIC and Treasury Department).
67. See, e.g., *Who Is Too Big To Fail: Does Title II of the Dodd-Frank Act Enshrine Taxpayer-Funded Bailouts?: Hearing Before the Subcomm. on Oversight & Investigations of the H. Comm. on Fin. Servs.*, 113th Cong. 69 (2013) (statement of David A. Skeel, Jr.), <http://financialservices.house.gov/uploadedfiles/113-19.pdf> [<http://perma.cc/26S9-FNGK>] ("The largest financial institutions . . . are able to borrow money much more cheaply than other financial institutions, because their cost of credit is artificially reduced by the Too Big to Fail subsidy."); João Santos, *Evidence from the Bond Market on Banks' "Too-Big-to-Fail" Subsidy*, 20 ECON. POL'Y REV. 29, 34-38 (2014) (describing the advantages and benefits the biggest banks received because they were too big to fail and the competitive advantage those benefits have given them over smaller banks and concluding that the largest U.S. banks are perceived by investors as enjoying an implicit guarantee from the government allowing them to enjoy a lower cost of borrowing than both smaller banks and comparably sized nonbanks); Bryan Kelly et al., *Too-Systemic-To-Fail: What Option Markets Imply About Sector-Wide Government Guarantees* 1-6 (Chi. Booth Research Paper, Working Paper No. 11-12, 2015), <http://ssrn.com/abstract=1762312> [<http://perma.cc/6HB8-TTB8>] (supporting the idea that there is a too big to fail subsidy); see also Gara Afonso et al., *Do "Too-Big-To-Fail" Banks Take on More Risk?*, 20 ECON. POL'Y REV. 41 (2014) (finding that the biggest banks are more likely to take more risks, relying on the government to save them if needed); Kenichi Ueda & Beatrice Weder di Mauro, *Quantifying Structural Subsidy Values for Systemically Important Financial Institutions* 118 (Int'l Monetary Fund, Working Paper WP/12/128, 2012), <http://www.imf.org/external/pubs/ft/wp/2012/wp12128.pdf> [<http://perma.cc/5S32-4A3H>] (calculating the subsidy at \$83 billion a year for the ten biggest banks, based on a 0.8 percentage point discount that big banks receive, which lowers the borrowing costs on all liabilities, including bonds and customer deposits); *IMF Survey: Big Banks Benefit from Government Subsidies*, INT'L MONETARY FUND (Mar. 31, 2014), <http://www.imf.org/external/pubs/ft/survey/so/2014/polo33114a.htm> [<http://perma.cc/YD8M-486V>] (reinforcing the New York Federal Reserve's findings as detailed in Afonso, *supra*).
68. See generally Kelly et al., *supra* note 67 (suggesting that there is an expectation of a government bailout).
69. See Coffee, *supra* note 4, at 800; see also Viral V. Acharya et al., *The End of Market Discipline? Investor Expectations of Implicit State Guarantees* 13 (June 1, 2014) (unpublished

bigger, riskier, and more interconnected – as a result of the first two problems – the potential costs of these institutions failing become even greater.⁷⁰ In other words, the too big to fail problem has become a self-reinforcing cycle in which large firms become even more indispensable even as they impose significant costs on society.

B. Dodd-Frank's Command-and-Control Response to Too Big To Fail

Dodd-Frank explicitly adopts a “command-and-control” approach to the problem of financial institutions being too big to fail. Although the Act does not outright prohibit banks from being a certain size, it enacts a number of command-and-control provisions to reduce the risk that large financial institutions will fail or that their failure will harm the broader economy.⁷¹ First, Dodd-Frank mandates regulations to curb excessive risk-taking and to require systemically important banks to hold significant capital, increasing the likelihood that the firms can weather turbulent financial times.⁷² And second, the Act creates a resolution mechanism to minimize the effect of a firm’s failure on the overall financial system.⁷³

manuscript), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1961656 [<http://perma.cc/3VYD-ZKD4>] (arguing that big banks borrow funds at lower costs from private lenders because the implicit guarantees reduce the amount of big banks’ credit risk in comparison to that of smaller banks); Stefan Jacewitz & Jonathan Pogach, *Deposit Rate Advantages at the Largest Banks* 4-5 (FDIC Div. of Ins. Research Paper No. 2014-02, 2013) (calculating differences in interest rates offered on various banks’ accounts between 2005–2010, interpreting the differences as the market perception of the banks’ levels of riskiness, and finding that the biggest banks pay approximately 45 basis points less in risk premiums for uninsured deposits).

70. Coffee, *supra* note 4, at 802-03.

71. Dodd-Frank also creates a third command-and-control provision to address the moral hazard problem discussed in the previous section. See *supra* note 63 and accompanying text. The Act imposes penalties on company executives and equity-holders – arguably the parties responsible for the failure of an institution – as a prospective mechanism for deterring excessive risk-taking. See Dodd-Frank § 954, 15 U.S.C. 78j-4 (2012); Listing Standards for Recovery of Erroneously Awarded Compensation (proposed July 1, 2015) (to be codified at 17 C.F.R. pts. 229, 240, 249, 274), <http://www.sec.gov/rules/proposed/2015/33-9861.pdf> [<http://perma.cc/B8BB-5W9X>] (describing executive compensation clawback).

72. See 12 U.S.C. §§ 5381-94 (2012) (imposing capital requirements on SIFIs); Dodd-Frank, §§ 701-74 (codified in scattered sections of 7 U.S.C. and 15 U.S.C.) (creating new substantive, clearing, and disclosure rules for derivatives trades).

73. On resolution, see Title II of Dodd-Frank §§ 201-17, which details the new regulator’s orderly liquidation authority, and the FDIC’s single point of entry (SPOE) strategy, see Resolution of Systematically Important Financial Institutions: The Single Point of Entry Strategy, 78 Fed. Reg. 243 (Dec. 17, 2013). On the living wills requirement, see Dodd-Frank § 165(d), 12 U.S.C. § 5365(d) (2012).

First and most prominently, the Act bans specific activities perceived as particularly risky. The Volcker Rule, for example, restricts banks' ability to engage in certain proprietary trading activities.⁷⁴ In addition to direct bans, Dodd-Frank also imposes requirements designed to increase transparency in financial markets. For instance, Title VII requires banks to report specific information on swaps, establishes margin requirements for certain swap transactions, and mandates that parties follow certain procedures such as trading on an exchange when executing swap deals.⁷⁵ Failure to comply with these affirmative regulations can result in hefty fines.

Another powerful command-and-control provision for deterring risk-taking is the SIFI designation. Under Dodd-Frank, there are two methods by which a firm can be designated as a SIFI. First, any bank with more than \$50 billion in assets is automatically designated as a SIFI.⁷⁶ Second, Dodd-Frank empowers the Financial Stability Oversight Council (FSOC) to designate certain "nonbank financial institutions" as systemically important if they meet certain requirements.⁷⁷ Once regulators have designated a firm as a SIFI, they can dramatically increase the firm's compliance costs. For example, regulators have imposed capital surcharges on SIFIs — that is, SIFIs are required to retain additional capital —

74. See Dodd-Frank § 619, 12 U.S.C. § 1851 (2012); 17 C.F.R. pt. 75 (2017).

75. *E.g.*, Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants, 81 Fed. Reg. 635 (Jan. 6, 2016) (to be codified at 17 C.F.R. pts. 23 & 140); Regulation SBSR-Reporting and Dissemination of Security-Based Swap Information, 80 Fed. Reg. 14,563 (Mar. 19, 2015) (to be codified at 17 C.F.R. pt. 242).

76. Dodd-Frank § 121, 12 U.S.C. § 5331 (2012).

77. See *id.* § 113. A "nonbank financial company" is a U.S. or foreign company that is "predominantly engaged" in financial activities, meaning that at least 85% of its consolidated annual gross revenues or at least 85% of its consolidated assets are derived from or related to activities that are "financial in nature" as defined in 12 U.S.C. § 1843(k). Dodd-Frank § 102(a)(4), (a)(6), 15 U.S.C. 5311 (2012); see also *id.* § 113(a)(1)-(b)(2) (listing factors that the FSOC must consider when determining whether to impose heightened regulatory obligations on U.S. and foreign nonbank financial companies). In order to designate a nonbank financial institution as systemically important, the FSOC must find that the firm "could pose a threat to the financial stability of the United States" (i) in the event that it experiences "material financial distress," or (ii) because of "the nature, scope, size, scale, concentration, interconnectedness, or mix of [its] activities." Dodd-Frank § 113(a)(1), 12 U.S.C. § 5323(a)(1) (2012). When deciding whether a firm meets one of these two designation standards, the FSOC must consider ten factors related to the firm's size, interconnectedness, and overall importance to the American economy. See Dodd-Frank § 113, 12 U.S.C. § 5323 (2012). And third, only firms that are "predominantly engaged in financial activities" can be designated nonbank SIFIs. See Dodd-Frank § 113(a)(2), 12 U.S.C. § 5323(a)(2) (2012). This provision ensures that companies such as Amazon and Google will not be subject to supervision by the Federal Reserve.

based on the regulators' perception of the firm's risk of failure.⁷⁸ In addition, SIFIs are required to undergo an annual "stress test," which forces the firms to convince regulators of their resiliency in the face of market turbulence.⁷⁹ If a bank fails a stress test, regulators may increase their supervision of the failing firm, prevent it from paying shareholder dividends, or even force it to divest entire business units.⁸⁰

These approaches may reduce the likelihood that a SIFI will fail, but ultimately, the only certain way to make sure that a SIFI will not fail is to make sure that there are no SIFIs in the first place, an approach Dodd-Frank rejected when Congress decided not to break up the banks.⁸¹ Although the risk of a bank failing may be mitigated ex ante by measures that regulate its balance sheet and risk portfolio, it is impossible to prevent bank failures altogether while large, complex financial institutions remain. However, a certain degree of risk-taking is essential for banks to fulfill their mission of connecting lenders with borrowers. That risk-taking, however critical to the financial system, creates some potential for failure.

For this reason, Dodd-Frank's second approach to reducing systemic risk is to mitigate the financial turmoil that would ensue in the event that a SIFI actually failed. Acknowledging that bank failures can never be eliminated altogether, Dodd-Frank creates a resolution mechanism to oversee the orderly liquidation

78. *Federal Reserve Board Approves Final Rule Requiring the Largest, Most Systemically Important U.S. Bank Holding Companies To Further Strengthen Their Capital Positions*, BOARD GOVERNORS FED. RES. SYS. (July 20, 2015), <http://www.federalreserve.gov/newsevents/press/bcreg/20150720a.htm> [<http://perma.cc/JT7Q-8YEJ>].
79. *See Dodd-Frank Act Stress Test 2017: Supervisory Stress Test Methodology and Results*, BOARD GOVERNORS FED. RES. SYS. (June 2017), <http://www.federalreserve.gov/publications/files/2017-dfast-methodology-results-20170622.pdf> [<http://perma.cc/L6PW-Q3XM>].
80. Dodd-Frank § 165(i)(1), 12 U.S.C. 5365 (2012); Regulation YY, 12 C.F.R. pt. 252 (2015). After most firms passed the 2017 stress tests, they were allowed to pay out large dividends. *See* Michael Corkery, *Big Banks Set To Pay Out Largest Dividends in a Decade*, N.Y. TIMES: DEALBOOK (June 28, 2017), <http://www.nytimes.com/2017/06/28/business/dealbook/big-banks-stress-tests.html> [<http://perma.cc/JW57-J48M>]. Citigroup's 2014 stress test failure is a good example of how the Fed, in collaboration with the regulated entity, can require changes in the firm's structure. Michael Corbat, CEO of Citi, had numerous meetings with Fed officials following the stress test failure. As a result, Corbat initiated a plan to simplify Citi's structure, streamline certain operations, sell consumer banking units in Greece and Spain, and begin a bottom-up review of risks in each business line and each country. Monica Langley, *Citigroup Fights To Recover From 'Stress Test' Failure*, WALL ST. J. (June 20, 2014, 9:53 PM), <http://www.wsj.com/articles/citigroup-fights-to-recover-from-stress-test-failure-1403291332> [<http://perma.cc/P9T6-GCHX>].
81. Dodd-Frank did not, for example, revive the Glass-Steagall requirement that commercial banks be separated from investment banks, which was first repealed in 1999 by the Gramm-Leach-Bliley Act. *See* Gramm-Leach-Bliley Act, 12 U.S.C. § 1811 (1999).

of SIFIs.⁸² There are two components to this resolution mechanism. First, under Title I, SIFIs are obliged to prepare resolution plans – often referred to as “living wills”⁸³ – that explain how they could be resolved under the Bankruptcy Code.⁸⁴ Living wills are essentially prepackaged bankruptcy plans. If a company’s plan does not demonstrate that the company can be resolved in bankruptcy, the regulators may jointly impose more stringent capital, leverage, or liquidity requirements.⁸⁵ Second, Dodd-Frank authorizes financial regulators to resolve a SIFI if the insolvency of that institution would place the economy at risk⁸⁶ – a power known as the Orderly Liquidation Authority (OLA).⁸⁷ In theory at least, the OLA improves upon traditional bankruptcy because it would allow the FDIC to

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82. Note that the Act itself assumes that bank failures cannot be eliminated altogether. The premise of prohibiting “taxpayer funds” from “being used to prevent the liquidation of any financial company,” 12 U.S.C. § 5394 (2012), and instead requiring firms to create a viable plan to liquidate themselves, 12 U.S.C. § 5384 (2012), is that SIFI failures cannot be wholly prevented.
83. *Living Wills (or Resolution Plans)*, FED. RES. (Dec. 19, 2017), <http://www.federalreserve.gov/supervisionreg/resolution-plans.htm> [<http://perma.cc/R462-UPDK>].
84. Dodd-Frank § 165(d), 12 U.S.C. § 5365(d) (2012).
85. Resolution Plans Required, 76 Fed. Reg. 67,323, 67,331 (Nov. 1, 2011) (codified at 12 C.F.R. pt. 381).
86. In an FDIC receivership, the FDIC takes over the powers of the institution’s officers, directors, and shareholders, including collecting obligations due to the institution, liquidating assets, and paying off creditors. 12 U.S.C. § 1821(c) (2012). Before Dodd-Frank, the FDIC only had authority to wind down insured commercial banks. Its authority did not extend to nondepository financial institutions, such as independent investment banks. *Id.* Therefore, before the orderly liquidation authority (OLA), policymakers had only two options for faltering investment banks: bankruptcy – which regulators used to resolve Lehman Brothers – or bailout – which was used with Bear Stearns and AIG. FIN. CRISIS INQUIRY COMM’N, THE FINANCIAL CRISIS INQUIRY REPORT 343 (2011), http://fcic-static.law.stanford.edu/cdn_media/fcic-reports/fcic_final_report_full.pdf [<http://perma.cc/N24L-LEZW>]. Neither was attractive. Lehman’s bankruptcy caused massive economic damage, and taxpayer bailouts led to widespread protest against the government’s willingness to pay the bankers whose allegedly risky and greedy behavior caused the financial crisis.
87. Dodd-Frank §§ 201-17, 12 U.S.C. §§ 5381-5394 (2012). Under the OLA, once the FDIC becomes the receiver of a failing financial institution, it can operate and liquidate the firm with near-complete freedom. The FDIC can “take over the assets and operate the covered financial company with all the powers of the members or shareholders, the directors, and the officers of the covered financial company.” *Id.* § 210(a)(1)(B)(i). It can also appoint itself as the receiver of a failing subsidiary. *Id.* § 210(a)(1)(E)(i). As the receiver of the seized financial institution, the FDIC would have huge latitude to manage the company, including the power to merge it with another institution, *id.* § 210(a)(1)(G)(i)(I); transfer the institution’s assets (without any consent or approval), *id.* § 210(a)(1)(G)(i)(II); suspend legal actions pending against the company, *id.* § 210(a)(8); avoid certain transfers, *id.* § 210(a)(11); and disallow claims that are not proven to its satisfaction, *id.* § 210(a)(3)(D), all with limited judicial review, *id.* § 210(a)(9)(D).

resolve a SIFI without requiring a taxpayer bailout or triggering an economic crisis.⁸⁸

At least on the surface, these rules seem to follow a command-and-control framework. Rather than pushing SIFIs away from certain activities by making those activities more expensive, they instead force SIFIs to take certain actions to reduce their financial risk. The critical point for our command-and-control analysis is that it is the requirements themselves—not the incentives they create—that are intended to reduce systemic risk. As Federal Reserve Governor Lael Brainard said of a capital requirement levied on SIFIs, “the capital surcharge is designed to build additional resilience and lessen the chances of an institution’s failure.”⁸⁹ Federal Reserve Chair Janet Yellen has echoed this view by arguing, for instance, that swap reporting and clearing rules have reduced the risks posed by trading derivatives.⁹⁰

The scholarly consensus bears out the observation that Dodd-Frank institutes a command-and-control regime.⁹¹ Jonathan Masur and Eric Posner, for example, have argued that no section of Dodd-Frank—not even the Act’s capital requirements—functions like a market-based incentive, much less a Pigouvian tax.⁹² Masur and Posner take this view because they regard the substantive provisions of Dodd-Frank, which they refer to as “command-and-control” regulations, to be the primary mechanism through which the law seeks to reduce systemic risk and end too big to fail.⁹³ On their view, the purpose of the provisions of Dodd-Frank that we regard as Pigouvian regulations is not to increase the

88. See Press Release, Bd. of Governors of the Fed. Reserve Sys., *Federal Reserve Board Proposes New Rule To Strengthen the Ability of Largest Domestic and Foreign Banks Operating in the United States To Be Resolved Without Extraordinary Government Support or Taxpayer Assistance*, FED. RES. (Oct. 30, 2015), <http://www.federalreserve.gov/newsevents/pressreleases/bcreg20151030a.htm> [<http://perma.cc/9B43-B5FN>] (“[A]n orderly resolution process should allow a GSIB [Global Systematically Important Bank] to fail, and its investors to suffer losses, while the critical operations of the firm continue to function.”).

89. See Lael Brainard, Member, Bd. of Governors of the Fed. Reserve Sys., *Dodd-Frank at Five: Assessing Progress on Too Big To Fail* (July 9, 2015), <http://www.federalreserve.gov/newsevents/speech/brainard20150709a.htm> [<http://perma.cc/M9YV-EC2K>].

90. See Janet L. Yellen, Chair, Bd. of Governors of the Fed. Reserve Sys., *Financial Stability a Decade After the Onset of the Crisis* (Aug. 25, 2017), <http://www.federalreserve.gov/newsevents/speech/yellen20170825a.htm> [<http://perma.cc/AR65-MV6Q>].

91. See *supra* note 9 and accompanying text.

92. Masur & Posner, *supra* note 9, at 129-30 (claiming that a Pigouvian tax could replace capital requirements and arguing that vague language in Dodd-Frank’s statutory text authorizes regulators to implement a Pigouvian tax).

93. *Id.*

costs associated with risky behavior, but simply to command firms to adopt certain risk-mitigating strategies: capital requirements, for instance, are not designed to push banks away from risky activities, but rather to provide a cushion to help firms absorb losses. Others, including Kashkari and President Obama, have revealed that they believe Dodd-Frank to be a command-and-control regulation when proposing new market-based incentives, such as a tax on bank size, to complement the Act's existing provisions.⁹⁴

C. Critiques of Dodd-Frank's Response to Too Big To Fail

Dodd-Frank seeks to reduce systemic risk in the financial system, to increase the transparency of financial instruments, and to end the problem of too big to fail.⁹⁵ The Act was thus calibrated to respond to a specific set of problems that too big to fail institutions generate.

However, these measures have been met with significant criticism from scholars and policymakers. Specifically, scholars and policymakers are concerned that a large bank failure could still place the economy at risk,⁹⁶ and that banks' own resolution plans would not be sufficient in an actual crisis.⁹⁷ Although Dodd-Frank has succeeded in making the financial system safer,⁹⁸ the largest banks remain enormous and inextricably intertwined, and, therefore, continue

94. See *supra* note 9 and accompanying text.

95. See Dodd-Frank pmbl., 12 U.S.C. § 1301 (2012) (noting that the Act seeks “[t]o promote the financial stability of the United States by improving accountability and transparency in the financial system, to end ‘too big to fail,’ to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and [to serve] other purposes”).

96. See Giovanni Moreano, *Full Interview with Larry Summers on Banks*, CNBC (Sept. 15, 2016, 5:29 PM), <http://www.cnbc.com/2016/09/15/full-interview-with-larry-summers-on-banks.html> [<http://perma.cc/KFJ6-WYRE>]; Natasha Sarin & Lawrence H. Summers, *Have Big Banks Gotten Safer?*, BROOKINGS INSTITUTION 2 (Sept. 2016), http://www.brookings.edu/wp-content/uploads/2016/09/2_sarinsummers.pdf [<http://perma.cc/3TPD-MLQP>].

97. See *infra* Section II.C; see also Stephen J. Lubben, *Resolution, Orderly and Otherwise: B of A in OLA*, 81 U. CIN. L. REV. 485, 485-90 (2013) (detailing the resolution of a distressed financial institution under Dodd-Frank); Stephen J. Lubben, *The Problem With Living Wills for Financial Firms*, N.Y. TIMES: DEALBOOK (Sept. 16, 2011, 3:48 PM), <http://dealbook.nytimes.com/2011/09/16/the-problem-with-living-wills-for-financial-firms> [<http://perma.cc/UA54-2D6U>] (highlighting problems with living wills and timing considerations).

98. See *infra* Section III.C.3.

to pose a serious risk to the economy.⁹⁹ Indeed, even the policymakers who designed the Act's resolution authority concede that it has probably not ended too big to fail.¹⁰⁰ For example, Kashkari recently noted in a speech that he “believe[s] the biggest banks are still too big to fail and continue to pose a significant, on-going risk to our economy.”¹⁰¹ The general thrust of these arguments is that the failure of even a single SIFI would likely require the FDIC or the Federal Reserve to use taxpayer money to conduct a bailout.

Moreover, scholars and commentators have also shown that the SIFI bankruptcy process would not work as planned, which implies that an actual SIFI failure may well trigger a financial crisis. The problem with the bankruptcy plans is that SIFIs remain too complex to be liquidated in the orderly manner envisioned by Dodd-Frank.¹⁰² Kwon-Yong Jin, for example, critiques the OLA for

99. See Emiliios Avgouleas & Charles Goodhart, *Critical Reflections on Bank Bail-ins*, 1 J. FIN. REG. 3, 3 (2015) (“[B]ail-in regimes will not eradicate the need for injection of public funds where there is a threat of systemic collapse, because a number of banks have simultaneously entered into difficulties, or in the event of the failure of a large complex cross-border bank, unless the failure was clearly idiosyncratic.”).

