
A TALE OF TWO MARKETS: REGULATION AND INNOVATION IN POST-CRISIS MORTGAGE AND STRUCTURED FINANCE MARKETS

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This Article takes stock of post-financial crisis regulatory developments to tell a tale of two markets within a political economy of financial regulation. The financial crisis stemmed from excessive risk-taking and dodgy practices in the subprime home mortgage market, a market that owed its existence to private-label securitization. The pre-crisis boom in private label mortgage-backed securities could never have happened, however, without financing from an array of structured products and vehicles created in the capital markets—CDOs, CDO²s, and SIVs. It was these capital markets products that magnified mortgage credit risk and transmitted it into the financial system's vulnerable nodes.

The post-crisis regulation has proceeded on different lines for mortgage markets and for capital markets. Post-crisis regulation of residential mortgage origination and securitization markets includes a set of strict prohibitions on particular products and practices. In contrast, post-crisis regulation of capital markets takes a much lighter touch, increasing regulatory costs for certain transactions but not prohibiting them outright. Capital market regulation has been particularly focused on the capital requirements of a particular type of user of structured products—banks. Outside of bank regulation, capital markets remain free to innovate with structured products. This distinction is precisely what the political economy of regulation would predict. Interventions in consumer markets are likely to be more politically salient to voters because they address products that voters use directly, while structured products are purchased only by sophisticated financial institutional investors.

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Despite the lighter regulatory approach taken to capital markets, today's structured products are qualitatively different than pre-crisis products. Subprime mortgage-backed securities, CDOs, CDO²s, CDO-based synthetics, and SIVs have entirely disappeared from the market even without regulatory prohibitions. Even so, post-crisis regulation may have had an unintended effect. The increased regulation of banks has resulted in a shift of high-risk behavior in both the mortgage and structured products markets to the more thinly regulated nonbank sector, where financial innovation and regulatory arbitrage still proceed apace. The hydraulic effect of entity-based regulation may here be sowing the seeds of the next crisis.

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I. INTRODUCTION

It was the best of times, then it was the worst of times. Financial markets soared in the mid-2000s, only to collapse in the financial crisis of 2008.¹ The crisis stemmed from excessive risk-taking and shabby practices in the “subprime” segment of the home mortgage market, a market that got its financing from an array of “toxic” products and investment vehicles created in the structured credit market—private-label mortgage-backed securities (“PLS”), collateralized debt obligations (“CDOs”), collateralized debt obligations squared (“CDO²s”), synthetic securitizations, and structured investment vehicles (“SIVs”).² These products provided the funding for the mortgage lending that enabled housing prices to be bid up in an unsustainable bubble.³

Ten years later, both the home mortgage market and the structured credit market look different in many respects. Subprime mortgages, CDOs, CDO²s, and SIVs have entirely disappeared, and the PLS market looks very different, implying fundamental change. But there are also places where the markets before and after differ only by degree—some risky consumer borrowers still find mortgage lenders, the private structured credit market remains in place and still collateralizes certain debt obligations, and synthetic securitizations still appear.

How much of this change is the result of post-crisis regulatory prohibition and how much results from changes in investors’ appetites for risk? To the extent that regulation, rather than appetite for risk, has caused the changes, which of the

1. See Jesse Colombo, *Disaster Is Inevitable When The Two Decade-Old Stock Bubble Bursts*, FORBES (Apr. 5, 2015, 10:26 PM), <https://www.forbes.com/sites/jessecolombo/2015/04/05/disaster-is-inevitable-when-the-two-decade-old-stock-bubble-bursts/#b6594566a88a>.

2. See, e.g., HENRY TABE, *THE UNRAVELLING OF STRUCTURED INVESTMENT VEHICLES: HOW LIQUIDITY LEAKED THROUGH SIVS, LESSONS IN RISK MANAGEMENT AND REGULATORY OVERSIGHT* (1st ed. 2010); William W. Bratton & Adam Levitin, *A Transactional Genealogy of Scandal from Milken to Enron to Goldman Sachs*, 86 S. CAL. L. REV. 783 (2013); Sergey Chernenko, *The Front Men of Wall Street: The Role of CDO Collateral Managers in the CDO Boom and Bust*, 72 J. FIN. 1893 (2017); Adam J. Levitin & Susan M. Wachter, *The Commercial Real Estate Bubble*, 3 HARV. BUS. L. REV. 83 (2013); Adam J. Levitin & Susan M. Wachter, *Explaining the Housing Bubble*, 100 GEO. L.J. 1177 (2012).