100. According to William Dudley, President of the Federal Reserve Bank of New York, “While the risk of failure of a global systemically important financial institution has diminished, it has not been eliminated. Without a well-functioning resolution process, the consequences of such a failure could still be catastrophic.” *Financial Regulation Nine Years on from the Global Financial Crisis—Where Do We Stand?*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Dec. 9, 2016), <http://corpgov.law.harvard.edu/2016/12/09/financial-regulation-nine-years-on-from-the-gfc-where-do-we-stand> [<http://perma.cc/F2GT-ADK3>]; see also Neel Kashkari, President, Fed. Reserve Bank of Minneapolis, *Lessons from the Crisis: Ending Too Big To Fail* (Feb. 16, 2016), <http://www.minneapolisfed.org/news-and-events/presidents-speeches/lessons-from-the-crisis-ending-too-big-to-fail> [<http://perma.cc/D28J-9H8E>]. A recent study at the Harvard Kennedy School goes even further, reporting that Dodd-Frank has entrenched – rather than ended – the too big to fail problem. See Marshall Lux & Robert Greene, *The State and Fate of Community Banking* 2-3, 19-25 (M-RCBG Assoc. Working Paper Series, No. 37, 2015), http://www.hks.harvard.edu/sites/default/files/centers/mrcbg/files/Final_State_and_Fate_Lux_Greene.pdf [<http://perma.cc/5HUG-YQ74>]; Jesse Eisinger & Jake Bernstein, *From Dodd-Frank to Dud: How Financial Reform May Be Going Wrong*, PROPUBLICA (June 3, 2011, 8:16 AM), <http://www.propublica.org/article/from-dodd-frank-to-dud> [<http://perma.cc/R2UH-KS9L>] (“Frank and Treasury Department officials acknowledge the potential difficulty in successfully winding down these huge institutions, but they argue that there is no other alternative.”).

101. Kashkari, *supra* note 100.

102. Jin, *supra* note 6; see also Wilmarth & Lubben, *supra* note 6, at 1 (arguing that “[SPOE] is unlikely to work as intended” because “[t]he Federal Reserve’s ‘total loss-absorbing capacity’ (TALC) proposal . . . will create a new, more opaque way to impose the costs of financial distress in SIFIs on ordinary citizens”); Simon Johnson, *The Myth of a Perfect Orderly Liquidation Authority for Big Banks*, N.Y. TIMES: ECONOMIX (May 16, 2013, 12:01 AM), <http://economix.blogs.nytimes.com/2013/05/16/the-myth-of-a-perfect-orderly-liquidation-authority-for-big-banks> [<http://perma.cc/WY3R-W7HY>] (noting that banks do not hold enough equity

“assum[ing] an optimal corporate group structure,”¹⁰³ in which there are clear divisions between corporate groups, and creditors can supervise the risk-taking activities of subsidiaries as easily as those of a parent company. But in reality, large financial institutions rarely have this clear corporate structure.¹⁰⁴ Ultimately, as both legal¹⁰⁵ and economics¹⁰⁶ scholars have argued, these structural imperfections may lead to cracks in the implementation of the OLA.¹⁰⁷ In practice, it may therefore end up being very difficult to sell off subsidiaries or determine which subsidiaries hold what debt. That, in turn, makes it difficult to wind down a SIFI by isolating its subsidiaries in this manner.

The living will requirement has similar problems.¹⁰⁸ Although the Federal Reserve has noted that SIFIs have made progress in reducing the likelihood that failure would trigger a recession, it recently rejected the 2016 living wills provided by five of the eight American megabanks considered “global SIFIs” (G-SIFIs)¹⁰⁹ – including the wills of JPMorgan, Bank of America, and Wells

to fail in the manner intended by Dodd-Frank); Adam Levitin, *SPOE: Backdoor Bailouts and Funding Fantasies?*, CREDIT SLIPS (Feb. 25, 2015, 10:22 PM), <http://www.creditslips.org/creditslips/2015/02/spoe-backdoor-bailouts-and-funding-fantasies.html> [<http://perma.cc/4VCU-RS6R>].

103. Jin, *supra* note 6, at 1765.

104. *Id.*

105. *Id.*

106. Levitin, *supra* note 102.

107. As Jin has argued, “These weaknesses might arise in three ways: (1) since monitoring capability of the parents’ creditors is weaker than that of the subsidiaries’ creditors, moral hazard can increase on net; (2) since OLA resolution carries with it certain adverse consequences for the financial firm (such as automatic replacement of management), a financial firm may shift liabilities to the subsidiaries and force the FDIC to bail out the company instead of resolving it through the OLA; and (3) implementation of the SPOE approach, which essentially relies on a quarantine of the parent and the problematic subsidiaries, may not be possible when the dividing lines among different constituent legal entities are unclear.” Jin, *supra* note 6, at 1766.

108. See Mehrsa Baradaran, *Regulation by Hypothetical*, 67 VAND. L. REV. 1247, 1310-18 (2014). Living wills may have some positive effects, though, such as requiring SIFIs to disclose information about their organizational structure. Emiliios Avgouleas, Charles Goodhart & Dirk Schoenmaker, *Bank Resolution Plans as a Catalyst for Global Financial Reform*, 9 J. FIN. STABILITY 210, 211 (2013).

109. “Global SIFI” – also known as a G-SIB, or a Global Systemically Important Bank – is a term of art. See, e.g., FIN. STABILITY BD., 2016 LIST OF GLOBAL SYSTEMICALLY IMPORTANT BANKS (G-SIBS) (2016), <http://www.fsb.org/wp-content/uploads/2016-list-of-global-systemically-important-banks-G-SIBs.pdf> [<http://perma.cc/3GT2-XB7N>] (describing criteria used to classify banks as G-SIBs).

Fargo.¹¹⁰ The remaining three G-SIFIs did not fare much better. The FDIC and Federal Reserve found that Goldman Sachs's and Morgan Stanley's plans were "not credible," and that Citigroup's had "shortcomings."¹¹¹ As a result, in the event of a widespread market failure, the federal government will likely have to provide public funds to prevent a "systemic collapse."¹¹² If anything, this bail-out problem is even greater now than before the financial crisis since SIFIs have grown and would now require even more money to save.¹¹³

In short, according to scholars and policymakers, Dodd-Frank's command-and-control solution to the problem of banks being too big to fail has not worked. As the next Part will show, however, this account overlooks an alternative way in which Dodd-Frank addresses too big to fail: as a market-based or Pigouvian regulation.

III. DODD-FRANK IS A PIGOUVIAN REGULATION

This Note breaks from the traditional narrative on Dodd-Frank by asserting that the Act does not simply follow the conventional command-and-control regulatory approach. Instead, the Act's compliance costs have had a subtle but powerful effect in counteracting the problem of too big to fail in some startling ways. In short, Dodd-Frank acts as a Pigouvian regulation—and an effective one at that.

This Part first explains why elements of Dodd-Frank can be understood as Pigouvian regulations. It then analyzes how Dodd-Frank's compliance costs have affected SIFIs' commodities holdings and how the SIFI designation has affected nonbank SIFIs. In both of these cases, the costs of complying with Dodd-Frank have driven some SIFIs out of what were highly profitable business lines. Furthermore, in each case, regulators have been able to target activities that they perceive as risky and calibrate compliance costs to those risks. In doing so, regulators not only forced SIFIs to bear the costs of being too big to fail—as Bernanke and Stein argue—but also prompted SIFIs to divest themselves of

110. Lisa Lambert, *U.S. Regulators Fail "Living Wills" at Five of Eight Big Banks*, REUTERS (Apr. 13, 2016, 8:09 AM), <http://www.reuters.com/article/us-usa-banks-idUSKCN0XA1B4> [<http://perma.cc/6S8G-YKSJ>].

111. *Id.*

112. *Id.*

113. This is partly because regulators encouraged bank consolidation during the financial crisis as a way for large, solvent banks to save failing banks. David C. Wheelock, *Banking Industry Consolidation and Market Structure: Impact of the Financial Crisis and Recession*, 93 FED. RES. BANK ST. LOUIS REV. 419 (Nov./Dec. 2011), <http://files.stlouisfed.org/files/htdocs/publications/review/11/11/419-438Wheelock.pdf> [<http://perma.cc/X3HH-BZAC>].

business units that pose a risk to the broader economy. These divestitures made SIFIs (and thus the economy) safer overall.

A. *A Pigouvian Theory of Dodd-Frank*

In contrast to the prevailing view that Dodd-Frank is just a command-and-control regulation, Bernanke and Stein have argued that higher capital surcharges and other onerous regulations on systemically important firms could have the effect of a Pigouvian tax insofar as these regulations force banks to internalize the costs of being too big to fail.¹¹⁴ Their point is that, because SIFIs receive advantageous credit terms based on the market's perception that the government will bail them out should they fail, the government should correct that market distortion by imposing costs that counteract this implicit subsidy.

However, as discussed below, our research shows that these compliance costs serve a *regulatory* purpose by incentivizing banks to divest themselves of risky business assets. In fact, financial regulators have been using Dodd-Frank—which ostensibly rejected a market-based approach in favor of a command-and-control regulatory approach—to nudge SIFIs out of risky activities. This observation shows that Dodd-Frank is effectively functioning as a market-based solution that is reducing the too big to fail problem.

Moreover, Dodd-Frank is acting like a market-based regulatory solution without requiring the actual use of public funds. In other words, Dodd-Frank shows that the government can use market-based solutions without formally taxing or subsidizing private entities. Indeed, under Dodd-Frank, the government can adjust the compliance costs borne by SIFIs in a number of creative ways.

Compliance costs are the expenditures that businesses incur adhering to government or industry requirements.¹¹⁵ In the case of Dodd-Frank, SIFIs face a wide variety of compliance costs; indeed, one study estimated that the economy-wide costs of complying with Dodd-Frank between 2010 and 2016 were as much as \$36 billion.¹¹⁶ These costs range from the comprehensive stress tests to the

114. See *supra* notes 19-21 and accompanying text.

115. See, e.g., *Best Practice Regulation Handbook*, AUSTRALIAN GOV'T 18 (Aug. 2007), http://regulationbodyofknowledge.org/wp-content/uploads/2013/03/AustralianGovernment_Best_Practice_Regulation.pdf [<http://perma.cc/Q4ZU-YFUR>]; *Compliance Cost*, INVESTOPEDIA, <http://www.investopedia.com/terms/c/compliance-cost.asp> [<http://perma.cc/S8QC-XVLU>].

116. Ayesha Javed, *Dodd-Frank Costs Reach \$36 Billion in Sixth Year*, BLOOMBERG (July 22, 2016), <http://www.bloomberg.com/professional/blog/dodd-frank-costs-reach-36-billion-sixth-year-2> [<http://perma.cc/7XCM-ZC5C>].

onerous reporting standards associated with swap transactions to the capital requirements that limit banks' ability to extend credit. Although a few commentators¹¹⁷ and affected institutions¹¹⁸ have mentioned that the costs of Dodd-Frank amount to a tax on bank size, these commentators have generally viewed these costs negatively and have largely ignored the ways in which they are being used to serve a regulatory purpose.

Commentators have likely overlooked this regulatory purpose because compliance costs are widely considered an ancillary and undesirable feature of regulations. For example, in 2002, Congress passed the Regulatory Right-to-Know Act in response to the concern that compliance costs were too great.¹¹⁹ The Regulatory Right-to-Know Act directs the Office of Management and Budget (OMB) to submit a report to Congress each year detailing the costs and benefits of major rules as a way of controlling the growth of compliance costs.¹²⁰ Likewise, commentators have often treated the compliance costs created by Dodd-Frank as simply an unwanted side effect of the regulatory scheme.¹²¹

Our research shows, however, that compliance costs can be the essential feature of certain regulatory approaches. In the case of Dodd-Frank, it is precisely the costs that OMB seeks to reduce that end up making the regulation effective. Thus, the costs of complying with Dodd-Frank should not be viewed as an un-

117. See, e.g., Solomon, *supra* note 19 (“Dodd-Frank tries to figure out who [too big to fail institutions] are and charge them for being too big. This is done by raising their regulatory costs through more oversight and supervision . . . [O]ne purpose of this increased regulation is to impose a regulatory tax on big banks to push them to be smaller.”).

118. See, e.g., Glob. Mkt. Inst., *supra* note 19, at 2 (underlining the tax-like consequences of post-crisis banking regulations).

119. See Pub. L. No. 106-554, 114 Stat. 2763 (2000).

120. *Id.* § 624(a)(1) (requiring the Director of the Office of Management and Budget to submit to Congress a report giving “an estimate of the total annual costs and benefits (including quantifiable and nonquantifiable effects) of Federal rules and paperwork”). For example, OMB’s 2016 Draft Report states that in 2014 major rules had associated costs between \$74 and \$110 billion. Office of Mgmt. & Budget, *2016 Draft Report to Congress on the Benefits and Costs of Federal Regulations and Agency Compliance with the Unfunded Mandates Reform Act*, OFF. INFO. & REG. AFF. 2, http://obamawhitehouse.archives.gov/sites/default/files/omb/assets/legislative_reports/draft_2016_cost_benefit_report_12_14_2016_2.pdf [<http://perma.cc/7YLQ-RZWH>]. The report finds aggregate benefits in 2014 to be between \$269 and \$872 billion. *Id.*

121. Ben Gitis et al., *Dodd-Frank at 5: Higher Costs, Uncertain Benefits*, AM. ACTION F. (July 14, 2015), <http://www.americanactionforum.org/research/dodd-frank-at-5-higher-costs-uncertain-benefits> [<http://perma.cc/4N32-BEC3>] (describing “paperwork burden hours” and stating that small firms have “pa[id] the price” because of these costs, resulting in “stagnant job growth”).

wanted byproduct, but rather as a mechanism for shaping the behavior of financial institutions and for incentivizing them to move away from financially risky activities.

At the outset, we concede that Dodd-Frank has not yet solved the too big to fail problem. As noted above, the largest banks remain enormous and the threatened failure of a single SIFI would likely require a taxpayer bailout. Furthermore, if a SIFI did fail, its failure could still have a devastating effect on the economy because SIFIs are larger today than they were before the financial crisis.¹²² In fact, over the past thirty-five years, the number of American banks has declined from about 14,500 to 5,600.¹²³ Bank consolidation accelerated during the crisis in part because bank failures led to crisis-era mergers and acquisitions.¹²⁴ The fact that banks are larger today arguably suggests that Bernanke and Stein are incorrect and that SIFI regulations are not in fact prompting banks to downsize.

Our research, however, shows that the story is more complicated and that the costs associated with being designated a SIFI have a significant effect on firm activities. As the remainder of this Part shows, SIFIs are shedding business lines in response to heightened regulatory costs. Some of this is evident in the sheer size of assets that SIFIs have dropped: Citigroup, for example, has shed over \$700 billion in assets since the crisis.¹²⁵ Equally important, however, is the nature of that reduction. In 2007, only thirty-seven percent of Citi's liabilities were customer deposits,¹²⁶ which are generally considered among the most stable sources of bank funding;¹²⁷ by 2014, that number had ballooned to fifty-seven

122. See Satyajit Das, *Banks Are Getting Bigger, Not Smaller. Clearly They Learnt Nothing From the 2008 Financial Crisis*, INDEPENDENT (Mar. 12, 2017, 11:08 AM), <http://www.independent.co.uk/voices/banks-still-haven-t-learnt-their-lessons-from-the-financial-crash-a7625311.html> [<http://perma.cc/KV6B-PKHL>]. A SIFI failure, however, would likely not have an effect of similar magnitude as a large bank failure in 2007-08 since, as discussed throughout this Note, Dodd-Frank regulations regarding capital requirements and living wills, among others, have made such firms safer than they were ten years ago.

123. See Michal Kowalik et al., *Bank Consolidation and Merger Activity Following the Crisis*, FED. RES. BANK KAN. CITY 5 (2017), <http://www.kansascityfed.org/publicat/econrev/pdf/15q1Kowalik-Davig-Morris-Regehr.pdf> [<http://perma.cc/H8SA-XQAD>].

124. *Id.*

125. Nathaniel Popper & Michael Corkery, *Shrunken Citigroup Illustrates a Trend in Big U.S. Banks*, N.Y. TIMES: DEALBOOK (Apr. 15, 2016), <http://www.nytimes.com/2016/04/16/business/dealbook/shrunken-citigroup-illustrates-a-trend-in-big-us-banks.html> [<http://perma.cc/V9XJ-4LNA>].

126. Neil Irwin, *For Proof Wall Street Is Changing, Look at Citigroup's Numbers*, N.Y. TIMES: UPSHOT (July 15, 2014), <http://www.nytimes.com/2014/07/16/upshot/for-proof-wall-street-is-changing-look-at-citigroups-numbers.html> [<http://perma.cc/S4D4-AML2>].

127. *Id.* This means that sixty-seven percent of Citi's funding came from other revenue sources, including \$394 billion in riskier short-term securities. *Id.*

percent.¹²⁸ “In other words,” according to one commentator, “not only is Citigroup smaller than it was seven years ago, but it also finances itself through more stable sources that are less prone to runs.”¹²⁹ This story has played out across the large banks. In short, while the aggregate size of SIFI assets has grown, banks have shed many of their *risky* assets in response to Dodd-Frank.

Consequently, critics who argue that Dodd-Frank has failed to solve the too big to fail problem miss an important point: the Act grants financial regulators the power to ratchet up the cost of remaining too big to fail and engaging in certain high-risk financial activities. Indeed, regulators have already begun to use this power to incentivize banks to simplify and shed risky assets, which in turn has rendered the market safer. In summary, Dodd-Frank’s compliance costs have allowed regulators to craft a regulatory regime much more effective than its critics let on.

B. Methodology

To test our hypothesis that Dodd-Frank has a Pigouvian effect on large financial institutions, we used the Thomson ONE database to compile data for ten SIFIs.¹³⁰ Thomson ONE houses a comprehensive catalogue of mergers and acquisitions transactions. This includes not only deals in which one company

128. *Id.*

129. *Id.*

130. THOMSON ONE, <http://www.thomsonone.com/Workspace/Main.aspx?View=Action%3dOpen&BrandName> [<http://perma.cc/9GRE-462V>]. We chose to analyze the following eleven firms: JP Morgan, Goldman Sachs, Prudential, Citigroup, Wells Fargo, General Electric (GE), AIG, MetLife, Bank of America, Bank of New York Mellon, and Morgan Stanley. Four of these – AIG, GE, Prudential, and MetLife – constitute the four nonbank firms that the FSOC has designated systemically important. Fin. Stability Oversight Council, *Designations*, U.S. DEP’T TREASURY, <http://www.treasury.gov/initiatives/fsoc/designations/Pages/default.aspx> [<http://perma.cc/7YLM-WJ2K>]. These four firms are subject to slightly different requirements than bank SIFIs, making their inclusion important. As of 2016, thirty banks were designated as systemically important. FIN. STABILITY BD., 2016 LIST OF GLOBAL SYSTEMICALLY IMPORTANT BANKS (G-SIBS) 3 (2016), <http://www.fsb.org/wp-content/uploads/2016-list-of-global-systemically-important-banks-G-SIBs.pdf> [<http://perma.cc/KCE4-GHUH>]. We chose these seven bank SIFIs because they offer a comprehensive representation of the largest and systemically important American financial institutions. Many of the other bank SIFIs are primarily regulated by European and Chinese financial regulators. Focusing on those would have increased the difficulty in determining which asset sales were motivated by Dodd-Frank.

acquires or merges with another, but also spinoffs,¹³¹ divestitures,¹³² recapitalizations,¹³³ share buybacks,¹³⁴ and other transactions in which a company sheds or acquires a certain type of asset.

For each SIFI examined, we considered all announced spinoffs, divestitures, and other transactions in which the SIFI reported that it had shed assets between July 21, 2010 – the date Dodd-Frank was signed – and December 31, 2016. We surveyed only transactions in which the SIFI or one of its subsidiaries was the target company. We further narrowed the set to deals that were designated as “financial.” We did this to exclude, for example, certain real estate deals,¹³⁵ share repurchases,¹³⁶ and other deals clearly unrelated to the costs of financial regulation.¹³⁷

We then manually analyzed all the remaining deals to determine which transactions were likely caused by efforts to reduce the costs of complying with Dodd-Frank. We based these determinations on contemporaneous news reports, company press releases and regulatory filings, and government regulatory reports. Where Dodd-Frank’s compliance costs played a role in a divestiture, we

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131. See LATHAM & WATKINS LLP, *THE BOOK OF JARGON: GLOBAL MERGERS & ACQUISITIONS* 204 (1st ed. 2013), http://www.lw.com/admin/Upload/Documents/BoJ_Global_MandA-locked-March-2015.pdf [<http://perma.cc/2BJ3-S8PA>] (defining a spinoff to be “a distribution by a company of one or more of its businesses to its shareholders in the form of a dividend of the Stock of a newly created entity in which the business resides. Also used to describe a part of a business which has been split from the rest of the business and sold”).
132. See *Divestiture*, INVESTOPEDIA, <http://www.investopedia.com/terms/d/divestiture.asp> [<http://perma.cc/ZZ86-X3EY>] (“A divestiture is the partial or full disposal of a business unit through sale, exchange, closure or bankruptcy.”).
133. See *Recapitalization*, INVESTOPEDIA, <http://www.investopedia.com/terms/r/recapitalization.asp> [<http://perma.cc/WKT4-6F9S>] (“Recapitalization is restructuring a company’s debt and equity mixture, often with the aim of making a company’s capital structure more stable or optimal.”).
134. See LATHAM & WATKINS, *supra* note 131, at 194 (defining share buybacks as “a company’s repurchase of its own Shares”).
135. On August 15, 2014, for example, Paulson & Co. acquired the American International Plaza Building in San Juan from AIG. Kelly Bit, *Paulson Adds to Puerto Rico Real Estate with AIG Building*, BLOOMBERG (Aug. 15, 2014), <http://www.bloomberg.com/news/articles/2014-08-15/paulson-co-adds-to-puerto-rico-real-estate-with-aig-building> [<http://perma.cc/STY3-AESC>].
136. In June 2015, for example, the board of Prudential authorized a \$1 billion buyback. Angela Chen, *Prudential To Buy Back Additional \$1 Billion in Stock*, WALL ST. J. (June 9, 2015), <http://www.wsj.com/articles/prudential-to-buy-back-additional-1-billion-in-stock-1433882530> [<http://perma.cc/RAT8-3TW8>].
137. On January 15, 2016, for example, GE sold its appliance business to Haier. Ankit Ajmera, *GE To Sell Appliances Business to China’s Haier for \$5.4 Billion*, REUTERS (Jan. 14, 2016), <http://www.reuters.com/article/us-ge-divestiture-haier-elec-idUSKCN0UToAG> [<http://perma.cc/XZK2-RQN8>].

determined which elements of Dodd-Frank were responsible, and we tried to explain why. This involved determining whether each spinoff was caused by one of Dodd-Frank's "command-and-control" regulations, such as the Volcker Rule's ban on proprietary trading, or whether it was caused by a firm's desire to reduce its compliance costs. We were thereby able to pinpoint which divestitures were mandated by the command-and-control features of Dodd-Frank and which resulted from a SIFI's desire to lessen compliance costs.

The results presented in this Part represent the subset of our findings that evidence the clearest links to Dodd-Frank regulatory pressures. We acknowledge that there are difficulties inherent in the compilation of data sets like ours and especially in the structured, yet admittedly subjective, coding scheme that we applied. In order to avoid having such methodological issues cast doubt on our findings, we focus on (and further substantiate) those transactions for which the nexus to Dodd-Frank's compliance costs are clearest.

Because it is not certain that the data set contained all divestitures (some small or private transactions may not have been included, for example), and because many transactions fall in a grey zone and were likely motivated by a combination of market conditions, compliance costs, and command-and-control regulations, we cannot calculate the total number of divestitures that resulted from Dodd-Frank's Pigouvian effects. We do, however, demonstrate that the effect has been dramatic. Our analysis shows that SIFIs have divested themselves of the many business lines regulators regarded as being excessively risky, and they did so in direct response to regulatory decisions to increase the costs of continuing to engage in risky transactions.

C. The Pigouvian Findings

Dodd-Frank has forced SIFIs to internalize the costs of engaging in certain risky business practices, and those costs, in turn, have incentivized SIFIs to divest risky assets. Regulators have thus used Dodd-Frank's compliance costs to support the Act's general goal of reducing systemic risk. These costs have not merely forced SIFIs to bear the burden of being systemically important; they have also fundamentally altered SIFI business activities by driving SIFIs out of the business practices that regulators regard as unacceptably risky.

As noted above, commentators have observed that while SIFIs have grown in size, SIFIs have nonetheless shed many assets, and SIFIs now engage in less risky financial activities. These observations provide initial evidence that Dodd-Frank operates as a Pigouvian regulation. If SIFIs had simply grown without becoming safer, then compliance costs would not have had the desired effect of

pushing SIFIs away from risky activities. SIFI growth, however, has been coupled with a shift towards less exotic financial activities. As we show in this Section, SIFI compliance costs have played a significant role in this process.

In particular, this Section will focus on the compliance costs of (1) holding commodities and (2) being designated as a nonbank SIFI. In addition, it will show how these compliance costs have led large financial institutions to divest their commodities holdings and have encouraged nonbank firms to change their business activities so as to shed their SIFI designation. Finally, the Section will discuss how these business changes have reduced overall systemic risk.

1. *Divesting Commodities Holdings*

Since Dodd-Frank's passage, SIFIs have divested themselves of sizeable commodities holdings, and they have done so because Dodd-Frank raised the costs of holding physical commodities. This section first explains why financial regulators worry about allowing banks to participate in commodity markets. It then explains how two parts of Dodd-Frank—the limits it imposes on derivatives trading and its capital requirements—have increased the costs of holding commodities. Finally, it identifies a number of large spin-offs and divestitures that have occurred because banks wanted to reduce the costs associated with complying with these regulations.

For two reasons, commodities holdings can pose outsized risks for financial institutions.¹³⁸ First, physical commodities are themselves vulnerable to extreme losses.¹³⁹ A single catastrophic event could subject a financial institution to multi-billion-dollar losses.¹⁴⁰ This is, for example, what happened to BP because of the Deep Water Horizon oil spill.¹⁴¹ Because these losses are unpredictable and can be triggered by natural disasters, it is difficult and costly for banks to

138. STAFF OF S. PERMANENT SUBCOMM. ON INVESTIGATIONS, 113TH CONG., WALL STREET BANK INVOLVEMENT WITH PHYSICAL COMMODITIES 3 (Comm. Print 2014) (“[F]inancial holding companies . . . engage[d] in commodity-related businesses that carried potential catastrophic event risks.”).

139. See Complementary Activities, Merchant Banking Activities, and Other Activities of Financial Holding Companies Related to Physical Commodities, 79 Fed. Reg. 3,329 (Jan. 21, 2014) [hereinafter Complementary Activities].

140. See STAFF OF S. PERMANENT SUBCOMM. ON INVESTIGATIONS, 113TH CONG., WALL STREET BANK INVOLVEMENT WITH PHYSICAL COMMODITIES 4-5 (Comm. Print 2014).

141. See Debbie Elliott, *5 Years After BP Oil Spill, Effects Linger and Recovery Is Slow*, NPR (Apr. 20, 2015), <http://www.npr.org/2015/04/20/400374744/5-years-after-bp-oil-spill-effects-linger-and-recovery-is-slow> [http://perma.cc/L8FV-468Q].

take steps to protect against such losses.¹⁴² The Federal Reserve observed in a 2012 notice of proposed rulemaking that “catastrophes involving environmentally sensitive commodities may cause fatalities and economic damages well in excess of the market value of the commodities involved or the committed capital and insurance policies of market participants.”¹⁴³ According to the Fed’s analysis, if a financial institution suffered a loss similar to that incurred by BP because of the oil spill, it would not have been able to cover its losses.¹⁴⁴ The Fed went on to conclude that Morgan Stanley, Goldman Sachs, and JPMorgan would each have to allocate between \$1 billion and \$15 billion in capital or insurance to cover potential losses from commodities trading.¹⁴⁵

A second reason commodities introduce risk into financial markets is that commodity markets are cyclical, which means that the value of commodities rises during times of economic growth and decreases when the market as a whole declines.¹⁴⁶ As a result, while commodities pad bank profits when markets are healthy, they exacerbate losses at the worst possible moment: when an economic crisis has begun and a bank needs a steady stream of income.

Conscious that such holdings can expose the financial system to widespread shocks, both the Federal Reserve and the CFTC have used Dodd-Frank to push SIFIs out of certain commodities businesses. Critically, though, regulators did not bar commodities trading altogether – in fact, the rules explicitly allow SIFIs to use commodities for hedging purposes.¹⁴⁷ Instead, regulators limited the number and amount of speculative trades companies could make on physical commodities, and they imposed significant reporting and capital requirements that increased the cost of trading commodities.¹⁴⁸ Although the stated purpose

142. *See id.*

143. *See* Complementary Activities, *supra* note 139, at 3331.

144. STAFF OF S. PERMANENT SUBCOMM. ON INVESTIGATIONS, 113TH CONG., WALL STREET BANK INVOLVEMENT WITH PHYSICAL COMMODITIES 4-5 (Comm. Print 2014).

145. *Id.*

146. *See generally* Aswath Damodaran, Ups and Downs: Valuing Cyclical and Commodity Companies 1-7 (Sept. 2009) (unpublished manuscript), <http://people.stern.nyu.edu/adamodar/pdfiles/papers/commodity.pdf> [<http://perma.cc/4GJ9-95HW>] (discussing the dependence of commodity prices on the growth of the underlying economy).

147. 17 C.F.R. § 4.5 (2016); *see also* Gary Barnett, *CFTC Interpretive Letter, CFTCLTR No. 12-19* (Oct. 12, 2012), <http://www.cftc.gov/idc/groups/public/@lrllettergeneral/documents/letter/12-19.pdf> [<http://perma.cc/EP6F-XLVD>] (affirming that trading commodities for hedging purposes is allowed).

148. *See* Dodd-Frank, Pub. L. No. 111-203, §§ 701-774 124 Stat. 1376, 1641-1802 (2010). Dodd-Frank allows the CFTC to regulate position limits in three ways: (1) by setting the size of position limits, (2) by exempting certain activities, such as bona fide hedging, from these limits, and (3) by setting an aggregation policy with regard to the overall position limits. 7

of these rules is to implement safeguards that will increase transparency and make banks more resilient to movements in commodities prices,¹⁴⁹ they have also increased compliance costs so significantly that they have pushed many banks out of physical commodities businesses altogether.

At least two parts of Dodd-Frank have played a significant role in prompting SIFIs to divest themselves of their commodities holdings. Specifically, provisions limiting the number of futures contracts an investor is allowed to hold on an underlying security—commonly referred to as a position limit¹⁵⁰—made it less profitable for banks to remain active in commodities markets.¹⁵¹ In plain English, position limits cap the amount of speculative trades a financial institution can make on contracts for the future delivery of commodities. In addition, stricter capital and liquidity requirements mean that banks must hold additional liquid assets in order to mitigate risks posed by commodities.¹⁵²

U.S.C. §§ 6a(a)(3)(A), (5)(A) (2012); see also *Proposed Regulations on Position Limits for Derivatives Factsheet*, COMMODITY FUTURES TRADING COMM'N 1 (2013), http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/pl_150_factsheet.pdf [<http://perma.cc/L6V8-FQNL>] (noting that the CFTC interprets Dodd-Frank to require it to establish limits on positions). For more information on the reporting requirements, see *Further Definition of "Swap," "Security-Based Swap," and "Security-Based Swap Agreement"; Mixed Swaps; Security-Based Swap Agreement Recordkeeping*, 77 Fed. Reg. 48,207 (Aug. 13, 2012) (codified at 7 C.F.R. pt. 1).

149. See *id.*, at 48,307 (noting that “[t]he legislation was enacted, among other reasons, to reduce risk, increase transparency, and promote market integrity within the financial system”).
150. See *Position Limits Regulation*, MARKETREFORMWIKI, http://www.marketsreformwiki.com/mktreformwiki/index.php/Position_Limits_Regulation [<http://perma.cc/T7DR-SCQ6>].
151. See 17 C.F.R. § 150.1-2 (2016). By reducing banks’ ability to use derivatives to bet on commodities prices, Dodd-Frank increased the costs banks face in holding physical commodities. Consider the following examples. If a bank owns an oil refinery, it will learn information relevant to oil prices, such as shipping delays or technical difficulties, before the market does. If the company obtains information that indicates that the price of the commodity will decline, it will be able to use that information to make a profit by shorting the commodity it owns. In that way, it can use its informational advantage to offset losses due to price declines. According to the Federal Reserve, Morgan Stanley and Goldman Sachs have used this tactic to great effect. STAFF OF S. PERMANENT SUBCOMM. ON INVESTIGATIONS, 113TH CONG., WALL STREET BANK INVOLVEMENT WITH PHYSICAL COMMODITIES 36 (Comm. Print 2014).
152. The source of regulators’ authority to issue capital requirements originally came from section 4(k) of the Bank Holding Company Act. However, section 171 of Dodd-Frank—commonly known as the “Collins Amendment”—sets a capital requirement floor and gives regulators authority to adjust capital requirements. See Dodd-Frank § 171, codified at 12 U.S.C. § 5371 (2012). Moreover, that section imposes further burdens on financial institutions by limiting the kinds of assets that can be counted as Tier I capital. For instance, section 171 instructs regulators to apply the same capital and risk standards to SIFIs that apply to banks insured

By tracking how banks responded to changes in the CFTC's commodities regulations, one can identify the Pigouvian effect of position limit regulations. As we discuss in more detail after our analysis of capital requirements, what we observe is that banks reduced or eliminated their commodities positions following the imposition of these compliance costs, and they often explicitly said that they did so in order to reduce these costs. Although some firms sold off substantial commodities units just months after the passage of Dodd-Frank in 2010,¹⁵³ substantial divestitures did not occur until a few years later, after it became clear that the regulations on position limits would actually go into effect.¹⁵⁴ Specifically, commodities divestitures picked up once the CFTC voted to approve a new rule regarding position limits in 2013.¹⁵⁵ The 2013 rules imposed greater compliance costs on holding commodities.¹⁵⁶ And capital rules have further raised the

by the FDIC. *Id.* One important consequence of this requirement is that hybrid capital instruments, such as trust preferred securities, are no longer included in the definition of tier 1 capital. *Id.*

153. In March 2011, for example, JPMorgan's hedge fund unit, Highbridge Capital Management, sold a natural gas pipeline, as well as storage and processing plants, for \$1.95 billion. *Louis Dreyfus Highbridge in \$1.95 Billion Energy Sale*, N.Y. TIMES: DEALBOOK (Mar. 22, 2011, 7:26 PM), <http://dealbook.nytimes.com/2011/03/22/louis-dreyfus-highbridge-in-1-95-billion-energy-sale> [<http://perma.cc/ZU5E-KYXU>]. Goldman Sachs sold a mining unit as well. Matt Chambers, *China's Yanzhou Coal Buys Aussie Mine for \$202m*, AUSTRALIAN (Aug. 3, 2011, 12:00 AM), <http://www.theaustralian.com.au/business/news/chinas-yanzhou-coal-buys-aussie-mine-for-202m/news-story/9625f86f23ec4626fd8705a5a3305769> [<http://perma.cc/7ZRV-C64C>].
154. We believe that this delay is partly due to initial skepticism by the industry that the position rules would be adopted or would survive legal challenge. For instance, although the CFTC published a final rule on position limits in November 2011, *see* Position Limits for Futures and Swaps, 76 Fed. Reg. 71,626 (Nov. 18, 2011), the rule was initially met by numerous successful lawsuits; *see, e.g.*, *Int'l Swaps & Derivatives Ass'n v. CFTC*, 887 F. Supp. 2d 259, 284 (D.D.C. 2012) (noting that factors rule in favor of vacating the Position Limits Rule on remand); *Court Vacates Position Limit Rules*, SULLIVAN & CROMWELL LLP 1 (Oct. 1, 2012), <http://www.sullcrom.com/siteFiles/Publications/SC-Publication-Court-Vacates-Position-Limit-Rules.pdf> [<http://perma.cc/AD3Y-DRSA>]. It was only in 2013, after the CFTC's rules survived numerous legal challenges and officially went into effect that firms began to divest their commodities holdings at a significant pace.
155. *CFTC Approves Position Limits Proposals*, CFTC (Nov. 5, 2013), <http://www.cftc.gov/PressRoom/PressReleases/pr6763-13> [<http://perma.cc/F2CA-K4XK>]; *see also* Position Limits for Derivatives, 78 Fed. Reg. 75,680 (proposed Dec. 12, 2013) (to be codified in scattered sections of 17 C.F.R.).
156. Position Limits for Derivatives, 78 Fed. Reg. at 75,735 (amending § 150.3, requiring banks to maintain complete records and books relating to all details of their swap transactions, and specifying that these records can be demanded by the CFTC upon request); *CFTC Proposes New Position Limits*, SULLIVAN & CROMWELL LLP 2, 8 (Nov. 18, 2013), http://www.sullcrom.com/siteFiles/Publications/SC_Publication_CFTC_Proposes_New_Position

costs of holding commodities. Capital requirements and position limits thus hit banks in quick succession between 2012 and 2014. The result was a flurry of divestitures.

A second feature of Dodd-Frank that has led SIFIs to divest commodities holdings is its increase in capital requirements. Since the financial crisis – even before Dodd-Frank went into effect – financial regulators have made it much more capital-intensive for banks to remain in the commodities business. For example, banks were technically required to hold capital on physical assets before Dodd-Frank went into effect.¹⁵⁷ There were, however, several difficulties with the pre-Dodd-Frank capital requirements. Most significantly, banks could reduce the amount of capital they had to hold in connection with their physical commodities by engineering complex financial products that moved their commodities exposures off-balance sheet without actually reducing the risks they faced because of their commodities trades.¹⁵⁸ A series of recent regulations has

Limits.pdf [<http://perma.cc/Y6PN-EYYR>] (noting that “records would be subject to ‘special call’ by the CFTC,” which means any person claiming a § 150.3 exemption must provide the CFTC with certain information on request); *id.* at 2 (explaining further that the proposed rule had stricter bona fide hedge exemptions than the CFTC had historically recognized and that the proposed rule completely replaced the bona fide hedge reporting regime). Costs have only grown more onerous with later revisions. See *Position Limits for Derivatives*, 81 Fed. Reg. 96,704 (Dec. 30, 2016) (to be codified in scattered sections of 17 C.F.R.); *Position Limits for Derivatives: Certain Exemptions and Guidance*, 81 Fed. Reg. 38,458 (June 13, 2016) (to be codified at 17 C.F.R. pts. 37, 38, 150); see also *CFTC Re-Proposes Rules on Position Limits on Physical Commodity Derivatives*, SULLIVAN & CROMWELL LLP 2 (Dec. 12, 2016), http://www.sullcrom.com/siteFiles/Publications/SC_Publication_CFTC_Re_Proposes_Rules_on_Position_Limits_on_Physical_Commodity_Derivatives.pdf [<http://perma.cc/4TC6-PCBN>] (noting that the proposal “would give more control over position limits and limit levels with respect to all enumerated physical commodities to the CFTC (rather than the exchanges), it would extend limits to over-the-counter swap positions for the first time, and it would incorporate a much more prescriptive approach to the definition of bona fide hedging”); *CFTC Supplements Position Limits Proposal*, SULLIVAN & CROMWELL LLP 1 (June 3, 2016), http://www.sullcrom.com/siteFiles/Publications/SC_Publication_CFTC_Supplements_Position_Limits_Proposal.pdf [<http://perma.cc/HC6K-M3QC>] (reporting that the CFTC’s proposed rulemaking “would impose speculative position limits on positions held by traders in 28 physical commodity futures contracts, options and ‘economically equivalent’ futures and swaps contracts”).

157. Basel I considered commodities exposures when calculating capital. See *BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT’L SETTLEMENTS, INTERNATIONAL CONVERGENCE OF CAPITAL MEASUREMENT AND CAPITAL STANDARDS 20-22* (1988), <http://www.bis.org/publ/bcbasc111.pdf> [<http://perma.cc/PB4K-W33F>] [hereinafter *Basel I*].
158. See generally Viral V. Acharya, Philipp Schnabl, & Gustavo Suarez, *Securitization Without Risk Transfer*, 107 J. FIN. ECON. 519 (Oct. 2012) (showing how asset-backed commercial paper conduits allowed banks to reduce their capital holdings without actually moving risk off their balance sheet).

made it more difficult for banks to do this;¹⁵⁹ the Fed has simultaneously increased—or announced that it will increase—the amount of capital banks have to hold in connection with physical commodities.

In January 2014, the Federal Reserve issued an advance notice of proposed rulemaking and sought comments on whether there should be further restrictions on physical commodities activities among financial holding companies.¹⁶⁰ The notice sought comments on, among other things, whether the regulators should impose “enhanced capital requirements” in relation to certain commodities holdings.¹⁶¹ The proposed rule was issued on September 23, 2016,¹⁶² and would—according to one source—“impose extraordinary capital and other prudential requirements and limitations with respect to physical commodity activities of financial holding companies.”¹⁶³ Of particular importance is

159. As discussed below, Dodd-Frank is not the only source of authority for capital requirements. These regulations are promulgated both in accordance with Basel III’s and the Collins Amendment. For purposes of our thesis, however, it is unimportant that Dodd-Frank is not the only reason for the recent changes in capital requirements. What matters is that capital requirements are generally treated as important for increasing bank resiliency. We show, however, that the costs they impose on firms have also had a regulatory effect.

160. *Complementary Activities, Merchant Banking Activities, and Other Activities of Financial Holding Companies Related to Physical Commodities*, 79 Fed. Reg. 3,329 (Jan. 21, 2014).

161. *Id.* at 3,333.

162. *Regulations Q and Y; Risk-Based Capital and Other Regulatory Requirements for Activities of Financial Holding Companies Related to Physical Commodities and Risk-Based Capital Requirements for Merchant Banking Investments*, 81 Fed. Reg. 67,220 (Sept. 30, 2016) (to be codified at 12 C.F.R. pts. 217 & 225) [hereinafter *Regulations Q and Y*].

163. *Physical Commodity Activities Conducted by Financial Holding Companies*, SULLIVAN & CROMWELL LLP 1 (Sept. 26, 2016), http://sullcrom.com/siteFiles/Publications/SC_Publication_Physical_Commodity_Activities_Conducted_by_Financial_Holding_Companies.pdf [<http://perma.cc/2RTW-Z3CF>]. Section 165 of Dodd-Frank gives regulators the authority to adjust capital requirements. These provisions were adopted in 2013 after Basel III. See *Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-Weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule*, 78 Fed. Reg. 62,018 (Oct. 11, 2013) (to be codified at 17 C.F.R. pts 208, 217 & 225). Those rules set hard capital requirements. See, e.g., 12 C.F.R. § 252.32 (2016).

Yet capital requirements are inherently discretionary. As one commentator said, “[W]hether specific capital ratios belong in the financial-reform bill was always something of a canard: Even if the bill had specified, say, a 15 percent capital reserve requirement, regulators would need to decide what counts as capital.” Tim Fernholz, *Why Regulatory Discretion*, AM. PROSPECT (July 16, 2010), <http://prospect.org/article/why-regulatory-discretion> [<http://perma.cc/HQF5-8J28>]; see also Itai Agur & Sunil Sharma, *Rules, Discretion, and Macro-Prudential Policy* 21 (IMF Working Paper No. 13/65, 2013), <http://www.imf.org/en/Publications/WP/Issues/2016/12/31/Rules-Discretion-and-Macro-Prudential-Policy-40379> [<http://>

the fact that the Federal Reserve's proposed rule would mandate "massive capital increases for the [commodities' trading] activities"¹⁶⁴ for all firms. The regulations would result in a massive increase in risk-based capital requirements for certain physical commodities activities, ranging from a 300% risk weight to a 1,250% risk weight.¹⁶⁵ That means that banks would have to hold between 3 and 12.5 times more capital in connection with those commodities than they did before the crisis. The regulators had made the capital requirements more onerous in relation to commodities before these proposed rules.¹⁶⁶ The October 11, 2013 final rule from the Fed and the OCC, which the proposed rule would modify,¹⁶⁷

perma.cc/XV6G-GJ9Q] ("[B]oth the extent and the timing of the surcharge are left to the discretion of the national regulators, as well as the manner in which the credit/GDP ratio is to be interpreted.").