3. See, e.g., Levitin & Wachter, *The Commercial Real Estate Bubble*, *supra* note 2; Levitin & Wachter, *Explaining the Housing Bubble*, *supra* note 2.

new constraints have proven salient and for what reason? Where does the regulation leave open loopholes and regulatory arbitrage by intermediaries and investors with voracious appetites for risk?

To answer these questions, this Article takes a deep dive into today's credit markets to ascertain and trace the transactional pattern ten years later. We take a close look at risky mortgage lending and complex securitization structures and map the market activity against the new regulatory background. Our inspection leads to a pair of important observations about post-crisis regulation.

First, we identify a distinction in the post-crisis regulatory approach between consumer markets (the subprime mortgage loans themselves) and the capital markets (the toxic structured products that funded voluminous subprime lending). The post-crisis regulatory approach, we argue, is a tale of two markets that mismatches the immediate government response to the crisis itself even as it reflects the political economy of financial regulation.

The immediate federal response to the financial crisis was a series of market interventions—bailouts—of both individual financial institutions and capital markets more generally.⁴ In contrast, consumers received much less in the way of succor from the federal government directly, even though consumer mortgage defaults were the root of the crisis.⁵ One would expect, then, that the post-crisis regulatory response would focus on the institutions and markets that received bailouts in order to confirm the politicians' oft-repeated pledge of "no more bailouts." Yet that is the opposite of what emerged. The post-crisis regulatory response has been much more muscular in consumer markets than in capital markets.

On the consumer side, there are new constraints on mortgage lending that apply to all lenders. The provisions impose exacting standards of underwriting and documentation that combine to impose a conservative attitude toward risk. They effectively prevent the return of a large subprime loan market.⁶ Post-crisis enforcement initiatives by federal and state prosecutors and agencies reinforced this regulatory shift. They focused mostly on problems in the pre-crisis mortgage market and with post-crisis mortgage servicing, casting a prospective chill over the origination and management of risky mortgages.

On the capital markets side, things are different. Financial regulators did not respond to the crisis by imposing thoroughgoing underwriting standards or defining and prohibiting categories of dangerous structured transactions. Nor did they impose a tax or regulatory constraint on financial innovation. Instead, they tightened two existing legal regimes: (1) the disclosure rules applied to new public issues of securities, and (2) the rules regulating risk assumption by institutions intertwined with the public interest, banks most prominently.⁷ Nothing in post-crisis regulatory reform stops a private actor from packaging or purchasing a

4. Adam J. Levitin, *In Defense of Bailouts*, 99 GEO. L.J. 435, 437 (2010).

5. *See id.*

6. *See, e.g.*, 15 U.S.C. § 1693c(a) (2018).

7. *See, e.g.*, Adam J. Levitin et al., *The Dodd Frank Act and Housing Finance: Can It Restore Private Risk Capital to the Securitization Market*, 29 YALE J. ON REG. 155 (2012).

CDO or CDO², although there are additional regulatory burdens: the packager will have to satisfy stepped up disclosure requirements if it sells to the public (rather than in a private placement), and it will in many cases have to retain some credit risk.⁸ Additionally, banks (defined in regulation as insured depository institutions) are now discouraged from securitizing assets by rules that move securitized debt onto their balance sheets and discouraged from investing in securitized assets by rules that require substantial equity capital support. The new constraints dampen innovation indirectly by making securitization more expensive and reducing demand for structured products. Even so, marketplace intermediaries remain free to create structured products keyed to the risk appetites of the legions of institutional investors that are not regulated as banks.

Overall, regulation has been tightened much more significantly in consumer markets than in capital markets.⁹ Post-crisis enforcement actions have followed the same pattern, focused primarily on residential mortgage origination and securitization rather than on broader issues related to structured products.¹⁰

The contrast between the heavier regulatory touch in consumer markets (and for banks) as opposed to the limited interventions in capital markets speaks to the political economy of financial regulation. Interventions in consumer markets are likely to be more politically salient to consumer-voters because they address products that consumers use directly. Moreover, even if consumers do not understand the technical details of a particular reform, they do understand its top-level characterization as “consumer protection.” In contrast, reforms in capital markets, other than perhaps trading markets open to retail investors, are, if anything, more technically complex and lack a direct connection to the interests of consumers. As a result, there is likely more political pressure (and political upside for regulators) to focus reform on consumer markets. One expects less in the way of regulatory intervention in capital markets, where political pressure is less acute. And this is precisely what we see.

Our second observation about post-crisis regulation concerns unintended effects. The intensification of regulation of banks has resulted in a hydraulic market shift. Banks, more heavily-regulated and more than a little gun-shy in the wake of post-crisis litigation initiatives by prosecutors and regulators, have walked away from the riskier end of the residential mortgage market.¹¹ Less-regulated, nonbank lenders, almost wiped out by the financial crisis, have since re-emerged to fill the void in the riskier part of the mortgage market.¹² Nonbanks also loom larger in today’s structured product markets, where they have taken

8. *Id.*

9. *Id.*

10. *See, e.g., id.*

11. *See, e.g.,* Citigroup Inc., Annual Report (Form 10-K) (Feb. 23, 2018).

12. *See* Marshall Lux & Robert Greene, *What’s Behind the Non-Bank Mortgage Boom?* 2 (Mossavar-Rahmani Ctr. for Bus. and Gov’t, Working Paper No. 42, 2015).

the lead in innovative packaging and sale.¹³ The question is not whether innovation is being choked off, but whether the seeds of the next crisis are being sown by innovation in lightly regulated sectors.

Our Article makes several contributions to the literature. First, it provides the first systematic look at the role played by structured products in post-crisis financial markets. A large literature emerged in the wake of the financial crisis focusing on what went wrong in particular markets¹⁴ before 2008 and the extent to which post-crisis regulatory reforms addressed the problems.¹⁵ But this literature emerged in the 2009–2012 period, before the key reforms became effective. It thus could not inspect the reforms' market impact and could only analyze the reforms as they appeared on the books. Now, ten years after the crisis, enough time has lapsed to let us track the changes in the markets and connect the changes to the regulatory response. To date, no scholarship has attempted to take stock of the transactional impact of the full panoply of post-crisis reforms.

Second, our Article contributes to the literature on the political economy of financial regulation. Recent scholarship has highlighted the intensely politicized nature of financial regulation and its distributional consequences.¹⁶ Our Article illustrates the disconnect between the political problem faced by regulators in 2008–2009—the need to bail out various capital market institutions and markets—and the regulatory response in 2010–2014, which focused primarily on a different set of markets—consumer financial products. This observation underscores both the greater political salience of regulation of consumer markets, which more directly affect more voters, and the lack of political will in Congress and the regulatory agencies to insist on needed reform in the absence of focused interest group demand.

Third, our findings present a riposte to a scholarly critique of post-crisis regulation as crude, knee-jerk overregulation that should be presumptively rolled

13. *Id.* at 27.

14. *See, e.g.*, KATHLEEN ENGEL & PATRICIA MCCOY, *THE SUBPRIME VIRUS: RECKLESS CREDIT, REGULATORY FAILURE, AND NEXT STEPS* (2011) (mortgages and securitization); TAFE, *supra* note 2 (SIVs); Bratton & Levitin, *supra* note 2 (synthetic CDOs); Chernenko, *supra* note 2; Levitin & Wachter, *The Commercial Real Estate Bubble*, *supra* note 2 (commercial mortgages and securitization); Levitin & Wachter, *Explaining the Housing Bubble*, *supra* note 2 (mortgages and PLS); Adam J. Levitin & Tara Twomey, *Mortgage Servicing*, 28 *YALE J. ON REG.* 1 (2011) (mortgage servicing); Daniel Beltran et al., *Asymmetric Information and the Death of ABS CDOs*, *INT'L FIN. DISCUSSION PAPER*, Nov. 2016, at 6 (CDOs); Larry Cordell et al., *Collateral Damage: Sizing and Assessing the Subprime CDO Crisis* (Fed. Reserve Bank of Phila., Working Paper No. 11-30, 2012) (CDOs); Gary B. Gorton, *Slapped in the Face by the Invisible Hand: Banking and the Panic of 2007* (May 9, 2009) (unpublished manuscript) (<https://ssrn.com/abstract=1401882>) (repo markets).

15. *See, e.g.*, Levitin et al., *supra* note 7.

16. *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); Anna Gelpern, *Financial Crisis Containment*, 41 *CONN. L. REV.* 493 (2009); Adam J. Levitin, *Bankruptcy's Lorelei: The Dangerous Allure of Financial Institution Bankruptcy*, 97 *N.C. L. REV.* 243 (2019); Adam J. Levitin, *Safe Banking: Finance and Democracy*, 83 *U. CHI. L. REV.* 357 (2016); Adam J. Levitin, *The Politics of Financial Regulation and the Regulation of Financial Politics*, 127 *HARV. L. REV.* 1991 (2014); Adam J. Levitin, *Bankrupt Politics and the Politics of Bankruptcy*, 97 *CORNELL L. REV.* 1399 (2012); Levitin, *In Defense of Bailouts*, *supra* note 4.