Furthermore, the Federal Reserve's stress testing and Comprehensive Capital Analysis Review (CCAR)—the process by which the Federal Reserve determines whether a bank's capital meets acceptable standards—includes both quantitative and qualitative components. The Federal Reserve can, and does, adjust both from year to year based on subjective market conditions, and changing methods of calculating the risk and liquidity of capital. Note that the Fed recently finalized a rule adjusting its capital plan and stress testing rules, effective for the 2017 cycle. The final rule removes large and noncomplex firms from the qualitative assessment of the CCAR, reducing significant burden on these firms and focusing the qualitative review in CCAR on the largest, most complex financial institutions. See Amendments to the Capital Plan and Stress Test Rules; Regulations Y and YY, 82 Fed. Reg. 9,308 (Feb. 3, 2017) (to be codified in 12 C.F.R. pts. 225 & 252); *Federal Reserve Board Announces Finalized Stress Testing Rules Removing Noncomplex Firms from Qualitative Aspect of CCAR Effective for 2017*, BOARD GOVERNORS FED. RES. SYS. (Jan. 30, 2017), <http://www.federalreserve.gov/newsevents/pressreleases/bcreg20170130a.htm> [<http://perma.cc/H2SP-LB7C>].

164. Jesse Hamilton, *Fed Seeks Aggressive Limit on Wall Street Commodity Holdings*, BLOOMBERG (Sept. 23, 2016, 5:12 PM), <http://www.bloomberg.com/news/articles/2016-09-23/fed-proposes-aggressive-rule-on-wall-street-commodity-holdings-itfye706> [<http://perma.cc/Q8PH-KMWH>].
165. Memorandum from Staff, Bd. of Governors of the Fed. Reserve Sys. to the Bd. of Governors, Fed. Reserve Sys. 2 (Sept. 12, 2016), <http://www.federalreserve.gov/newsevent/pressreleases/files/bcreg20160923a1.pdf> [<http://perma.cc/8LXS-AB8L>].
166. Despite its broad scope, the Federal Reserve's rule would especially burden Goldman Sachs and Morgan Stanley because they had been "grandfathered in" under section 4(o) of the Bank Holding Company Act, which allowed those institutions to engage in commodities trading. Regulations Q and Y, *supra* note 162, at 67,223.
167. Regulatory Capital Rules, 78 Fed. Reg. at 62,018; see also *Client Update: Federal Reserve Proposes Changes to Rules Relating to Physical Commodities, Foreshadows Merchant Banking Reforms*, DEBEVOISE & PLIMPTON (Sept. 28, 2016), http://www.debevoise.com/~media/files/insights/publications/2016/09/20160928_federal_reserve_proposes_changes_to_rules_relatng_to_physical_commodities_foreshadows_merchant_banking_reforms.pdf [<http://perma.cc/UUW4-25Z9>] (providing a redline indicating that the proposed rule would, for the first time, introduce a separate category for physical commodities).

had already imposed a higher capital requirement than the pre-Dodd-Frank regulations.¹⁶⁸

Along with the other proposed restrictions, analysts have estimated that banks would have to put up an additional \$4 billion in capital reserves before they could engage in commodities trading¹⁶⁹—funds that could not be used to generate profits through activities such as lending or trading.¹⁷⁰ As a result, the Federal Reserve’s capital requirements force banks to choose between commodities trading and more traditional lending activities.

In the months after the CFTC’s new position limit rules and the Federal Reserve’s capital requirement proposed rulemaking, JPMorgan, Goldman Sachs, and Morgan Stanley began to divest commodities units at an increased pace. For example, in early 2014 JPMorgan offloaded its entire physical commodities unit for \$3.5 billion, its most significant commodities divestiture.¹⁷¹ Citing regulatory pressure to exit the commodities business, increased compliance costs, and the new capital requirements, JPMorgan decided to get out of the vast majority of its commodities business.¹⁷² During the same period, Morgan Stanley sold its

168. Regulatory Capital Rules, 78 Fed. Reg. at 62,018 (“The final rule implements a revised definition of regulatory capital, a new common equity tier 1 minimum capital requirement, a higher minimum tier 1 capital requirement, and, for banking organizations subject to the advanced approaches risk-based capital rules, a supplementary leverage ratio that incorporates a broader set of exposures in the denominator.”).

169. Hamilton, *supra* note 164.

170. See *Capital Guidelines and Adequacy*, BOARD GOVERNORS FED. RES. SYS. <http://www.federalreserve.gov/supervisionreg/topics/capital.htm> [<http://perma.cc/7UXS-JLZW>] (“The primary function of capital is to support the bank’s operations, act as a cushion to absorb unanticipated losses and declines in asset values that could otherwise cause a bank to fail, and provide protection to uninsured depositors and debt holders in the event of liquidation.”).

171. *J.P. Morgan To Sell Commodities Business for \$3.5 Billion*, WALL ST. J. (Mar. 19, 2014, 1:25 PM), <http://www.wsj.com/articles/j-p-morgan-agrees-to-sell-commodities-trading-business-1395214861> [<http://perma.cc/SMX6-9BZE>]; Dmitry Zhdannikov & Silvia Antonioli, *J.P. Morgan Sells Commodity Arm to Mercuria for \$800 Million: Sources*, REUTERS (Oct. 6, 2014, 6:26 AM), <http://www.reuters.com/article/us-mercuria-jpmorgan/jp-morgan-sells-commodity-arm-to-mercuria-for-800-million-sources-idUSKCN0HV0TJ20141006> [<http://perma.cc/T2Z2-VWU4>].

172. Andy Hoffman & Hugh Son, *JPMorgan Agrees To Sell Commodities Unit for \$3.5 Billion*, BLOOMBERG (Mar. 19, 2014, 2:05 PM), <http://www.bloomberg.com/news/articles/2014-03-19/jpmorgan-said-to-agree-on-sale-of-commodities-unit-to-mercuria> [<http://perma.cc/9HQH-CRMD>].

oil storage business, TransMontaigne,¹⁷³ and its related marketing division¹⁷⁴ in order to avoid strict regulatory scrutiny of its trading and storage of commodities and the increased capital requirements. Within a year, Morgan Stanley sold its compressed natural gas unit,¹⁷⁵ its physical oil business,¹⁷⁶ and its European natural gas and power trading portfolio¹⁷⁷ – each time citing the CFTC’s reporting rules, the Federal Reserve’s pending capital requirements and disclosure rules, or some combination of both regulations. Finally, in early 2014 Goldman Sachs also divested or wound down its aluminum warehousing unit,¹⁷⁸ a Columbia-

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173. See Justin Baer, *Morgan Stanley To Sell Oil Business TransMontaigne to NGL Energy*, WALL ST. J. (June 9, 2014, 3:23 PM), <http://www.wsj.com/articles/morgan-stanley-sells-stake-in-transmontaigne-to-ngl-1402316959> [<http://perma.cc/ZP3S-3CCN>] (“Morgan Stanley and other banks have moved to scale back some commodities businesses as new rules have forced the firms to insulate riskier activities with more capital. Wall Street is also bracing for stiffer U.S. regulations on the way those same banks trade and store oil, natural gas, aluminum and other commodities.”); Hoffman & Son, *supra* note 172.
174. See *Parkland Fuel Corporation Enters Quebec Market with New Supply Agreement and Assumption of TransMontaigne Business*, MARKETWIRED (Apr. 2, 2013, 3:00 PM), <http://www.marketwired.com/press-release/parkland-fuel-corporation-enters-quebec-market-with-new-supply-agreement-assumption-tsx-pki-1774413.htm> [<http://perma.cc/LAU6-NLHQ>].
175. See Elizabeth Dexheimer, *Morgan Stanley Agrees To Sell Wentworth to Pentagon Energy*, BLOOMBERG (Mar. 30, 2015, 12:10 PM), <http://www.bloomberg.com/news/articles/2015-03-30/morgan-stanley-agrees-to-sell-wentworth-to-pentagon-energy> [<http://perma.cc/K4EZ-XAS4>]; Lauren Tara LaCapra, *Morgan Stanley To Sell Natural Gas Business Scrutinized by Fed*, REUTERS (Mar. 30, 2015, 9:01 AM), <http://www.reuters.com/article/morganstanley-natgas/exclusive-morgan-stanley-to-sell-natural-gas-business-scrutinized-by-fed-idUKL2NoWT26T20150330> [<http://perma.cc/AJ94-RVXL>].
176. Jonathan Leff, *Castleton Joins Oil Trade Titans with Morgan Stanley Deal*, REUTERS (May 11, 2015, 6:11 PM), <http://www.reuters.com/article/morgan-stanley-castleton-oil/update-2-castleton-joins-oil-trade-titans-with-morgan-stanley-deal-idUSL3NoY26WE20150511> [<http://perma.cc/3TUQ-VALU>] (“[T]he sale concludes [Morgan Stanley’s] years-long effort to divest a physical trading division that had come under intense regulatory scrutiny and suffered waning profitability.”).
177. Rakteem Katakey & Rachel Morison, *Shell Buys Morgan Stanley’s European Gas, Power-Trading Book*, BLOOMBERG (July 10, 2015, 7:04 AM), <http://www.bloomberg.com/news/articles/2015-07-10/shell-buys-morgan-stanley-s-europe-gas-power-trading-portfolio> [<http://perma.cc/E68P-UZVF>] (“Increased scrutiny by regulators including the U.S. Federal Reserve and politicians has prompted major banks to cut back or abandon their commodity businesses.”); see also Ron Bousso, *Shell Buys Morgan Stanley’s Europe Gas and Power Trade Book*, REUTERS (July 10, 2015 5:51 AM), <http://www.reuters.com/article/us-shell-morgan-stanley-trading/shell-buys-morgan-stanleys-europe-gas-and-power-trade-book-idUSKCN0PKoXO20150710> [<http://perma.cc/447C-E7HX>].
178. See Christian Berthelsen & Ira Iosebashvili, *Goldman Sachs Sells Aluminum Business to Swiss Firm*, WALL ST. J. (Dec. 22, 2014, 5:28 PM), <http://www.wsj.com/articles/goldman-sachs-sells-aluminum-business-to-swiss-firm-1419279027> [<http://perma.cc/7FMZ-KJMP>]; Tatyana Shumsky & Christian Berthelsen, *Goldman Puts Metals Warehouse Business Up for Sale*,

based coal mine operation,¹⁷⁹ and a uranium trading business,¹⁸⁰ all to reduce its exposure to commodities in light of increasing compliance costs.

Ultimately, although it is clear that Dodd-Frank regulations caused these divestitures, they did not operate in a typical command-and-control manner. Instead, Dodd-Frank put regulatory pressure on firms to choose which commodities activities to retain and which to abandon – and the firms chose in different ways. Morgan Stanley, for instance, sold its physical oil business, and reportedly has plans to sell its stake in an oil tanker group.¹⁸¹ However, the firm has held onto its client-facilitation oil-trading desk.¹⁸² In contrast, while Goldman Sachs divested itself of various commodities holdings,¹⁸³ it has been building out other aspects of its commodities business to a much greater extent than its peers.¹⁸⁴

WALL ST. J. (May 20, 2014, 3:49 PM), <http://www.wsj.com/articles/goldman-puts-metals-warehouse-business-up-for-sale-1400615205> [<http://perma.cc/V8H6-V9H7>] (“Goldman is looking to exit the metal warehouse business as regulators are increasing their scrutiny of banks’ role in commodity markets. The Federal Reserve recently closed a comment period soliciting public input on the scope of potential new rules to oversee the industry.”).

179. See Ianthe Jeanne Dugan & Timothy Puko, *Goldman Sachs Sells Colombian Coal Mines to Murray Energy*, WALL ST. J. (Aug. 13, 2015, 10:14 PM), <http://www.wsj.com/articles/goldman-sachs-sells-colombian-coal-mines-to-murray-energy-1439518460> [<http://perma.cc/X8A2-FAHH>] (“U.S. lawmakers and regulators have been pushing banks to reduce their exposure to raw commodities, citing potential risks such as explosions and hidden financial exposure.”); see also *Goldman Sachs Sells Colombia Coal Unit, Ending Physical Commodity Forays*, REUTERS (Aug. 13, 2015, 7:59 PM), <http://www.reuters.com/article/goldman-colombia-coal/update-1-goldman-sells-colombia-coal-unit-ending-physical-commodity-forays-idUSL1N10O3B920150813> [<http://perma.cc/BX8Y-9MTL>].
180. See Michael J. Moore, *Goldman Sachs To Wind Down Uranium Unit After Failing To Sell*, BLOOMBERG (Nov. 19, 2014 5:00 PM), <http://www.bloomberg.com/news/articles/2014-11-19/goldman-sachs-to-wind-down-uranium-unit-after-failing-to-sell> [<http://perma.cc/MD8Z-JTKA>]; Resource Investing News, *Goldman Sachs Selling Uranium Trading Business*, THESTREET (Feb. 13, 2014, 3:15 PM), <http://www.thestreet.com/story/12398112/1/goldman-sachs-selling-uranium-trading-business.html> [<http://perma.cc/D2AA-X97Y>].
181. Jonathan Leff, *Castleton Joins Oil Trade Titans with Morgan Stanley Deal*, REUTERS (May 12, 2015, 5:50 AM), <http://www.reuters.com/article/us-morgan-stanley/castleton-joins-oil-trade-titans-with-morgan-stanley-deal-idUSKBN0NW24O20150512> [<http://perma.cc/BQ8G-4KWD>].
182. Press Release, Morgan Stanley Completes Sale of Global Oil Merchanting Business to Castleton Commodities International LLC, MORGAN STANLEY, (Nov. 2, 2015), <http://www.morganstanley.com/press-releases/21e458d2-0231-493b-a95a-5084c3b4c701> [<http://perma.cc/WM9L-KTDW>].
183. See *supra* notes 177-179 and accompanying text.
184. Dakin Campbell et al., *Goldman Sachs Seeks Stars To Revive Commodities Unit*, BLOOMBERG (Aug. 21, 2017, 5:00 AM), <http://www.bloomberg.com/news/articles/2017-08-21/goldman-sachs-is-said-to-look-for-stars-to-revive-commodities-unit> [<http://perma.cc/63TP-FTUH>]; Lauren Tara LaCapra, *Goldman Sachs Touts Commodities Muscle as Rivals Shrink*,

Whether these choices have reduced systemic risk enough to satisfy regulators will only be revealed in future regulatory actions.

In summary, these two sets of regulations – from the CFTC and the Federal Reserve – have massively increased the cost of complying with commodities rules: the CFTC’s rules prevent banks from limiting exposure by reducing their ability to make speculative bets, and the Federal Reserve’s rules impose heightened capital requirements and more extensive reporting responsibilities. SIFIs have responded to these regulations by leaving – or at least substantially reducing their presence in – commodities markets. Furthermore, these divestitures have occurred in highly lucrative businesses.¹⁸⁵ The units divested by JPMorgan, Goldman Sachs, and Morgan Stanley listed above were worth billions of dollars. The simplest explanation is that the costs of complying with Dodd-Frank’s heightened reporting and capital requirements make it too expensive for banks to continue operations that once were highly profitable.

Finally, these results are distinctively Pigouvian in nature. Unlike traditional command-and-control regulations, Dodd-Frank did not bar SIFIs from remaining active in these markets: there is no prohibition on commodities trading. Instead, the Act has simply made it more expensive for banks to be active in these spaces by requiring that they hold more capital and abide by expensive position limits. The critical point is not simply that divestitures occurred. Indeed, every regulation is costly, and it is unsurprising that such costs would affect a bank’s business structure. Instead, what is unique to Dodd-Frank, and in particular its reporting and capital requirements, is that its compliance costs are not mere ancillary effects. They are the direct mechanism by which financial regulators incentivize firms to divest business units that regulators regard as risky. In doing so, regulators have used the costs of complying with Dodd-Frank to serve the law’s core regulatory purpose.

REUTERS (Jan. 16, 2015 5:51 PM), <http://www.reuters.com/article/us-goldmansachs-results-commodities/goldman-sachs-touts-commodities-muscle-as-rivals-shrink-idUSKBN0KP2HD20150116> [<http://perma.cc/XXZ5-59NE>] (noting that Goldman Sachs has “stuck with commodities” activities while its rivals have been pulling back).

185. *E.g.*, *Quarterly Report (Form 10-Q)* 39-40, MORGAN STANLEY (Feb. 28, 2006), <http://www.morganstanley.com/about-us-ir/shareholder/10q0206/10q0206.pdf> [<http://perma.cc/64RW-3AK9>] (“Fixed income sales and trading revenues were a record \$2,724 million, up 36% from the first quarter of fiscal 2005. The increase was driven by strong performances in commodities and credit products. Commodities revenues increased to a record level, primarily due to record revenues from electricity and natural gas products and oil liquids.”).

2. *Shedding of SIFI Designation by Nonbank Firms*

The experience of nonbank SIFIs offers additional evidence that regulators have used Dodd-Frank's costs to push SIFIs away from risky activities. Many bank SIFIs have virtually no ability to shed their SIFI designation. So long as a bank has more than \$50 billion in assets – and most bank SIFIs are many times that size – financial regulators are statutorily required to designate the bank as a SIFI.¹⁸⁶ This bright-line cut-off does not, however, apply to nonbank SIFIs. As a result, while bank SIFIs are only able to *reduce* the costs of complying with Dodd-Frank's SIFI designation, nonbank SIFIs can choose to *eliminate* those costs entirely. Specifically, by convincing financial regulators that they no longer pose a risk to American financial stability, nonbank SIFIs can shed their SIFI designation and jettison the SIFI compliance costs altogether. Indeed, as of November 2017, two of the four designated nonbank SIFIs – GE Capital (GECC) and American Insurance Group (AIG) – have successfully had their designation rescinded by the Financial Stability Oversight Council (FSOC).

A nonbank SIFI is created when the FSOC designates a firm as systemically important based on FSOC's determination that material financial distress at the firm would pose a threat to U.S. financial stability.¹⁸⁷ Because these determinations are discretionary, they can be made and revoked as firm activities and size

¹⁸⁶. 12 U.S.C. § 5365(a)(1) (2012). Congress has recently proposed raising the \$50 billion cutoff to \$250 billion. See Michelle Price & Pete Schroeder, *Senate Reaches Deal To Cut Number of Systemically Important Banks*, REUTERS (Nov. 13, 2017, 1:57 PM), <http://www.reuters.com/article/us-usa-congress-banks/senate-reaches-deal-to-cut-number-of-systemically-important-banks-idUSKBN1DD2A5> [<http://perma.cc/2G76-9UHE>].

¹⁸⁷. 12 U.S.C. § 5323(a)(1) (2012).

change.¹⁸⁸ Thus far, FSOC has designed four nonbank firms as systemically important: GECC,¹⁸⁹ AIG,¹⁹⁰ Prudential Financial,¹⁹¹ and MetLife.¹⁹²

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188. Dodd-Frank requires FSOC to consider 10 factors: (1) the extent of the leverage of the company; (2) the extent and nature of the off-balance-sheet exposures of the company; (3) the extent and nature of the transactions and relationships of the company with other significant nonbank financial companies and significant bank holding companies; (4) the importance of the company as a source of credit for households, businesses, and State and local governments and as a source of liquidity for the U.S. financial system; (5) the importance of the company as a source of credit for low-income, minority, or underserved communities, and the impact that the failure of such company would have on the availability of credit in such communities; (6) the extent to which assets are managed rather than owned by the company, and the extent to which ownership of assets under management is diffuse; (7) the nature, scope, size, scale, concentration, interconnectedness, and mix of the activities of the company; (8) the degree to which the company is already regulated by one or more primary financial regulatory agencies; (9) the amount and nature of the financial assets of the company; and (10) the amount and types of the liabilities of the company, including the degree of reliance on short-term funding. Dodd-Frank § 113(a)(2), 12 U.S.C. § 5323(a)(2) (2012). However, the Council may also consider any other risk-related factors that it deems appropriate, *id.*, demonstrating the subjective nature of this determination. FSOC promulgated rules indicating how it would apply these factors, 12 C.F.R. § 1310, and released supplemental guidelines for the designation of nonbank SIFIs. These guidelines indicate that FSOC considers both “quantitative and qualitative analyses” in making its determinations. *Supplemental Procedures Relating to Nonbank Financial Company Determinations*, FIN. STABILITY OVERSIGHT COUNCIL (Feb. 4, 2015), <http://www.treasury.gov/initiatives/fsoc/designations/Documents/Supplemental%20Procedures%20Related%20to%20Nonbank%20Financial%20Company%20Determinations%20-%20February%202015.pdf> [<http://perma.cc/SB2R-R3F4>].
189. *Basis of the Financial Stability Oversight Council’s Final Determination Regarding General Electric Capital Corp., Inc.*, FIN. STABILITY OVERSIGHT COUNCIL (July 8, 2013), <http://www.treasury.gov/initiatives/fsoc/designations/Documents/Basis%20of%20Final%20Determination%20Regarding%20General%20Electric%20Capital%20Corporation,%20Inc.pdf> [<http://perma.cc/CQL7-JUWN>].
190. *Basis of the Financial Stability Oversight Council’s Final Determination Regarding American International Group, Inc.*, FIN. STABILITY OVERSIGHT COUNCIL (July 8, 2013), <http://www.treasury.gov/initiatives/fsoc/designations/Documents/Basis%20of%20Final%20Determination%20Regarding%20American%20International%20Group,%20Inc.pdf> [<http://perma.cc/MS74-S7FE>].
191. *Basis of the Financial Stability Oversight Council’s Final Determination Regarding Prudential Financial, Inc.*, FIN. STABILITY OVERSIGHT COUNCIL (Sept. 19, 2013), <http://www.treasury.gov/initiatives/fsoc/designations/Documents/Prudential%20Financial%20Inc.pdf> [<http://perma.cc/V7RJ-YKJS>].
192. *Basis of the Financial Stability Oversight Council’s Final Determination Regarding MetLife, Inc.*, FIN. STABILITY OVERSIGHT COUNCIL (Dec. 18, 2014), <http://www.treasury.gov/initiatives/fsoc/designations/Documents/MetLife%20Public%20Basis.pdf> [<http://perma.cc/82BE-9B8Q>].