back.¹⁷ Thus, Professor Roberta Romano has laid out a four-part “Iron Law” of financial regulation, namely that it is crisis-driven, features crude off-the-rack solutions, fails to anticipate market dynamism, and is too hard to amend or repeal.¹⁸ Our findings generally comport with Professor Romano’s first three points, while casting doubt on her fourth point. We go on to make additional observations and thereby flip the anti-regulatory critique on its head. As to Professor Romano’s first point, post-crisis regulation is indeed crisis driven. How could it not be? It also often is off-the-rack and at times does not fully account for market dynamism. Yet, despite all of this, substantial pieces of post-crisis regulation get it right. Sometimes the off-the-rack suit fits. Moreover, some post-crisis regulation is highly innovative. Nor does its failure to anticipate market dynamism imply malfunction. Instead, it simply shows the post-crisis regulatory construct to be incomplete. The flaw with post-crisis regulation is not that it gets it wrong but that there isn’t enough of it. Moreover, such new regulation as has been enacted is not proving to be sticky.

Fourth, our Article fits the enforcement response to the crisis into the broader regulatory picture and explores its impact on post-crisis market activity. Although regulation through enforcement figures prominently in the post-crisis response, it tends to be viewed separately from formal rulemaking. We develop data on the fines imposed in connection with federal prosecutions and agency proceedings against banks and use it to address a standing question respecting the magnitude of the prospective deterrent impact. We show that even though the fines, settlements, and judgments are far and away the largest in history and have had an impact on the banks’ business plans, it remains an open question whether enforcement is an effective deterrent effect against poorly grounded risk-taking in the financial sector.

We also highlight substantive and institutional patterns in the federal enforcement initiative. The enforcers addressed the origination, securitization, and servicing of subprime mortgages, employing classical legal theories, fraud most prominently, and disproportionately targeted the six largest banks.¹⁹ Enforcers also largely bypassed the machinations in the capital markets that made subprime origination and securitization possible. Restating, federal prosecutors are more comfortable targeting transactions between consumers and big banks than transactions between big banks and investors.

Fifth, our Article puts the prevailing regulatory mentality into bold relief, bringing out its cautious tendency and free-market bias. Post-crisis financial regulation rarely uses outright prohibitions. Instead, it puts a heavy thumb on the scale to favor certain transactions and disfavor other transactions within the

17. See Coffee, *supra* note 16, at 1024–25 (describing these scholars as the “Tea Party Caucus” of the legal academy).

18. Roberta Romano, *Further Assessment of the Iron Law of Financial Regulation: A Postscript to Regulating in the Dark 1* (Eur. Corp. Governance Inst., Law Working Paper No. 273/2014, 2014), <https://ssrn.com/abs=2517853>; see also Roberta Romano, *Regulating in the Dark*, 1 J. FIN. PERSP. 1 (2013).

19. See *infra* Section III.F.3.

banking sector. It does much less to discourage the same transactions by non-banks and generally leaves the capital markets alone and free to innovate.

The Article proceeds as follows. Part II briefly recounts the chain of causes behind the financial crisis and the basic outline of a securitization transaction. This ground has been amply ploughed elsewhere, so we present only a concise version of the story. Part III describes the new regulatory landscape, focusing on six sources of regulation: (1) constraints on mortgage lending, (2) constraints on mortgage servicing, (3) disclosure and risk retention requirements applied to sponsors of new securitizations, (4) bank capital rules applied to investments in securitized debt, (5) accounting rules requiring consolidation of securitization vehicles, and (6) post-crisis enforcement initiatives respecting pre-crisis mortgage lending and private label securitization and post-crisis mortgage servicing. Part IV describes the present state of the key product markets involved in the financial crisis: the residential mortgage market (including agency-backed issues and the new “nonprime” mortgage product), and the securitization market (including CLOs, synthetic securitizations, and structured investment vehicles), with a quick look over to the credit default swap market. For each market, the Article shows the impact of post-crisis regulation. Part V takes stock of post-crisis developments across these markets and the impact of post-crisis financial market regulation. A short conclusion follows.