These firms have responded differently to their SIFI designations. GECC sought to be de-designated as a SIFI and successfully achieved its goal by aggressively shedding risky assets. AIG, too, has successfully shed its SIFI designation. By contrast, MetLife has successfully taken to the courts and Prudential seems likely to follow.

a. GECC's Response

GECC represents the paradigmatic example of a nonbank SIFI responding to the compliance costs created by the SIFI designation. GECC began shedding certain assets shortly after being designed a SIFI in 2013. GECC made its intentions public on April 10, 2015, when General Electric—GECC's parent company—announced that, in an effort to “create a simpler, more valuable company,” it intended to “reduc[e] the size of its financial businesses through the sale of most GECC assets.”¹⁹³ GECC explicitly noted that it was adopting this approach based on its plan to “work closely with [regulators] to take the actions necessary to de-designate GE Capital as a [SIFI].”¹⁹⁴ From 2012 to its 2016 rescission request, GECC had sold 52% of its total assets.¹⁹⁵

The following chart, taken from the summary of GECC's rescission request, demonstrates the extent of GECC's divestitures:

193. Press Release, GE To Create Simpler, More Valuable Industrial Company by Selling Most GE Capital Assets; Potential To Return More than \$90 Billion to Investors Through 2018 in Dividends, Buyback & Synchrony Exchange, GEN. ELEC. (Apr. 10, 2015) [hereinafter GE To Create Simpler], <http://www.genewsroom.com/press-releases/ge-create-simpler-more-valuable-industrial-company-selling-most-ge-capital-assets> [<http://perma.cc/H24H-3GWF>].

194. *Id.*

195. Summary of GE Capital's SIFI Rescission Request, GEN. ELEC. (Mar. 31, 2016), <http://www.genewsroom.com/sites/default/files/media/201603/GE%20Capital%20Summary%20Public%20Rescission%20Submission%20Final.pdf> [<http://perma.cc/MPW8-PGTC>].

TABLE 1.
GE CAPITAL DIVESTITURES SINCE DECEMBER 31, 2012 ¹⁹⁶

	Type of Disposition	Details	Amount of Assets or Deposits Divested
Banks	Dispositions of Banks and Bank Assets and Deposits	Exit of U.S. banking through the separation from Synchrony Financial and its subsidiary, Synchrony Bank, and the pending sale of GE Capital Bank's U.S. online deposit platform and all of its deposits, including online savings accounts, online CDs, and brokered CDs	Assets: \$87 billion (Synchrony)
		Reduction in foreign banking entities through the sale of banks in Switzerland, Sweden, the Netherlands, Hungary, Russia, and Latvia	Assets: \$14 billion
		Dispositions of Consumer Financing Businesses and Assets	Exit of consumer mortgage business in the United Kingdom through sales of assets
Non-Banks	Disposition of Global Commercial Lending and Leasing Businesses and Assets	Exit of consumer financing businesses in South Korea, Australia, and New Zealand through sales of assets	Assets: \$9 billion
		Exit of U.S. and European Sponsor Finance businesses through sales of assets	Assets: \$17 billion
	Disposition of Global Commercial Real Estate Assets	Exit of certain lending and leasing lines of business in the United States, Japan, Mexico, Canada, South Korea, Australia, and New Zealand through sales of equipment, healthcare, vendor finance, fleet, rail, corporate aircraft, and other lending and leasing assets	Assets: \$66 billion
		Reduction in inventory financing assets through sales of assets in the United States and Canada	Assets: \$11 billion
		Reduction of joint ventures and other equity investments related to commercial lending and leasing	Assets: \$5 billion
	Disposition of Global Commercial Real Estate Assets	Sale of substantially all commercial real estate loans and investments globally	Assets: \$50 billion
Total Assets Divested: \$272 billion			

As a result of these spinoffs and divestitures, GECC submitted its rescission request to FSOC on March 31, 2016, requesting de-designation as a SIFI.¹⁹⁷ On

¹⁹⁶. GE Capital produced this table as part of its rescission request submitted to the FSOC. *Id.*

¹⁹⁷. *Id.*

June 28, 2016, FSOC granted GECC's request.¹⁹⁸ In its decision, FSOC noted that GECC had "fundamentally changed its business . . . [t]hrough a series of divestitures, a transformation of its funding model, and a corporate reorganization," that had made the company "a much less significant participant in financial markets and the economy."¹⁹⁹ FSOC also emphasized that GECC had "decreased its total assets by over 50 percent, shifted away from short-term funding, and reduced its interconnectedness with large financial institutions."²⁰⁰ In short, thanks to its strategic response to the SIFI designation, GECC was officially freed from the compliance costs of being designated a SIFI.²⁰¹

GECC's designation and rescission process highlights three potential benefits of Pigouvian taxes or regulations: (1) the flexibility granted to the enforcing regulators, (2) the possibility of a dynamic relationship between the regulated entity and its regulator, and (3) the ability of the regulated party, rather than the regulator, to determine how the company should adapt to regulatory pressures.

Government regulators made their first move on July 8, 2013, when FSOC designated GECC as systemically important. In its designation decision, FSOC noted that "material financial distress at [GECC] could pose a threat to U.S. financial stability" and further "that GE[CC] should be subject to supervision by the [Federal Reserve] and enhanced prudential standards."²⁰² Then, on July 24, 2015, in accordance with Section 165 of Dodd-Frank²⁰³ – which requires the Federal Reserve to enforce enhanced prudential standards (EPS) on nonbank SIFIs that regulate risk-based capital requirements and leverage limits (or, in the alternative, liquidity requirements, overall risk management requirements, reso-

198. Press Release, Financial Stability Oversight Council Announces Rescission of Nonbank Financial Company Designation, U.S. DEP'T TREASURY (June 29, 2016), <http://www.treasury.gov/press-center/press-releases/Pages/jl0503.aspx> [<http://perma.cc/5WCU-Q4HT>].

199. *Id.*

200. *Id.*

201. Shaking off the yoke of enhanced Federal Reserve oversight proved to be a boon to GECC's parent company, General Electric. Between April 10, 2015 – when General Electric announced it would unload most of its GECC Asset – and June 28, 2016 – the date FSOC granted GECC's rescission request – General Electric added \$50 billion in market capitalization, or about \$5.25 per share. GE's stock increased about 20%, while the broader market stayed flat. See Rob Cox, *Shedding "Too Big To Fail" Label Was Worth \$50 Billion to G.E.*, N.Y. TIMES (June 29, 2016), <http://www.nytimes.com/2016/06/30/business/dealbook/shedding-too-big-to-fail-label-was-worth-50-billion-to-ge.html> [<http://perma.cc/2M9F-FF78>].

202. *Basis of the Financial Stability Oversight Council's Final Determination Regarding General Electric Capital Corp., Inc.*, *supra* note 189.

203. Dodd-Frank § 165, 12 U.S.C. § 5365 (2012).

lution plan and credit exposure report requirements, and concentration limits),²⁰⁴ the Federal Reserve promulgated its final rule announcing the EPS that would apply to GECC.²⁰⁵ The Federal Reserve observed that “[i]n light of the substantial similarity of GECC’s activities and risk profile to that of a similarly sized bank holding company, the enhanced prudential standards adopted by the Board are similar to those that apply to large bank holding companies”²⁰⁶ More significantly, however, the Federal Reserve also announced that it had taken note of GECC’s announced plans to divest certain assets and had structured its regulations in two phases with that in mind.²⁰⁷ The main body of standards became effective on January 1, 2016.²⁰⁸ But just six months later, before the second body of standards came into effect, the Federal Reserve announced the rescission of GECC’s SIFI designation, noting that its failure no longer posed a systemic threat.²⁰⁹

GECC demonstrates the flexibility given to regulators under Dodd-Frank to adjust costs depending on a firm’s changing circumstances. In GECC’s case, there were at least four different levels of regulation it could have faced: (1) its initial designation, (2) the first set of standards, (3) the second set of standards, and (4) no regulation. Under Dodd-Frank, regulators could move between these different levels of regulations in response to GECC’s actions. In this way, the Pigouvian scheme allowed regulators to work closely with GECC to “right size” the firm in a matter of months.

Although most of the discussions between GECC and FSOC were confidential, publicly available information provides strong evidence of the centrality of the dynamic relationship between GECC and FSOC in the lead-up to the rescission decision:

204. *Dodd-Frank Enhanced Prudential Standards Materials*, DAVIS POLK (July 21, 2010), http://www.davispolk.com/files/Dodd-Frank_Act_Sections_165_and_166.pdf [<http://perma.cc/4SZV-Y8LF>]. Under this provision, the Fed may regulate contingent capital requirements, public disclosures, short-term debt limits, and anything else it deems appropriate. *Id.*

205. *Application of Enhanced Prudential Standards and Reporting Requirements to General Electric Capital Corporation*, FED. RES. SYS. (July 24, 2015), <http://www.gpo.gov/fdsys/pkg/FR-2015-07-24/pdf/2015-18124.pdf> [<http://perma.cc/U3NN-DD9D>].

206. *Id.*

207. GE To Create Simpler, *supra* note 193.

208. *Id.*

209. Financial Stability Oversight Council Announces Rescission of Nonbank Financial Company Designation, *supra* note 198.

TABLE 2.
TIMELINE OF RELATIONSHIP BETWEEN GECC AND FSOC

Early 2015: GECC began meeting with financial regulators about how to reduce the potential risks GECC could pose to financial stability.²¹⁰

March 15, 2015: GECC sells its New Zealand and Australian consumer finance arms for \$6.3 billion.²¹¹

April 10, 2015: GECC announces plans to significantly reduce assets to shed its SIFI label.²¹² GE reiterated that it intended to “work closely with these bodies to take the actions necessary to de-designate GECC as a [SIFI].”²¹³

June 30, 2015: GECC announces plans to sell its European private equity financing business to Sumitomo Mitsui Banking Corp.²¹⁴

August 13, 2015: GE sells its online bank to Goldman Sachs.²¹⁵

October 13, 2015: GE announced plans to sell \$30 billion of its commercial lending and leasing businesses to Wells Fargo.²¹⁶

November 17, 2015: GECC completes its IPO of Synchrony Financial, which, along with its 15% offering in March 2014, totals approximately \$87 billion in assets spun off.²¹⁷

210. *Id.* at 3.

211. *KKR, Varde and Deutsche Buy GE Capital Consumer Finance Arm for \$6.3 billion*, REUTERS (Mar. 15, 2015), <http://www.reuters.com/article/us-gecapital-kkr/kkr-varde-and-deutsche-buy-ge-capital-consumer-finance-arm-for-6-3-billion-idUSKBN0MB06720150315> [<http://perma.cc/7H82-RU8V>].

212. GE To Create Simpler, *supra* note 193.

213. *Id.* (“We have a constructive relationship with our regulators and will continue to work with them as we go through this process,” Immelt said.”).

214. *GE Capital To Sell European Private Equity Financing Business to Sumitomo Mitsui*, PIONLINE (June 30, 2015), <http://www.pionline.com/article/20150630/ONLINE/150639982/ge-capital-to-sell-european-private-equity-financing-business-to-sumitomo-mitsui> [<http://perma.cc/P7VC-ZQX8>].

215. Press Release, *Goldman To Buy GE Online Bank With \$16 Billion of Deposits*, BLOOMBERG (Aug. 13, 2015), <http://www.bloomberg.com/news/articles/2015-08-13/goldman-sachs-to-buy-ge-bank-unit-with-16-billion-of-deposits> [<http://perma.cc/X8CD-G3T3>].

216. *GE To Sell \$30 Billion Commercial Lending and Leasing Businesses to Wells Fargo*, GEN. ELEC. (Oct. 13, 2015), <http://www.genewsroom.com/press-releases/ge-sell-30-billion-commercial-lending-and-leasing-businesses-wells-fargo-281985> [<http://perma.cc/3SEK-HKKM>].

217. Fin. Stability Oversight Council, *Basis for the Financial Stability Oversight Council’s Rescission of Its Determination Regarding GE Capital Global Holdings, LLC*, U.S. DEP’T TREASURY 10 (June 29, 2016), <http://www.treasury.gov/initiatives/fsoc/designations/Documents/GE%20Capital%20Public%20Rescission%20Basis.pdf> [<http://perma.cc/7G72-7HT4>]; Michael J. de la Merced, *G.E. Files To Spin Off Retail Finance Unit*, N.Y. TIMES: DEALBOOK (Mar. 13, 2014, 5:10 PM), <http://dealbook.nytimes.com/2014/03/13/g-e-files-to-spin-off-retail-finance-unit> [<http://perma.cc/8DFX-YPDG>]; Alex Webb, *GE Completes Synchrony Credit-Card Unit Spinoff in Exchange Deal*, BLOOMBERG (Nov. 17, 2015, 7:09 AM), <http://www>

December 15, 2015: GECC sells its commercial lending and leasing business in Japan.²¹⁸

March 2, 2016: GE sells its Indian commercial lending and leasing.²¹⁹

March 18, 2016: “[T]he Council notified GE Capital that the Council was conducting its third annual reevaluation of its final determination regarding the company. The Council invited the company to meet with staff and to submit materials for consideration by the Council.”²²⁰

March 29, 2016: GECC announces the sale of its U.S. hotel franchise loan unit.²²¹

March 31, 2016: “GE Capital made a written submission to the Council, requesting that the Council rescind its final determination”²²²

April 2016: “[S]taff of Council members and member agencies met with the company.”²²³

May to June 2016: “[I]n response to questions from staff of Council members and member agencies, GE Capital submitted supplemental information to the Council in May and June 2016.”²²⁴

June 28, 2016: FSOCC announces the rescission of GECC’s SIFI status.²²⁵

This timeline, while only a sampling, makes clear the working relationship between GECC and FSOCC. Public statements from both entities reveal that meetings in early 2015 were crucial in GECC’s decision-making process. The quantity and speed of divestments following GECC’s announcement in April 2015 seem to indicate that GECC was confident that such changes would satisfy FSOCC during its 2016 review.

Given both the timeline of divestitures and GECC’s close working relationship with FSOCC, GECC presents a quintessential example of the benefits that

.bloomberg.com/news/articles/2015-11-17/ge-completes-synchrony-credit-card-unit-spinoff-in-exchange-deal [http://perma.cc/65TR-XSRD].

218. Gareth Allan, *GE To Sell Commercial Lending and Leasing Business in Japan*, BLOOMBERG (Dec. 15, 2015, 2:08 AM), <http://www.bloomberg.com/news/articles/2015-12-15/sumitomo-mitsui-to-buy-ge-s-japan-leasing-unit-for-4-8-billion> [http://perma.cc/XU4T-VREQ].

219. *GE To Sell India Commercial Lending and Leasing Business to Buying Consortium Backed by AION Capital Partners*, BUSINESSWIRE (Mar. 2, 2016, 12:35PM), <http://www.businesswire.com/news/home/20160302006172/en/GE-Sell-India-Commercial-Lending-Leasing-Business> [http://perma.cc/7DCT-WZ78].

220. *Basis for the Financial Stability Oversight Council’s Rescission of Its Determination Regarding GE Capital Global Holdings, LLC*, *supra* note 217, at 3.

221. *Western Alliance Bancorporation To Acquire GE Capital’s U.S. Hotel Franchise Finance Loan Portfolio*, BUSINESSWIRE (Mar. 29, 2016, 4:56 PM), <http://www.businesswire.com/news/home/20160329006549/en/Western-Alliance-Bancorporation-Acquire-GE-Capital%E2%80%99s-U.S> [http://perma.cc/7LNX-RY44].

222. *Basis for the Financial Stability Oversight Council’s Rescission of Its Determination Regarding GE Capital Global Holdings, LLC*, *supra* note 217, at 3.

223. *Id.*

224. *Id.*

225. *Basis for the Financial Stability Oversight Council’s Rescission of Its Determination Regarding GE Capital Global Holdings, LLC*, *supra* note 217.

Pigouvian regulations afford by leaving business decisions in the hands of the regulated businesses. Ultimately, the Federal Reserve achieved the same result it would have obtained through more traditional command-and-control regulations – i.e., the divestiture of risky assets and the de-designation of GECC. But, by vesting discretion in GECC instead of unilaterally deciding which assets to shed, the Federal Reserve allowed GE to determine the timing and scope of divestitures. In this way, GE could determine for itself which business lines to shed and which to keep. This is, of course, not the case with a command-and-control regulation where it is the lawmakers or regulators who decide whether a certain activity is permissible.²²⁶

The regulated entity can decide which business opportunities to pursue, and in effect, what level of regulation it is willing to tolerate. GECC is again a case in point.²²⁷ In April 2015, when GECC announced its plans to shed its SIFI label, it also announced plans to retain certain bank-like activities. In its press release announcing the new strategy, GECC noted its intent to keep its “vertical financing” businesses including GE Capital Aviation Services, Energy Financial Services and Healthcare Equipment Finance, since these “directly relate to [GECC’s] core industrial businesses.”²²⁸ Consequently, one newspaper compared GECC postdivestment as “essentially a captive finance arm,” which exists to support the core business lines of the firm.²²⁹ FSOC noted the positive features of this change in its rescission notice: “GE Capital now focuses on the healthcare, energy, and aviation leasing markets, among others, in which other large financial institutions are generally less concentrated.”²³⁰

Ultimately, by June 28, 2016, GECC and FSOC had both achieved their goals. GECC had shed its SIFI designation while following its own business plan and increasing shareholder value.²³¹ FSOC had satisfied itself that material financial stress at GECC would not pose a systemic threat to the U.S. financial

226. This is not always a bad thing. For example, most probably favor a ban on fraud in the sale or purchase of securities, see 17 C.F.R. § 240.10b-5 (2018), even if there is significant disagreement over the meaning or reach of the SEC’s antifraud provisions.

227. Recall that if the regulators were not satisfied with GECC’s actions with respect to its de-designation actions, the regulators could have denied its de-designation request.

228. GE To Create Simpler, *supra* note 193.

229. Ben McLannahan, *General Electric Makes Divestiture of Financial Unit Add Up*, FIN. TIMES (July 24, 2016), <http://www.ft.com/content/a6b02fae-5051-11e6-8172-e39ecd3b86fc> [<http://perma.cc/QX4M-JJEF>].

230. *Basis for the Financial Stability Oversight Council’s Rescission of Its Determination Regarding GE Capital Global Holdings, LLC*, *supra* note 217, at 18.

231. *Basis for the Financial Stability Oversight Council’s Rescission of Its Determination Regarding GE Capital Global Holdings, LLC*, *supra* note 217.

markets, and in the process, reduced the number of firms that could be considered too big to fail.

b. AIG's Response

AIG provides another example of how compliance costs emanating from Dodd-Frank shape the behavior of nonbank financial institutions. FSOC designated AIG as a SIFI on July 8, 2013.²³² AIG's designation should not come as a surprise, as the firm was at the center of the financial crisis.²³³ In the designation decision, FSOC noted that even though "[AIG]'s strategy, funding profile, and global footprint have changed greatly since the financial crisis," it remained large, complex, and deeply interconnected with other financial institutions.²³⁴ Yet, by September 29, 2017, FSOC had rescinded AIG's designation, noting that "based on [FSOC]'s analysis of AIG and changes since July 2013," material financial distress at AIG would no longer cause a systemic threat to financial stability in the United States.²³⁵

In some important ways, AIG's story diverges from that of GECC. AIG remains a central, albeit smaller, player in the broader financial markets in a way

232. *Basis of the Financial Stability Oversight Council's Final Determination Regarding American International Group, Inc.*, *supra* note 190.

233. *The Financial Crisis Inquiry Report*, FIN. CRISIS INQUIRY COMMISSION 352 (2011), <http://www.gpo.gov/fdsys/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf> [<http://perma.cc/KA9K-MQ99>] ("AIG was so interconnected with many large commercial banks, investment banks, and other financial institutions through counterparty credit relationships on credit default swaps and other activities such as securities lending that its potential failure created systemic risk. The government concluded AIG was too big to fail and committed more than \$180 billion to its rescue. Without the bailout, AIG's default and collapse could have brought down its counterparties, causing cascading losses and collapses throughout the financial system.").

234. *Basis of the Financial Stability Oversight Council's Final Determination Regarding American International Group, Inc.*, *supra* note 190, at 2.

235. *Notice and Explanation of the Basis for the Financial Stability Oversight Council's Rescission of Its Determination Regarding American International Group, Inc. (AIG)*, FIN. STABILITY OVERSIGHT COUNCIL (Sept. 29, 2017), [http://www.treasury.gov/initiatives/fsoc/designations/Documents/American_International_Group,_Inc._\(Rescission\).pdf](http://www.treasury.gov/initiatives/fsoc/designations/Documents/American_International_Group,_Inc._(Rescission).pdf) [<http://perma.cc/6RSX-49PX>].

that GECC does not.²³⁶ AIG has over 90 million clients in the commercial, institutional, and individual insurance markets,²³⁷ while GECC has almost completely exited the business of consumer loans.²³⁸ In other ways, however, AIG has followed a path similar to GECC's. AIG's total assets have decreased about 52% since 2007, and 9% since the end of 2012, resembling the decrease in assets seen at GECC.²³⁹ Furthermore, central to the rescission of AIG's SIFI designation was its divestiture of substantial business assets. In particular, FSOC attributes the decrease in the firm's risk to three transactions²⁴⁰: the sale of International Lease Finance Corporation in December 2013,²⁴¹ the sale of AIG Advisory

236. As of July 2013, AIG was the third largest insurer in the United States; before the financial crisis, it was the largest. *Basis of the Financial Stability Oversight Council's Final Determination Regarding American International Group, Inc.*, *supra* note 190, at 2.

237. *Notice and Explanation of the Basis for the Financial Stability Oversight Council's Rescission of Its Determination Regarding American International Group, Inc. (AIG)*, *supra* note 235, at 10.

238. *Summary of GE Capital's SIFI Rescission Request*, *supra* note 195, at 6.

239. *Notice and Explanation of the Basis for the Financial Stability Oversight Council's Rescission of Its Determination Regarding American International Group, Inc. (AIG)*, *supra* note 235, at 11. AIG's centrality to the financial crisis somewhat complicates the analysis of the effect of SIFI designation on AIG's strategy, since a number of large changes at AIG are the result of the government's crisis intervention, which occurred years before Dodd-Frank. However, the rescission notice makes clear that changes *since* designation were central to the rescission determination:

Initiatives conducted by the Board of Governors, the Federal Reserve Bank of New York, and the Treasury Department, which began in September 2008, ultimately stabilized AIG. After these government interventions, AIG began to substantially reduce its size and complexity by selling off numerous subsidiaries and exiting non-traditional businesses (such as AIGFP [AIG Financial Products]). The AIG Submission states that since the Council's final determination in 2013, AIG has continued to reduce its size and risk by selling non-core operations and businesses, simplifying its operations, and focusing on its more traditional insurance businesses (i.e., its property and casualty and life and retirement businesses).

Id.

240. Note that these transactions *only* include those divestitures specifically noted in FSOC's rescission letter. There are a number of other divestitures which arguably were also executed due to SIFI designation compliance costs. See, e.g., *AIG Agrees To Sell Japan Life Insurance Business to FWD Group*, BUSINESSWIRE (Nov. 14, 2016), <http://www.businesswire.com/news/home/20161114006617/en/AIG-Agrees-Sell-Japan-Life-Insurance-Business> [<http://perma.cc/7ZCE-HGA7>].

241. Julie Johnsson & Zachary Tracer, *AIG Completes \$716 Billion IFC Sale to AerCap*, INS. J. (May 15, 2014), <http://www.insurancejournal.com/news/national/2014/05/15/329296.htm> [<http://perma.cc/8NHT-R7J7>] ("The divestiture of ILFC completes a series of sales that AIG began in 2008 to repay its government bailout and focus the company on property-casualty coverage and U.S. life insurance. The rescue swelled to \$182.3 billion, and AIG finished repaying the U.S. in 2012. The insurer struck deals to sell more than \$70 billion of units and real

Group in January 2016,²⁴² and the sale of United Guaranty Corporation in August 2016.²⁴³ These “key actions” allowed AIG to “significantly reduce[] its size and certain risks,”²⁴⁴ which (along with simplifying its corporate structure and reducing its interconnectedness with other financial institutions) precipitated the rescission of AIG’s SIFI designation.

Like GECC, AIG’s designation and rescission highlights key benefits of a Pigouvian regulatory scheme. For one, AIG clearly executed these divestitures and other reorganization moves because of the costs associated with the SIFI designation, as evidenced by its rescission letter, which specifically referenced FSOC’s designation as motivating the divestitures.²⁴⁵ Bank analysts estimate that the SIFI rescission will save AIG between \$100 and \$150 million each year in compliance costs.²⁴⁶ Admittedly, the company and analysts both state that these savings are “modest.”²⁴⁷ However, there are noticeable benefits outside of direct spending on internal compliance programs: for instance, AIG will not be subject to future Federal Reserve regulations, including more stringent capital requirements for SIFIs.²⁴⁸

Further, the rescission has made future acquisitions more plausible because of the reduced regulatory burden. This benefit speaks to the ways in which

estate. The divestitures included the company’s Japanese and New York headquarters, AIA Group Ltd. and American Life Insurance Co.”).

242. Greg Iacurci, *AIG Advisor Group Sold to Lightyear Capital, PSP Investments*, INV. NEWS (Jan. 26, 2016), <http://www.investmentnews.com/article/20160126/FREE/160129951/aig-advisor-group-sold-to-lightyear-capital-psp-investments> [<http://perma.cc/KN77-VU77>].
243. See Sonali Basak & Katherine Chinglinsky, *Further Simplifying, AIG To Sell United Guaranty to Arch for \$3.4 Billion*, INS. J. (Aug. 16, 2016), <http://www.insurancejournal.com/news/national/2016/08/16/423329.htm> [<http://perma.cc/8KDW-KAHY>]; Leslie Scism & Joann S. Lublin, *AIG Reaches Deal To Sell Mortgage-Insurance Unit to Arch Capital for About \$3.4 Billion*, WALL ST. J. (Aug. 15, 2016), <http://www.wsj.com/articles/aig-nears-deal-to-sell-mortgage-insurance-unit-to-arch-capital-for-about-3-4-billion-1471280311> [<http://perma.cc/65UP-2QNE>].
244. *Notice and Explanation of the Basis for the Financial Stability Oversight Council’s Rescission of Its Determination Regarding American International Group, Inc. (AIG)*, *supra* note 235, at 13.
245. *Id.* at 8.
246. Gloria Gonzalez & Matthew Lerner, *AIG Set for Growth After Losing “Too Big To Fail” Tag*, BUS. INS. (Oct. 2, 2017, 2:34 PM), <http://www.businessinsurance.com/article/20171002/NEWS06/912316248> [<http://perma.cc/6EUC-Y8EW>] (“There was definitely a big compliance effort required and there was a significant cost to that,” said James Auden, managing director at Fitch Ratings Inc., in Chicago.”).
247. *Id.*; Alistair Gray, *AIG Sheds \$150m in Costs Along with Sifi Label*, FIN. TIMES (Oct. 1, 2017), <http://www.ft.com/content/31b36b9a-a662-11e7-93c5-648314d2c72c> [<http://perma.cc/KMM3-9XE4>].
248. Gray, *supra* note 247.

Pigouvian regulations leverage the internal expertise of the regulated entity. For at least those divestitures noted above, they were business decisions made by AIG, rather than requirements imposed by regulators.²⁴⁹ And even before the official rescission, AIG has been able to make new acquisitions, such as its purchase of Hamilton USA in May 2017, which AIG intends to use to pursue technological innovations in insurance underwriting.²⁵⁰ The transaction is relatively small (\$110 million), but more importantly, it complements AIG's core insurance business. This decision reflects what FSOC described as AIG's strategy to refocus on its core insurance business products.²⁵¹

Together, GECC and AIG demonstrate how readily nonbank SIFIs can respond to the compliance costs imposed by Dodd-Frank. Both firms shed significant assets, simplified their corporate structures, and refocused on core activities. In return for reducing their riskiness, they were rewarded with reduced compliance costs and less regulatory oversight.

c. MetLife's Response

Nonbank SIFIs' varied responses to their designation suggests that Dodd-Frank's Pigouvian features allow both market participants and regulators to home in on risky practices, while affording institutions needed flexibility. MetLife offers an intriguing example of how nonbank SIFIs could tailor their responses even outside of an iterative process with FSOC. Unlike GECC, MetLife did not (at least not as available in the public record) coordinate with FSOC to move toward rescission, nor did it lay out (at least publicly) a comprehensive divestiture strategy aimed at eventual rescission. Instead of petitioning FSOC to rescind its designation, MetLife took FSOC to court, arguing that its SIFI designation was arbitrary and capricious.²⁵² On March 30, 2016, Judge Collyer of

249. This might be compared to the immediate post-crisis situation in which the Fed injected \$185 billion to rescue AIG and had extensive authority over the firm.

250. *AIG Agrees To Acquire Hamilton USA, Partner with Two Sima, Grow Insurtech Attune*, INS. J. (May 15, 2017), <http://www.insurancejournal.com/news/national/2017/05/15/451080.htm> [<http://perma.cc/P6XH-UL99>].

251. *Notice and Explanation of the Basis for the Financial Stability Oversight Council's Rescission of Its Determination Regarding American International Group, Inc. (AIG)*, *supra* note 235, at 12.

252. *MetLife, Inc. v. Fin. Stability Oversight Council*, 177 F. Supp. 3d 219 (D.D.C. 2016).

the D.C. District Court ruled in MetLife's favor and rescinded its SIFI designation.²⁵³ Though the government initially appealed to the D.C. Circuit, it dropped its appeal in January 2018.²⁵⁴

Even as MetLife challenged FSOC in court, however, it took some significant steps to reduce its size in a fashion similar to GECC and AIG. Indeed, it appears that MetLife had a two-track plan to address its SIFI designation. The company filed its case against FSOC in January 13, 2015.²⁵⁵ On January 12, 2016, several months before the D.C. District Court handed down its ruling, MetLife announced its plan to spin off a significant portion of its U.S. retail insurance unit into an independent company that would be known as Brighthouse Financial.²⁵⁶ The spun off company would have about \$240 billion in assets, accounting for about 20% of MetLife's operating earnings.²⁵⁷ At the time of its designation, MetLife had about \$909 billion in total assets, meaning that the spin-off involved a quarter of the company.²⁵⁸

Steven Kandarian, CEO and Chairman of MetLife, explicitly noted that compliance costs associated with its SIFI designation – specifically, the higher capital requirements – had led to the spin-off because these costs would put the company “at a significant competitive disadvantage.”²⁵⁹ Although Kandarian mentioned that the company was challenging its SIFI designation in court and “d[id] not believe any part of MetLife is systemic[ly important],” he still emphasized

253. *Id.*

254. Ryan Tracy, *MetLife Cements Legal Victory in Shedding “Systematically Important” Label*, WALL ST. J. (Jan. 18, 2018, 9:09 PM), <http://www.wsj.com/amp/articles/metlife-and-fsoc-file-motion-to-dismiss-appeal-in-sifi-litigation-1516325850> [<http://perma.cc/FG9T-VX8H>].

255. Douwe Miedema, *U.S. Insurer MetLife To Sue Regulators over High-Risk Tag*, REUTERS (Jan. 13, 2015, 7:42 AM), <http://www.reuters.com/article/us-metlife-lawsuit/u-s-insurer-metlife-to-sue-regulators-over-high-risk-tag-idUSKBN0KM1A720150113> [<http://perma.cc/7HC4-76UM>].

256. Brighthouse Financial is the name given to MetLife's domestic retail business after it was spun off into a new company. See *Important Information About MetLife's U.S. Retail Business Separation*, METLIFE, <http://www.metlife.com/brighthousefinancial> [<http://perma.cc/CTD9-27G4>]; Bloomberg News, *MetLife Weighs Spinoff of Domestic Retail Business as CEO Seeks Less Oversight*, INVESTMENTNEWS (Jan. 13, 2016, 12:20 PM), <http://www.investmentnews.com/article/20160113/FREE/160119973/metlife-weighs-spinoff-of-domestic-retail-business-as-ceo-seeks-less> [<http://perma.cc/8NSA-6EUT>].

257. *Id.*

258. *Basis of the Financial Stability Oversight Council's Final Determination Regarding MetLife, Inc.*, *supra* note 192, at 31.

259. Press Release, Brighthouse Financial Inc., *MetLife Announces Plan To Pursue Separation of U.S. Retail Businesses* (Jan. 12, 2016), <http://www.brighthousefinancial.com/newsroom/metlife-announces-plan-to-pursue-separation-us-retail-business> [<http://perma.cc/2M7V-HNQ3>].

that “this risk of increased capital requirements contributed to [the firm’s] decision to pursue the separation of the business” and that the company “would benefit from greater focus, more flexibility in products and operations, and a reduced capital and compliance burden.”²⁶⁰ Kandarian finally observed that the spin-off was in accord with MetLife’s broader “strategy to focus on businesses that have lower capital requirements and greater cash generation potential.”²⁶¹

MetLife completed the spinoff on August 7, 2017,²⁶² even though it was no longer designated as a SIFI and the government’s appeal was still working its way through the D.C. Circuit. There are two ways to view MetLife’s decision to divest its retail insurance unit even after prevailing at the district court. On one view, MetLife could have been concerned that the D.C. Circuit would overturn the district court’s decision, leading to MetLife’s continued designation as a SIFI. In that case, it seems likely that MetLife would have followed a path similar to GECC and AIG in working within the FSOC process toward rescission. Alternatively, MetLife could have believed that it would have won on appeal, but that the divestiture was nonetheless a sound business decision. In either case, the benefits of Pigouvian regulation are evident, as even the threat of increased compliance costs incentivized MetLife to become less risky.

d. Prudential’s Response

As of September 2017, Prudential is the only remaining nonbank SIFI.²⁶³ However, Prudential is currently considering different strategies that could lead to the rescission of its SIFI designation.²⁶⁴ News reports indicate that Prudential

^{260.} *Id.*

^{261.} *Id.*

^{262.} Press Release, MetLife Inc., MetLife Completes Spin-Off of Brighthouse Financial (Aug. 7, 2017), <http://www.metlife.com/about-us/newsroom/2017/august/metlifecompletespin-off-of-bighthouse-financial> [<http://perma.cc/W6DK-HJRM>].

^{263.} See *Basis of the Financial Stability Oversight Council’s Final Determination Regarding Prudential Financial, Inc.*, *supra* note 191; see also Richard Teitelbaum, *Prudential Has No Plans To Shed Businesses*: CEO, WALL ST. J.: CFO J. (Feb. 12, 2016, 11:10 AM), <http://blogs.wsj.com/cfo/2016/02/12/prudential-has-no-plans-to-shed-businesses-ceo> [<http://perma.cc/TNJ7-FPX7>] (noting that, so far, Prudential is the only one of the four nonbank SIFIs that has not pursued a divestiture strategy).

^{264.} Jesse Hamilton, *Prudential is Plotting Its Escape from Fed’s Tough Oversight*, BLOOMBERG (Aug. 17, 2017, 11:23 AM), <http://www.bloomberg.com/news/articles/2017-08-17/prudential-is-said-to-plot-its-escape-from-fed-s-tough-oversight> [<http://perma.cc/ZLU9-L5RT>].

sees potential promise both in a legal challenge, like MetLife's, and in following a path similar to AIG or GECC in working within the FSOC process.²⁶⁵

Unlike its peer nonbank SIFIs, Prudential has not yet pursued a large-scale divestiture strategy, which would likely be necessary to have its SIFI designation rescinded.²⁶⁶ However, even Prudential's divergent strategy highlights the benefits of Pigouvian regulations. Here, the regulated entity had apparently decided (at least before the change in administration opened even more opportunities for financial institutions to lobby FSOC²⁶⁷) that the compliance costs associated with being a SIFI were outweighed by the benefits of its current mix of businesses. In a different regulatory context (i.e., command and control), the SIFI designation could have led to *mandatory* divestitures. Here, however, as exemplified by Prudential, the optimal structure for a large financial institution might be to remain a regulated SIFI. Pigouvian regulations allow firms to do so.

Ultimately, the divergent paths of the four nonbank SIFIs highlight the benefits of Pigouvian regulations. The SIFI designation process allows for coordination and cooperation among the regulators and regulated entities. Further, the process keeps business decisions in the hands of the entities with the most information about the effective allocation of resources – the regulated business themselves. And most importantly, the Pigouvian compliance costs associated with SIFI designations allow for varied results. In the cases of AIG and GECC, compliance costs resulted in firms significantly reducing their size and potential for systemic risk. In return, they received a reduced regulatory burden. In the case

265. Hamilton, *supra* note 264 (“Prudential is preparing to push a federal watchdog – the Financial Stability Oversight Council – to remove it from a list of nonbanks that regulators concluded would threaten the financial system if they collapsed Another factor helping Prudential is rival MetLife Inc.’s legal victory last year overturning its label as a systemically important financial institution, or SIFI.”).

266. See Teitelbaum, *supra* note 263 (“More broadly, Mr. Strangfeld also said he was comfortable with Prudential’s current mix of businesses, signaling that the firm has no plans for major asset sales. ‘We’re just focused on three things – retirement, protection and asset management,’ he said. ‘What we have today is very conscious, very deliberate. It’s by design. It’s not by default.’”). Prudential has executed some asset divestitures, however, and could point to those if it ever petitioned FSOC to rescind its designation. For example, in November 2016, Prudential sold its Korean life insurance subsidiary to Mirae Asset Life Insurance for \$148 million. Kirsten Hastings, *Prudential Sells Korean Life Insurance Business to Mirae*, INT’L ADVISER (Nov. 10, 2016), <http://www.international-adviser.com/news/1032537/prudential-sells-korean-life-insurance-business-mirae> [<http://perma.cc/4NAG-467K>]; see also Jon Menon, *Prudential Agrees To Sell Unit in Japan to SBI for \$85 Million*, BLOOMBERG (July 16, 2013, 8:03 AM), <http://www.bloomberg.com/news/articles/2013-07-16/prudential-agrees-to-sell-unit-in-japan-to-sbi-for-85-million> [<http://perma.cc/X6US-JMLM>] (discussing Prudential’s July 2013 sale of its Japanese life insurance unit for \$85 million).

267. Hamilton, *supra* note 264. (“Prudential quietly began its exit campaign as soon as Trump’s Treasury secretary, Steven Mnuchin, arrived on the job in February, sending him a welcome letter contending that its status as a SIFI wasn’t appropriate”).

of MetLife, compliance costs prompted both resistance and experimentation, leading to delayed divestitures and a refinement of FSOC's administrative process. And in the case of Prudential, the firm decided that maintaining its size and interconnectedness is a price that it is willing to pay. In exchange, FSOC can apply enhanced regulatory standards to minimize the systemic risks that Prudential poses to the economy. Finally, each of these cases also demonstrates the benefits of allowing regulators to impose compliance costs that are tailor-made to a firm's unique structure and risks—allowing firms to respond as they deem fit, in accordance with their own financial strategies and risk-tolerance.

3. *Reducing Systemic Risk*

To be sure, one might object that these divestitures are of little significance if firms simply replaced the business units they spun off with other risky activities. In other words, Dodd-Frank's compliance costs would have little effect at reducing systemic risk if banks simply replaced one risky investment with another. The evidence, however, suggests that banks and other institutions regulated by Dodd-Frank have, in fact, become safer over time. Of particular significance is that many banks have downsized and simplified in ways not explicitly required by Dodd-Frank, and that annual stress tests identify these divestitures as reasons for reducing firms' compliance costs.

A number of academics and policymakers have argued that, although Dodd-Frank has not ended too big to fail, it has reduced the systemic risks posed by SIFIs. Larry Summers, Director of the National Economic Council under President Obama, for example, noted that “[p]olicymakers and political commentators alike have heralded Dodd-Frank as ushering in a new era of financial security.”²⁶⁸ During a Senate Banking Committee Hearing in 2014 regarding systemic risk in the financial sector, Federal Reserve Chair Janet Yellen likewise stated that the Fed “ha[s] put in place numerous steps and ha[s] more in the works that will strengthen these [financial] institutions, force them to hold a great deal of additional capital and reduce odds of failure.”²⁶⁹ International experts agree. Mark Carney, Governor of the Bank of England, has observed that SIFIs have increased their Tier 1 capital ratios, which are used to measure a SIFI's resilience

²⁶⁸. Sarin & Summers, *supra* note 96.

²⁶⁹. Yellen's Q&A Testimony to Senate Banking Committee, REUTERS (July 15, 2014, 10:15 AM), <http://www.reuters.com/article/uk-usa-fed-highlights-idUSKBN0FK1NO20140715> [<http://perma.cc/Y8ZG-TWJY>].

to market turbulence and ability to absorb losses,²⁷⁰ more than twofold since 2009.²⁷¹ These comments suggest that even though banks have grown since the financial crisis, they have done so by concentrating in safer business lines – not by investing in exotic and potentially destabilizing financial instruments.

Dodd-Frank regulators evince similar confidence in the stabilization of the SIFI regime. As noted above, Dodd-Frank requires covered institutions to create resolution plans detailing how the institution could be wound down without taxpayer support.²⁷² The Federal Reserve and the FDIC jointly determine each year whether the plans are sufficient or have deficiencies that must be corrected.²⁷³ Identifying the changes in a firm's resolution plan each year is thus a good indicator of the firm's overall change in risk profile. Collectively, these living wills suggest that SIFIs have grown less risky since the passage of Dodd-Frank.

Morgan Stanley's 2016 resolution planning process provides a useful example. On April 13th, 2016, the Fed and the FDIC announced that they had identified "weaknesses" in Morgan Stanley's 2015 plan, stating that it "was not credible or would not facilitate an orderly resolution under the U.S. Bankruptcy Code" and declaring that the firm would have to remedy these shortcomings in its re-submission.²⁷⁴ After receiving this verdict, Morgan Stanley noted that resolution

270. E.g., Trefis Team, *A Look at Common Equity Tier 1 Capital Ratios for the Largest U.S. Banks*, FORBES (March 6, 2015, 8:38 AM), <http://www.forbes.com/sites/greatspeculations/2015/03/06/a-look-at-common-equity-tier-1-capital-ratios-for-the-largest-u-s-banks/#22370c4a3fa2> [<http://perma.cc/S49J-PKEJ>] ("[T]he common equity Tier I (CET1) capital ratios are most often used as a quick reference to gauge a bank's capital strength and also to compare them side-by-side."). For more information on what constitutes Tier 1 capital and other categories of regulatory capital, see *Capital*, FED. DEPOSIT INS. CORP., <http://www.fdic.gov/regulations/safety/manual/section2-1.pdf> [<http://perma.cc/L4UA-4G8G>].

271. Sarin & Summers, *supra* note 96, at 2.

272. Dodd-Frank § 165(d); see also *Living Wills (or Resolution Plans)*, FED. RESERVE, <http://www.federalreserve.gov/supervisionreg/resolution-plans.htm> [<http://perma.cc/BFZ2-PA84>] (explaining that a "living will, must describe the company's strategy for rapid and orderly resolution in the event of material financial distress or failure of the company").

273. *Living Wills (or Resolution Plans)*, FED. RESERVE, <http://www.federalreserve.gov/supervisionreg/resolution-plans.htm> [<http://perma.cc/BFZ2-PA84>] (describing how plans must be submitted "for supervision by the Federal Reserve").

274. Bd. of Governors of the Fed. Reserve Sys., *Resolution Plan Assessment Framework and Firm Determinations*, FED. DEPOSIT INS. CORP. 3 (2016), <http://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20160413a2.pdf> [<http://perma.cc/8BJN-HFRT>]. Notably, the regulators did not jointly find any part of Morgan Stanley's plan to be deficient. This is significant because a deficiency finding indicates a violation of Dodd-Frank and potential sanctions. See Ryan Tracy, *Federal Reserve Corrects Letter to Morgan Stanley on Living Will*, WALL ST. J. (Apr. 15, 2016, 4:22 PM), <http://www.wsj.com/articles/federal-reserve-corrects-letter-to-morgan-stanley-on-living-will-1460751758> [<http://perma.cc/9X84-TZMW>] ("The word

planning was among “the highest priorities of [the] firm” and committed itself to continue “work[ing] with [its] regulators to improve [its resolution plan].”²⁷⁵

In their following April 14th, 2016, letter, the two regulators provided more detail to Morgan Stanley on where it had improved and where further progress was needed in order for its resolution plan to be considered adequate.²⁷⁶ The regulators found that Morgan Stanley had “improved its funding structure and increased the level of firm-wide high-quality liquid assets, . . . developed a legal entity rationalization framework,” and “ha[d] reduced the overall number of legal entities in its organizational structure,” among a number of other changes that made the firm simpler and safer.²⁷⁷ However, the regulators also noted shortcomings related to liquidity, derivatives and trading activities, and governance mechanisms.²⁷⁸

Less than six months later, Morgan Stanley responded to each of the concerns in the regulators’ April 14th letter and provided information on additional actions Morgan Stanley intended to take in connection with its submission of its 2017 resolution plan.²⁷⁹ Finally, in December of 2017, the Federal Reserve and the FDIC noted that Morgan Stanley’s 2017 living will noticeably improved upon its previous submission and, crucially, that the 2017 submission satisfactorily responded to the regulators’ concerns.²⁸⁰

‘deficiency’ is significant in regulatory parlance because it means regulators believed the issue violated the legal standard in the Dodd-Frank law. If regulators have concerns that don’t rise to that level, they have used a different word, ‘shortcomings,’ to describe them.”) The regulators also noted that Morgan Stanley had made some progress. Bd. of Governors of the Fed. Reserve Sys., *supra*, at 23 (“Notable progress was made with the firm’s liquidity methodology (post-resolution) and its governance mechanisms. However, the firm exhibited a particular weakness related to its resolution-related liquidity position.”).

275. Justin Baer, *Morgan Stanley’s Living Will Plan Rejected by Fed*, WALL ST. J. (Apr. 13, 2016, 9:31 AM), <http://www.wsj.com/articles/morgan-stanleys-living-will-plan-rejected-by-fed-1460548808> [<http://perma.cc/S8Q8-FT79>].

276. Letter from Robert deV. Frierson, Sec’y of the Bd., Bd. of Governors of the Fed. Reserve Sys., & Robert E. Feldman, Exec. Sec’y, Fed. Deposit Ins. Corp., to James P. Gorman, Chairman & Exec. Officer, Morgan Stanley 2 (Apr. 14, 2016), <http://www.federalreserve.gov/newsevents/pressreleases/files/morgan-stanley-letter-20160413.pdf> [<http://perma.cc/U3LD-PFBP>].

277. *Id.* at 4-5.

278. *Id.* at 5-10.

279. *Morgan Stanley 2016 Resolution Planning Public Section*, FDIC (Sept. 30, 2016), <http://www.fdic.gov/regulations/reform/resplans/plans/morgan-165-1610.pdf> [<http://perma.cc/7ACU-VZGX>].

280. Letter from Ann E. Misback, Sec’y of the Bd., Bd. of Governors of the Fed. Reserve Sys., & Robert E. Feldman, Exec. Sec’y, Fed. Deposit Ins. Corp., to James P. Gorman, Chairman & Exec. Officer, Morgan Stanley 4-5 (Dec. 19, 2017), <http://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20171219a6.pdf> [<http://perma.cc/CF24-X7RF>]. The

The story is the same at other SIFIs. In 2016, for example, agency feedback to Goldman Sachs noted similar improvements in its resolution plan compared to previous years' submissions.²⁸¹ The agencies noted that Goldman had "improved [its] funding structure and increased [its] loss-absorbing capacity by increasing [its] balance of high-quality liquid assets."²⁸² Such an improvement could not have been made if Goldman had acquired additional risky assets. Instead, it seems that Goldman has actually been pushing into plain vanilla retail banking with an online banking platform, which is among the least risky financial activities.²⁸³ Indeed, Goldman's CEO, Lloyd Blankfein, explicitly stated that the firm was expanding into this area because of new regulations. He confessed that "[Goldman Sachs is] dissuaded from growing into certain activities that are capital-intensive, and it's easier to grow into other areas that are more favored

regulators also noted other substantial steps taken by Morgan Stanley to improve its resolution capabilities. *Id.* ("MS has taken other significant steps. These include (i) improving its capital and liquidity capabilities by developing approaches to estimate stand-alone financial resource needs for each material entity; (ii) linking measures of estimated financial resource needs to available resources to inform the timely filing of the parent company's bankruptcy; (iii) developing a framework for the pre-positioning of capital and liquidity at material entities; (iv) entering into a contractually binding mechanism designed to provide capital and liquidity support to material entities; (v) creating a framework to govern escalation of information in support of timely decision-making; (vi) modifying its service contracts with key vendors to include provisions intended to ensure the continuation of services; (vii) identifying options for the sale of discrete businesses and assets under different market conditions and taking actions to make those options actionable; (viii) prepositioning working capital in service-providing entities; (ix) developing playbooks to support continued access to payment, clearing, and settlement activities; (x) rationalizing its material service entity provider network to employ certain hub entities to enable the provision of shared services; and (xi) enhancing its separability analysis to support sales strategies for its wealth management and investment management businesses during resolution.").

281. *The Goldman Sachs Group, Inc. Resolution Plan Submission*, GOLDMAN SACHS 4 (Sept. 30, 2016), <http://www.goldmansachs.com/investor-relations/creditor-information/global-resolution-plan.pdf> [<http://perma.cc/C7Z2-PT2R>].

282. *Id.* at 5.

283. Nathaniel Popper, *Meet Marcus, Goldman Sachs's Online Lender for the Masses*, N.Y. TIMES (Aug. 18, 2016), <http://www.nytimes.com/2016/08/19/business/dealbook/goldman-sachs-to-offer-an-online-lender-for-the-masses.html> [<http://perma.cc/9SM6-UVJ6>]. Goldman's online banking platform offers online savings accounts and relatively small consumer loans, business lines that it has not offered in the past. See Michael Corkery & Nathaniel Popper, *Goldman Sachs Plans To Offer Consumer Loans Online, Adopting Start-Ups' Tactics*, N.Y. TIMES (June 15, 2015), <http://www.nytimes.com/2015/06/16/business/dealbook/goldman-to-move-into-online-consumer-lending.html> [<http://perma.cc/V2GZ-B2QA>].

by the regulators and capital rules.”²⁸⁴ It thus appears that in shedding its commodities, private equity, and hedge fund units, Goldman has been replacing them not with similarly-risky businesses, but rather with safer ones that are favored by Dodd-Frank and the regulators who enforce the law.²⁸⁵

In sum, Dodd-Frank’s living wills requirement demonstrates the success and potency of Pigouvian regulations. As one commentator put it in describing the results of the 2017 stress tests: “Not only are banks safer, but they finally understand what regulators want.”²⁸⁶

IV. THE BENEFITS OF PIGOUVIAN REGULATIONS

The previous Parts show that Dodd-Frank is functioning like a Pigouvian regulation and that Pigouvian incentives are working to prompt both bank and nonbank SIFIs to shed some of their riskiest assets. This Part builds upon that observation to argue not only that Dodd-Frank has Pigouvian characteristics, but also that its Pigouvian functions are in many ways superior to more traditional forms of regulation. Specifically, compared to traditional command-and-control regulations, Pigouvian regulations are more flexible and are better able to incorporate firm expertise into the regulatory scheme. Likewise, compared to traditional market-based approaches, Pigouvian regulations may be a more precise and adaptable method of addressing negative externalities. They are also likely to be more politically feasible, rendering them a preferred regulatory model when more onerous command-and-control methods might be impossible to pass.

284. Randall Smith, *Goldman Sachs, Bank to the Elite, Makes Pitch to the Masses*, N.Y. TIMES (Nov. 16, 2016), <http://www.nytimes.com/2016/11/17/business/dealbook/goldman-sachs-bank-to-the-elite-makes-pitch-to-the-masses.html> [<http://perma.cc/72CF-BGGC>].

285. A similar trend is also exhibited with Bank of America. In its last stress test, the Federal Reserve approvingly noted that Bank of America had eliminated sixty percent of its legal entities, including 400 units that had been active until just that year. *Bank of America Corporation 2016 Resolution Plan Submission*, BANK OF AMERICA 2, <http://www.federalreserve.gov/bankinforeg/resolution-plans/boa-1g-20161001.pdf> [<http://perma.cc/MN9T-X9SL>]. The Fed’s willingness to reduce Bank of America’s capital requirements in response to such actions reflects the Fed’s view that Bank of America’s moves contributed to a net reduction in risk.

286. Gina Chon, *U.S. Banks Make Progress on Their Living Wills*, N.Y. TIMES (Dec. 20, 2017) <http://www.nytimes.com/2017/12/20/business/dealbook/banks-living-wills.html> [<http://perma.cc/MLG3-VET5>].

A. Regulatory Flexibility

A notable benefit of Dodd-Frank's Pigouvian regulations is that they are more flexible than alternative regulatory approaches because they allow regulators to tailor compliance costs to the risks generated by individual SIFIs. To be clear: this benefit does not inhere in all market-based-regulations, but stems from the fact that Dodd-Frank grants regulators authority to tailor costs to the risks posed by specific firms in the manner described above. An ordinary Pigouvian tax would likely apply equally with equal force to different financial institutions. Dodd-Frank's flexibility stems from the fact that capital requirements and stress tests allow regulators to account for idiosyncrasies of individual firm business models and adjust costs according to the risks posed by each particular firm.

There are two different reasons why it is desirable for regulators to be able to adjust the costs Dodd-Frank imposes on individual SIFIs. First, regulators can reward SIFIs for reducing risk and penalize them for failing to do so. Second, regulators can respond if they determine that certain activities are riskier than they thought, or if market conditions change. In this way, Dodd-Frank has shown itself preferable to traditional command-and-control prohibitions insofar as it allows for "right-sizing"²⁸⁷ — a process by which banks calibrate to their socially optimal size, structure, and organization. This Section describes the benefits of right-sizing, providing examples of where it has occurred within the Dodd-Frank scheme while also pointing out its limitations.

At the most fundamental level, right-sizing is important because large firms create benefits, both for themselves and the financial sector writ large. For example, large firms can better exploit economies of scale, diversify risks, spread overhead costs, offer combinations of complementary products, and expand their global reach than smaller firms.²⁸⁸ As Bernanke has argued, "In the long

287. Bernanke uses this term to refer to the process we describe. Bernanke, *supra* note 19.

288. For a summary of the literature on scale benefits in the financial services industry, see Loretta J. Mester, *Scale Economies in Banking and Financial Regulatory Reform*, FED. RES. BANK MINNEAPOLIS (Sept. 1, 2010), <http://www.minneapolisfed.org/publications/the-region/scale-economies-in-banking-and-financial-regulatory-reform> [<http://perma.cc/DLQ5-4GQE>], which explains that "a growing body of research supports the view that there are significant scale economies in banking." See also Joseph P. Hughes, Loretta J. Mester & Choon-Geol Moon, *Are Scale Economies in Banking Elusive or Illusive? Evidence Obtained by Incorporating Capital Structure and Risk-Taking into Models of Bank Production*, 25 J. BANKING & FIN. 2169 (2001) (finding constant scale benefits in banking holding companies and tying those benefits to risk diversification); David C. Wheelock & Paul W. Wilson, *Do Large Banks Have Lower Costs? New Estimates of Returns to Scale for U.S. Banks*, FED. RES. BANK ST. LOUIS 1 (Oct. 2009), <http://files.stlouisfed.org/files/htdocs/wp/2009/2009-054.pdf> [<http://perma.cc/2UEX>]

run, a U.S. financial industry without large firms would be less efficient, providing fewer services at higher cost.²⁸⁹ Furthermore, a strategy that simply resulted in breaking up SIFIs could involve ceding primacy in the financial services industry to countries governed by other regulatory regimes.²⁹⁰ For these reasons, the focus should not be on downsizing, but on right-sizing,²⁹¹ as it best maintains firms that will be optimal in terms of their benefits and risks.

Of course, this proposition raises the question of whether it is possible for regulators to know the socially optimal size of a specific bank *ex ante*. First, it is worth noting that this problem would also exist if the government took a more direct approach and broke up banks through regulatory fiat. Moreover, the mechanism adopted by Dodd-Frank has the advantage of allowing regulators to recalibrate costs over time. Thus, while it is unlikely that the bank regulators will initially know if a bank has reached its optimal size, Dodd-Frank adopted a flexible regime that empowers regulators to see how the market reacts to certain developments and then adjust accordingly.

-EU38] (“[S]cale economies are a plausible (but not necessarily only) reason for the growth in average bank size.”).

289. Bernanke, *supra* note 19.

290. *Id.*

291. In his speech given as a governor of the Federal Reserve, Stein used a compelling example to illustrate this point:

There are three banks: A, B, and C. Banks A and B both have \$1 trillion in assets, while C is smaller, with only \$400 billion in assets. Bank A actually generates significant economies of scale, so that it is socially optimal for it to remain at its current size. Banks B and C, by contrast, have very modest economies of scale, not enough to outweigh the costs that their size and complexity impose on society. From the perspective of an omniscient social planner, it would be better if both B and C were half their current size.

Now let’s ask what happens if we impose a size cap of say \$500 billion. This size cap does the right thing with respect to Bank B, by shrinking it to a socially optimal size. But it mishandles both Banks A and C, for different reasons. In the case of A, the cap forces it to shrink when it shouldn’t, because given the specifics of its business model it actually creates a substantial amount of value by being big. And in the case of C, the cap makes the opposite mistake. It would actually be beneficial to put pressure on C to shrink at the margin—that is, to move it in the direction of being a \$200 billion bank instead of a \$400 billion one—but since it lies below the cap, it is completely untouched by the regulation.

Jeremy C. Stein, Governor, Fed. Reserve Sys., *Regulating Large Financial Institutions* (Apr. 17, 2003), <http://www.federalreserve.gov/newsevents/speech/stein20130417a.htm> [<http://perma.cc/83PG-N6WH>].

As demonstrated by GECC²⁹² and the discussion of commodities regulations more broadly,²⁹³ a targeted increase in firms' capital requirement (or the threat of one),²⁹⁴ can prompt SIFIs to divest themselves of billions of dollars in financially lucrative business lines. The power behind this incentive structure depends on regulatory flexibility. If the Federal Reserve did not have the authority to adjust capital requirements quickly, then the carrot and stick method would be far less effective.²⁹⁵

Moreover, the ability of Dodd-Frank to tailor costs to each individual firm with respect to certain regulations has an important benefit over Pigouvian taxes as well—it allows regulators to account for the fact that the risks associated with different activities will vary by firm.²⁹⁶ Imagine that a particular kind of commodities trading would introduce significant financial risk if owned by Bank A but have no negative effects if owned by Bank B. In this case, neither a Pigouvian tax nor a command-and-control regulation would achieve the optimal outcome of preventing *only* Bank A from trading the commodity because they would be either over- or under-inclusive. On the one hand, the regulators might deter both firms from owning the commodities unit by pricing the firms out of the unit (with a Pigouvian tax), or prohibiting them from trading the commodity (through a command-and-control regulation). On the other hand, regulators might allow both firms to own the unit. With a Pigouvian regulation, by contrast, regulators can increase Bank A's regulatory burden for engaging in such activities without affecting Bank B—deterring Bank A from the activity while allowing Bank B to continue undisturbed. In this way, regulators can achieve the optimal outcome for both firms.

Finally, unlike command-and-control regulations and Pigouvian taxes, Dodd-Frank's Pigouvian regulations allow regulators to adjust costs over time, so that banks can authorize activities previously deemed too dangerous if market conditions change. This is what happens every time the relevant bank regulators

292. See *supra* Section III.C (documenting how the SIFI designation for nonbank firms leads to heightened capital requirements).

293. See *supra* Section III.C.1.

294. To be clear, as discussed in Section III.C, generally the Fed has not increased capital requirements. It has instead found that certain assets, such as commodities, should be considered riskier for purposes of calculating Tier 1 equity. The effect, however, is to increase the amount of assets for purposes of calculating capital requirements, which increases the amount of capital that banks have to hold against those assets.

295. We define “quickly” as the ability to change capital requirements on a yearly basis.

296. See Victor Fleischer, *Curb Your Enthusiasm for Pigovian Taxes*, 68 VAND. L. REV. 1673, 1676-77 (2015) (asserting that Pigouvian taxes are likely to be more effective when marginal cost is close to average cost).

change a capital requirement or revoke the SIFI designation for a nonbank firm. For example, while the costs of commodities trading may not *currently* outweigh their returns for Bank A, it is possible that future circumstances might change, in which case it might make sense for banks to reenter the commodities market. Such recalibration is possible under a Pigouvian regime, but—given the political process²⁹⁷—it becomes much more difficult if there is a direct ban or established tax. Thus, for the sake of both expertise and fine-tuning, Pigouvian regulations are invaluable.

B. Informational Advantages

In addition to enabling right-sizing, Pigouvian regulations empower the party most knowledgeable about the costs and benefits of an activity to determine the best way to comply with regulations. This approach is both more efficient and more effective than command-and-control regulation. While a command-and-control regulator should hypothetically be able to determine the socially optimal amount of an externality-producing action (and limit it accordingly), in the real world of administrative costs and imperfect information, regulators cannot possibly know both the costs and benefits of each activity as well as those closer to the activity itself.²⁹⁸ Therefore, it is possible that regulators will impose absolute prohibitions on activities where the benefits of the activity actually outweigh the risk. Pigouvian regulations help mitigate this informational asymmetry because a regulator need only know the spillover costs and benefits associated with an activity—leaving firms themselves to undergo the private cost-benefit analysis and determine market demand as the firms themselves will ultimately decide whether they should bear costs imposed by regulation and continue the activity.

This approach has two benefits related to expertise. First, this characteristic of Pigouvian regulations incorporates firm knowledge and expertise into the regulatory scheme. When using compliance costs rather than bans, regulators have an opportunity to see how much of a certain activity is desirable from firms' perspective, which incorporates the market demand for a good as measured by what

297. See *infra* Section IV.D.

298. See Masur & Posner, *supra* note 9, at 95 (“A perfectly conducted cost–benefit analysis should produce results as efficient as a Pigouvian tax, but in a world of administrative costs, command-and-control regulation will be inferior.”); cf. Shannon M. Grammel & Joshua C. Macey, *The Costs of Aggregating Administrative Claims*, 70 STAN. L. REV. ONLINE 123, 123–24 (2018), <http://review.law.stanford.edu/wp-content/uploads/sites/3/2018/01/70-Stan.-L.-Rev.-Online-123.pdf> [<http://perma.cc/864A-TMXA>] (arguing that administrators are well positioned to know the costs incurred by the agency in disbursing administrative entitlements).

level of an activity firms think will be profitable. To the extent that market demand reflects the social benefits of the good or service, Pigouvian regulations place decisional power in the hands of the entity most equipped to assess the costs and benefits of an activity. In this way, Pigouvian regulations allow for the possibility that even risky activities can sometimes be desirable.

The second informational benefit of Dodd-Frank's Pigouvian approach is that it allows regulators to adjust rules as they receive more information. Once regulators observe how much the market values a particular activity, as measured by firms' responses to compliance costs, regulators can adjust those costs accordingly. For instance, imagine that Bank C and Bank D both participate in the same commodities business, and the Federal Reserve increases the capital requirement of both institutions by the same amount because it regards this business as risky. If Bank C sells the business but Bank D holds onto it, regulators will have learned that Bank C, but not Bank D, regards the private benefit of holding this unit to justify the increase in capital requirements. This could suggest that market demand for Bank C's product is greater than that for Bank D's product, or else that Bank D uses this unit in a more productive manner – such as to hedge or diversify its other activities – than Bank C.²⁹⁹ Either way, the Federal Reserve might regard this information as important when determining whether it should further raise Bank C's capital requirement to prompt the firm to divest itself of this unit altogether. If regulators felt that the social cost remained excessive, it could further increase Bank C's compliance costs. If, on the other hand, the Federal Reserve believed that the current capital requirement forced Bank C to bear the true social costs of the activity, it might permit Bank C to continue trading because the market demand for that activity indicated that its social benefits outweighed its social costs.

In this way, as firms adapt to regulations, regulators not only affect firm behavior, but also acquire more information about the market value of certain activities. Over time, this additional information allows the government to regulate with more precision.

C. Allocating Responsibility

The aforementioned benefits show that Dodd-Frank reduces risk *ex ante* at the moment a firm or regulatory decision is made. But it is also worth noting that the SIFI designation helps reduce risk *ex post* by forcing firms to pay for

299. Note that the latter option would suggest not that there is greater market demand for the Bank C-produced commodity, but that the cost of the capital requirement fell less heavily on Bank C because of the hedging or diversification benefits Bank C enjoys.

their negative externalities when a risky decision goes poorly. This presents a novel benefit. Although previous scholarship has discussed the benefits of a Pigouvian approach as compared to the “command-and-control” model,³⁰⁰ the literature on Pigouvian taxes does not account for the fact that Pigouvian regulations can force the entity responsible for introducing systemic risk to itself reduce the riskiness and harmfulness of the activity. The most likely reason the literature has failed to document this benefit is that most scholars assume a Pigouvian approach must function like a tax.³⁰¹ The premise of a tax is that the mechanism by which the government forces banks to internalize costs is by transferring funds to the government.

Under Dodd-Frank, by contrast, regulators force banks to internalize the costs of creating systemic risk not by taxing SIFIs, but by requiring them to, for example, hold more capital, draft living wills, and perform stress tests. These measures themselves reduce risk. In raising capital requirements, the Federal Reserve both increases the costs of being systemically important and makes the party responsible for the externality better equipped to bear those costs since the regulatory costs used in “right-sizing” the banks also require SIFIs to hold a capital buffer that will make them – rather than the government – the first line of defense against an economic crisis. Thus, Dodd-Frank not only incentivizes banks to divest risky assets, but also makes banks better able to withstand the risk created by the assets they continue to hold.

D. Political Feasibility

Finally, Pigouvian regulations may simply be more feasible than regulatory alternatives, either traditional command-and-control regulations or Pigouvian taxes. It is no secret that the country has become more polarized and the legislative process has ossified.³⁰² Changes in legislation must go through many “vetogates” – decisional moments in the legislative process, at which point a bill will

300. See Masur & Posner, *supra* note 9, at 95 (“Other forms of regulation are inferior to the Pigouvian tax.”).

301. See *supra* notes 17–22 and accompanying text.

302. See Tyler Hughes & Deven Carlson, *Divided Government and Delay in the Legislative Process: Evidence From Important Bills, 1949–2010*, 43 AM. POL. RES. 771 (2015) (analyzing 2,200 American bills and finding that polarization suggests that the time to enactment of legislation is significantly longer when government is polarized); Tyler Hughes & Deven Carlson, *How Party Polarization Makes the Legislative Process Even Slower when Government Is Divided*, LONDON SCH. OF ECON.: U.S. CENTRE (May 19, 2015), <http://blogs.lse.ac.uk/usappblog/2015/05/19/how-party-polarization-makes-the-legislative-process-even-slower-when-government-is-divided> [<http://perma.cc/74BL-QXQC>] (estimating the polarization delay to be 60 days).

either advance or die.³⁰³ Each vetogate grants interest groups an additional opportunity to contest costly provisions, and Dodd-Frank targets one of the most powerful interest groups in the country: large financial institutions.³⁰⁴ It would have proven difficult—if not impossible—to dismantle banks that were too big to fail through traditional command-and-control regulations. Furthermore, as history has recently borne out, it is often easier to pass a regulation—even one with a penalty—than an actual tax.³⁰⁵

As a result, in politically contentious arenas with powerful interest groups, Pigouvian regulations may be a desirable way to regulate, as they look like ordinary regulations but operate like taxes. In other words, they provide an alternative mechanism for regulators to achieve their desired result without the same political roadblocks.³⁰⁶

V. PIGOUVIAN REGULATIONS

Despite these significant advantages, Pigouvian regulations have downsides. Below we tackle what we believe to be the three largest potential sources of criticism: the concern that banks will engage in regulatory arbitrage, the problem posed by “Black Swan” events, and the fear that structural constraints will limit the benefits of Pigouvian regulations. In our view, however, these costs are not unique to Pigouvian regulations and are in many cases more pronounced in command-and-control regulatory approaches.

303. See William N. Eskridge, Jr., *Vetogates, Chevron, Preemption*, 83 NOTRE DAME L. REV. 1441, 1442-43 (2008) (summarizing vetogates).

304. See, e.g., John C. Coffee, Jr., *The Political Economy of Dodd-Frank: Why Financial Reform Tends To Be Frustrated and Systemic Risk Perpetuated*, 97 CORNELL L. REV. 1019 (2012).

305. This point was forcefully made in the political commentary surrounding the individual mandate in the Affordable Care Act. See, e.g., Paul Starr, *The Mandate Miscalculation*, NEW REPUBLIC (Dec. 14, 2011), <http://newrepublic.com/article/98554/individual-mandate-affordable-care-act> [<http://perma.cc/LGS2-JKYN>] (noting that “Senate Democrats chickened out from framing the [individual mandate] penalty as a tax”).

306. The legal and legitimacy challenges to SIFI regulations are beyond the scope of this Note. See, e.g., *MetLife, Inc. v. Fin. Stability Oversight Council*, 177 F. Supp. 3d 219 (D.D.C. 2016) (finding that MetLife was not lawfully designated a SIFI).

A. Regulatory Arbitrage

“Regulatory arbitrage” is the process by which firms exploit loopholes in a regulatory scheme to avoid unfavorable regulation.³⁰⁷ Critics argue that as regulators make it more difficult to engage in certain risky activities, banks will simply shift their focus to other risky, but less-regulated activities – thus negating the benefit of the regulation.

There are a number of related arbitrage criticisms. For example, scholars in the past have criticized capital requirements for causing banks to engage in regulatory arbitrage to avoid holding additional capital.³⁰⁸ Likewise, more recently, scholars have criticized Dodd-Frank for failing to adequately regulate “shadow banking” – the financial activities involved in facilitating the creation of credit across the global financial system, but that are not subject to regulatory oversight.³⁰⁹ Others argue that onerous regulations will push risky activities away from highly regulated banks and towards the less regulated entities.³¹⁰

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307. See, e.g., ERIK F. GERDING, LAW, BUBBLES, AND FINANCIAL REGULATION 236-75 (2014); Erik F. Gerding, *The Dialectics of Bank Capital: Regulation and Regulatory Capital Arbitrage*, 55 WASHBURN L.J. 357, 362-63 (2016); David Jones, *Emerging Problems with the Basel Capital Accord: Regulatory Capital Arbitrage and Related Issues*, 24 J. BANKING & FIN. 35 (2000); Frank Partnoy, *Financial Derivatives and the Costs of Regulatory Arbitrage*, 22 J. CORP. L. 211, 227-35 (1997).
308. See Guillaume Plantin, *Shadow Banking and Bank Capital Regulation*, 28 REV. OF FIN. STUD. 146, 146-48 (2015) (“Tightening capital requirements may spur a surge in shadow banking activity that leads to an overall larger risk on the money-like liabilities of the formal and shadow banking institutions.”); Viral V. Acharya et al., *Securitization Without Risk Transfer* 5 (Nat’l Bureau of Econ. Research, Working Paper No. 15730, 2010), <http://pdfs.semanticscholar.org/e1ee/d414b14ebbc98100ef24cf40f2da6fa4522.pdf> [<http://perma.cc/2JAP-4LTK>] (“The main difference between on-balance sheet financing and financing via conduits is that conduit assets are considered off-balance sheet for the purpose of capital regulation and therefore banks need to hold far less regulatory capital against assets in conduits relative to assets on the balance sheet.”); Eugene A. Ludwig, *BankThink: Shadow Banking Will Flourish as Dodd-Frank Squeezes Banks*, AM. BANKER (July 19, 2011, 5:22 PM), <http://www.americanbanker.com/opinion/shadow-banking-will-flourish-as-dodd-frank-squeezes-banks> [<http://perma.cc/ZG2E-ZDJN>].
309. See Steven L. Schwarcz, *Regulating Shadow Banking*, 31 REV. OF BANKING & FIN. L. 619, 620-22 (2012) (defining shadow banking).
310. See Victor Fleischer, *Regulatory Arbitrage*, 89 TEX. L. REV. 227, 275 (2010) (“[W]hen new forms are chosen because they reduce regulatory costs and increase transaction costs compared to the old structure, we lose twice: efficiency is reduced by the increase in transaction costs, and the regulatory burden is shifted onto those who cannot engage in arbitrage.”); Philipp Halstrick, *Tighter Bank Rules Give Fillip to Shadow Banks*, REUTERS (Dec. 20, 2011, 4:21 AM), <http://uk.reuters.com/article/uk-regulation-shadow-banking/tighter-bank-rules-give-fillip-to-shadow-banks-idUKLNE7BJ0oT20111220> [<http://perma.cc/4WKN-F7UB>] (“International regulators’ efforts to strengthen the financial system by tightening bank rules may inadvertently serve to boost opportunities for unregulated or ‘shadow’ financial players.”).

But these critiques ignore a critical fact: regulators have the ability to regulate a wide swath of a SIFI's operations simply by finding that a certain activity will make it difficult for the SIFI to unwind under OLA or lead to its living will having shortcomings or being deficient. Thus, regulators who become aware of regulatory arbitrage—like shadow banking activities—can ratchet up compliance costs to nudge the SIFI out of such activities, if they in fact post unacceptable risks. Although there may be some concern that regulators will not be able to spot SIFIs' engagement in under-the-table risks, this concern is not unique to a Pigouvian regime.³¹¹ If it later turns out that SIFIs have increased their exposure to other risky markets, it simply falls to financial regulators to ensure that capital requirements lead banks to fully internalize the costs of those new risks. In other words, if banks migrate to other risky activities, financial regulators could ensure that firms pay the social costs of engaging in those activities.

Moreover, there is little reason to be concerned that less-regulated entities will simply take up risky activities where SIFIs left off. Insofar as SIFI regulations push SIFIs away from risky activities, we should applaud their success in making sure that systemically significant firms are avoiding inefficient risks. Similarly, if nonbank firms take on an unacceptable level of risk, FSOC, within its statutory strictures, can designate that firm a SIFI and thus subject it to the stringent requirements faced by other systemically significant firms.³¹² For these reasons, the critique that regulatory costs push risky activities from highly regulated banks towards less regulated financial institutions is misplaced: the SIFI regulations allow financial regulators to impose stringent requirements on bank and nonbank firms alike, so long as the firm can be so-designated.

Ironically, the prospect of regulatory arbitrage may actually counsel in favor of Pigouvian regulations as the best mechanism to prevent regulatory arbitrage. It will never be possible for regulators to anticipate every source of systemic risk. Prospective, substantive regulations will always be playing catch-up to financial innovations. By contrast, the Pigouvian approach used in Dodd-Frank allows regulators to adapt to new circumstances and information. In 2012, for example,

311. See, e.g., C. Eugene Stuerle, *Defining Tax Shelters and Tax Arbitrage*, URB. INST. (2002), <http://www.taxpolicycenter.org/publications/defining-tax-shelters-and-tax-arbitrage/full> [<http://perma.cc/49LZ-SJX5>] (identifying regulatory arbitrage as a pervasive difficulty in tax policy).

312. We recognize that the FSOC's designation authority can change. E.g., Tracy, *supra* note 254 (noting that the Department of Treasury recommends adopting a cost-benefit analysis to its nonbank SIFI designation process).

shortly after JPMorgan's London Whale trading desk incurred at least a \$6.2 billion loss,³¹³ the Federal Reserve expressed concern about JPMorgan and Goldman Sachs's forecasts for losses in a crisis.³¹⁴ The London Whale trading losses highlighted flaws in the calculations of risk-weighted assets,³¹⁵ which are a central feature in the calculation of capital requirements,³¹⁶ and the Federal Reserve became skeptical about the hedging strategies JPMorgan had used to manipulate models, downplay risk, and thus reduce its capital burden.³¹⁷ Following the scandal and the attendant regulatory scrutiny, JPMorgan released a report on its internal investigation, noting numerous areas where it intended to change its business practices in order to reduce risk.³¹⁸ It also coincided with JPMorgan's

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313. See, e.g., Permanent Subcomm. on Investigations, *JPMorgan Chase Whale Trades: A Case History of Derivatives Risks and Abuses*, S. COMM. ON HOMELAND SEC. & GOVERNMENTAL AFFAIRS 3-4 (<http://www.hsgac.senate.gov/download/report-jpmorgan-chase-whale-trades-a-case-history-of-derivatives-risks-and-abuses-march-15-2013>) [<http://perma.cc/9FJR-U52Y>]; Patricia Hurtado, *The London Whale*, BLOOMBERG (Feb. 23, 2016, 5:04 PM), <http://www.bloomberg.com/quicktake/the-london-whale> [<http://perma.cc/3Q2M-GV5V>].
314. Peter Eavis, *Fed Rebukes Goldman Sachs and JPMorgan Chase over Capital Plans*, N.Y. TIMES (Mar. 14, 2013, 4:35 PM), <http://dealbook.nytimes.com/2013/03/14/regulators-question-goldman-and-jpmorgans-capital-plans> [<http://perma.cc/Q2ST-B84X>].
315. See *supra* note 313.
316. Section 165 of Title I mandates enhanced supervision and prudential standards for bank holding companies (BHCs) and nonbank financial companies with assets greater than \$50 billion. Dodd-Frank § 165, 12 U.S.C. § 5365 (2012). It also requires that the Federal Reserve establish risk-based capital requirements and leverage limits in consultation with the FSOC. *Id.* The Federal Reserve has promulgated rules for implementing these capital requirements. *Enhanced Prudential Standards and Early Remediation Requirements for Covered Companies*, 77 Fed. Reg. 594 (proposed Jan. 5, 2012) (to be codified at 12 C.F.R. pt. 252); *Enhanced Prudential Standards for Bank Holding Companies and Foreign Banking Organizations*, 79 Fed. Reg. 17,240 (Mar. 27, 2014) (to be codified at 12 C.F.R. pt. 252).
317. See *JPMorgan Chase Whale Trades: A Case History of Derivatives Risks and Abuses*, *supra* note 313, at 3-4 (“JPMorgan Chase instructed the CIO to reduce its Risk Weighted Assets (RWA) to enable the bank, as a whole, to reduce its regulatory capital requirements. In response, in January 2012, rather than dispose of the high risk assets in the SCP—the most typical way to reduce RWA—the CIO launched a trading strategy that called for purchasing additional long credit derivatives to offset its short derivative positions and lower the CIO’s RWA that way. That trading strategy not only ended up increasing the portfolio’s size, risk, and RWA, but also, by taking the portfolio into a net long position, eliminated the hedging protections the SCP was originally supposed to provide.”); *id.* at 7 (“[R]isk evaluation models were targeted by bank personnel seeking to produce artificially lower capital requirements.”); *id.* at 14 (“Previously undisclosed evidence also showed that CIO personnel deliberately tried to lower the CIO’s risk results and, as a result, lower its capital requirements, not by reducing its risky assets, but by manipulating the mathematical models used to calculate its VaR, CRM, and RWA results.”).
318. *Report of JPMorgan Chase & Co. Management Task Force Regarding 2012 CIO Losses*, JPMORGAN (Jan. 16, 2013) <http://files.shareholder.com/downloads/ONE/2272984969xox628656>

decision to begin spinning off commodities and private equity units to reduce its Dodd-Frank-related compliance costs.³¹⁹

Thus, whereas command-and-control regulations must pass through congressional vetogates or comply with the onerous rulemaking process, Dodd-Frank's compliance costs can be adjusted fairly quickly and with great effect. The prospect of regulatory arbitrage suggests that regulators need tools to adjust to new risk factors as they emerge, and the flexibility of Pigouvian regulations makes them a superior solution to regulatory arbitrage, despite their inability to stop the practice completely.

B. Black Swan Events

Another potential cost to Dodd-Frank is what one might call the "Black Swan" problem.³²⁰ This problem posits that *even if* Pigouvian regulations reduce the overall risk that a bank failure would trigger a global recession, they still fail to address the scenario in which that risk actually comes to pass. In other words, the regulations are of little added help in a worst-case scenario.

Like the concerns with regulatory arbitrage, this objection plagues all forms of regulation. Furthermore, there are good reasons to believe that this concern is not as grave as it may initially appear. First, Pigouvian regulations represent an imperfect, but nonetheless superior, approach to dealing with the too big to fail problem than the ordinary command-and-control regulations enacted under Dodd-Frank. Therefore, even if this approach cannot eliminate the Black Swan problem, it fares better than traditional approaches in reducing individual SIFIs' risk and in forcing a mass exodus from activities deemed unacceptably risky. Second, Pigouvian regulations are merely one tool among many upon which regulators can draw to manage negative externalities. Thus, while Pigouvian regulations may not eliminate the risk of an economic crisis, they do help as part of a comprehensive regulatory scheme. Third, regulators' ability to adjust compliance costs quickly makes Pigouvian regulations better able to adapt to rapidly

/4cb574a0-obf5-4728-9582-625e4519b5ab/Task_Force_Report.pdf [http://perma.cc/LSY8-SPZP].

319. Peter Lattman, *JPMorgan To Spin Out Its Private Equity Unit*, N.Y. TIMES (June 14, 2013), <http://dealbook.nytimes.com/2013/06/14/jpmorgan-to-spin-out-its-private-equity-unit> [http://perma.cc/R5JU-JDD5]; Press Release, J.P. Morgan, J.P. Morgan to Explore Strategic Alternatives for its Physical Commodities Business (July 26, 2013), <http://investor.shareholder.com/jpmorganchase/releasedetail.cfm?releaseid=780681> [http://perma.cc/UGV5-VVDD].

320. See generally NASSIM NICHOLAS TALEB, *THE BLACK SWAN: THE IMPACT OF THE HIGHLY IMPROBABLE* (2007).

changing market conditions in the event of an economic downturn. Consequently, more than command-and-control regulations, Pigouvian regulations allow regulators to adjust course as soon as they foresee a crisis – taking steps to mitigate or even reverse financial losses before they occur.

C. Structural Limitations

Finally, although compliance costs have prompted SIFIs to spin off significant business units, it is worth noting that the organizational structure of a given firm may create a ceiling beyond which that firm can no longer divest additional assets. Recall that a bank is automatically a SIFI if it has more than \$50 billion in assets. Although GECC was able to shed nearly all of its financial services operations to escape the SIFI label, many other SIFIs would simply cease to exist if they undertook a similar reduction. The deposits currently held by Citigroup, Wells Fargo, Bank of America, and JPMorgan, for instance, approach \$4 trillion, which is roughly twenty percent of the GDP of the United States.³²¹ No matter how much regulators increase the cost of holding deposits, it would be difficult – perhaps impossible – for these companies to tell customers that they could no longer deposit checks in their generic commercial savings accounts. Customer deposits are the bread and butter of traditional banking. Without them, banks could hardly be considered depository institutions.³²²

Similarly, other firms do not share the idiosyncrasies of GE's business, which played a critical role in allowing the company to shed its SIFI designation so quickly and effectively. Unlike other firms, for instance, GE, the parent company of GECC, had substantial non-financial business lines. It was therefore able to continue essential business operations even after spinning off its financial activities.³²³ Imagine, however, if Goldman Sachs sought to shed all of its financial

321. Trefis Team, *Q1 2015 U.S. Banking Review: Total Deposits*, FORBES (May 22, 2015, 8:38 AM), <http://www.forbes.com/sites/greatspeculations/2015/05/22/q1-2015-u-s-banking-review-total-deposits> [<http://perma.cc/Z8Z2-ZD96>]; see Bureau of Econ. Analysis, *National Income and Product Accounts, Gross Domestic Product: Third Quarter 2017 (Advance Estimate)*, U.S. DEP'T COM. (Oct. 27, 2017, 8:30 AM), <http://www.bea.gov/newsreleases/national/gdp/gdpnewsrelease.htm> [<http://perma.cc/V593-PMCC>] (showing U.S. GDP at \$19.5 trillion).

322. Wells Fargo, for example, calls itself "America's Community Bank." Carrie Tolstedt, Senior Executive Vice President, Community Banking, Wells Fargo, et al., Community Banking, Presentation at 2014 Investor Day 1 (2014), <http://www08.wellsfargomedia.com/assets/pdf/about/investor-relations/presentations/2014/community-banking-presentation.pdf> [<http://perma.cc/W3EH-MM7Q>].

323. See *2013 Annual Report*, GEN. ELECTRIC CO. 41-47 (2013), http://www.ge.com/ar2013/pdf/GE_AR13.pdf [<http://perma.cc/32RM-ZH8E>].

activities: it would be left with an empty trading floor, some prime real estate, and a (parody) twitter feed shorn of inspiration.³²⁴

That there may be a ceiling to Pigouvian regulations' potential, however, does not mean that they represent an ineffective regulatory scheme. Rather, it simply suggests that they ought to be used in conjunction with other measures to reduce financial risk. Given Dodd-Frank's numerous other traditional command-and-control regulations, its Pigouvian features present an invaluable mechanism for fine-tuning policy where its broader bans and fines fail to efficiently reduce risk. For all the reasons discussed above, Pigouvian regulations are valuable tools in the regulatory toolkit—one option among many, perhaps, but a uniquely helpful option at that.

As both the regulatory arbitrage and Black Swan problems demonstrate, the ability of regulators to respond to risky SIFI activities depends in large part on their discretion to enact and modify Pigouvian regulations. Although Dodd-Frank offers regulators more discretion than traditional command-and-control regulatory schemes, further increasing regulatory discretion could amplify the benefits already recounted above.

Recall the discussion of GECC, which detailed how it divested itself of billions of assets in order to shed its SIFI designation. Although the opportunity to free itself of SIFI regulations proved a major incentive for GECC, Dodd-Frank makes it virtually impossible for large banks to ever shed their SIFI designation, given that any bank that holds \$50 billion in assets is automatically a SIFI and therefore subject to onerous requirements.³²⁵ The \$50 billion mandate thus acts as a hard floor that limits regulatory flexibility. But because greater regulatory flexibility would reduce systemic risk, Congress should amend Dodd-Frank to permit regulators to reduce the costs faced by SIFIs even if those SIFIs hold \$50 billion in assets.

One scholar has already proposed a more flexible regime that would allow regulators to reduce requirements for nonbanks that pose real, but insignificant, risks to the financial system.³²⁶ There is no reason why this approach should be limited to the nonbanks that generate risk. As we have shown, the SIFI designation allows regulators extraordinary latitude to tailor costs to the unique risks posed by particular SIFIs. Banks that hold \$50 billion in assets, however, auto-

324. See @GSElevator, TWITTER, <http://twitter.com/gselevator> [<http://perma.cc/L68A-KUCQ>].

325. 12 U.S.C. § 5365 (2012).

326. See Christina Parajon Skinner, *Regulating Nonbanks: A Plan for SIFI Lite*, 105 GEO. L.J. 1379, 1417 (2017).

matically face extremely high compliance costs. This fixed rule undercuts the incentives for SIFIs to downsize and impedes regulators in their quest to right-size firms.³²⁷

CONCLUSION

There are certainly reasons to question whether Dodd-Frank is working: foremost among them is that a SIFI failure could still trigger an economic crisis. Yet Dodd-Frank is effectively reducing the risks that systemically important firms will fail in the first place, though not necessarily for the reasons that academics and policymakers expected. The costs of complying with the Act—and especially with SIFI designations—can be exorbitant. Regulators have the authority to adjust those costs, and they have ramped up costs in response to concerns that SIFIs have not done enough to reduce the risks created by their operations. As we have shown, the effect in many cases was to force SIFIs to divest themselves of risky business units.

Each of these effects suggests that—despite persistent critiques—Dodd-Frank is working in a manner few anticipated. Consequently, scholars and policymakers should think long and hard before moving to reduce or eliminate Dodd-Frank's oversight entirely, and they should consider the effects of compliance costs when debating how to reform Dodd-Frank. As a Pigouvian regulation, Dodd-Frank provides a remarkable tool for regulators to right-size what are otherwise systemically destabilizing institutions. This is a tool worth preserving. Changing the narrative about Dodd-Frank, as this Note attempts, is an important first step.

327. Questions about the democratic legitimacy of such bureaucratic discretion are beyond the scope of this Note. For a sampling of that broader discussion, see Christian Hunold & B. Guy Peters, *Bureaucratic Discretion and Deliberative Democracy* 15-20, <http://ecpr.eu/Filestore/PaperProposal/8oddob91-ff57-4b65-ae6b-a9of062c126f.pdf> [<http://perma.cc/YQ5F-Q5JQ>], which documents numerous relevant sources.