II. THE FINANCIAL CRISIS, BRIEFLY RECOUNTED

The financial crisis began with a housing bubble. A glut of cheap financing enabled buyers to bid up home prices across the U.S. above fundamental values.²⁰ This cheap financing often came in the form of nontraditional mortgage products. More particularly, the housing bubble saw a shift in the market’s product mix from thirty-year, fixed-rate, fully-amortized mortgages to adjustable-rate loans with teaser rates, interest-only or negatively amortizing payments, or balloon structures.²¹ The new features kept initial monthly payments down, enabling borrowers to bid up housing prices.²²

These nontraditional mortgages were frequently made at high loan-to-value ratios, further enabling prices to be bid up.²³ They were also frequently not fully documented, which enabled borrowers to obtain larger loans based on inflated, stated incomes, which also let borrowers bid up home prices.²⁴ At the same time, borrowers with ever-weaker credit scores became qualified to borrow, resulting in more entrants to the home buying market, which once again bid up housing prices.²⁵

20. Levitin & Wachter, *Explaining the Housing Bubble*, *supra* note 2, at 1182.

21. *Id.* at 1183, 1196–2000.

22. *Id.* at 1196, 1199.

23. *Id.* at 1194–95.

24. *Id.* at 1195–96, 1199.

25. *Id.* at 1184.

The surfeit of nontraditional mortgage financing was possible only because of a shift in the housing finance channel from regulated securitization by the government-sponsored entities (“GSEs”) Fannie Mae and Freddie Mac to unregulated securitization by private actors.²⁶ Securitization is the process of producing debt securities, the repayment of which comes solely from a discrete and segregated pool of financial assets rather than from the income of an operating firm, income that might be subject to claims of competing contract counterparties and noncontractual (tort) creditors or which might vary based on management strategies.²⁷ The securitization process facilitates investment in carefully targeted risks: investors assume the risk of the performance of the specified assets and avoid assuming the general operational risks of a firm.

The processes’ particulars can vary from deal to deal. In the prototypical securitization transaction, a “sponsor” firm assembles a pool of residential mortgage loans. The loans might have been made by the sponsor and its affiliates or they might be purchased from unaffiliated third-party lenders. Either way, these original lenders are known as “originators,” and are often, but not necessarily, insured depository institutions.²⁸ The sponsor then transfers the pool of mortgage loans to a subsidiary, known as a “depositor,” thereby isolating the mortgages from its other assets. The depositor then sells the mortgages to a special purpose entity (“SPE”), typically an owner trust.²⁹ The trust finances the purchase of the mortgage loans by issuing debt securities in the public markets. The repayment of this debt is backed by the SPE’s only asset—the right to collect payments on the mortgage loans.³⁰ Since in this case the assets in the SPE are home mortgages, the SPE’s securities are called residential mortgage-backed securities (“RMBS”). The depositor then sells the RMBS (directly, through an underwriting affiliate, or through a third-party underwriter) into the bond market.³¹

The RMBS are liabilities only of the SPE, not of the sponsor or depositor, and the only source for repayment on the RMBS are collections on the SPE’s holdings of mortgage loans.³² Thus the investors in the RMBS take the risks and returns on a discrete pool of assets without assuming any of the sponsor’s operational risks.³³

RMBS production was originally the preserve of the GSEs, which acted as sponsors and also guaranteed investors timely payment of principal and interest on the RMBS.³⁴ The GSEs only purchased and securitized mortgages that met

26. Levitin & Wachter, *Explaining the Housing Bubble*, *supra* note 2, at 1181. Fannie Mae is the Federal National Mortgage Association, and Freddie Mac is the Federal Home Loan Mortgage Corporation.

27. *Id.*

28. See, e.g., David Echeverry et al., *Funding Fragility in the Residential-Mortgage Market*, Dec. 31, 2016.

29. Levitin & Wachter, *Explaining the Housing Bubble*, *supra* note 2, at 1181.

30. BASEL COMMITTEE ON BANKING SUPERVISION, THE JOINT FORUM REPORT ON SPECIAL PURPOSE ENTITIES I (2009).

31. *Id.*

32. *Id.* at 48–49.

33. ADAM J. LEVITIN, BUSINESS BANKRUPTCY: FINANCIAL RESTRUCTURING AND MODERN COMMERCIAL MARKETS 125 (2d ed. 2018).

34. See Levitin & Wachter, *Explaining the Housing Bubble*, *supra* note 2, at 1189.

strict underwriting standards and so generally excluded nontraditional mortgage products. In the years preceding the financial crisis, however, GSE securitizations lost substantial market share to so-called “private-label securitizations” undertaken by investment bank sponsors.³⁵ Private-label securitizations had laxer underwriting standards and were the source of financing for most nontraditional mortgages, including subprime mortgages.³⁶

The hallmark of private-label securitization prior to the financial crisis was a senior-subordinate credit tranching structure in the securities (“PLS”) issued by the SPE.³⁷ With tranching, rather than all of the PLS having an equal and ratable share of the risks and returns on the assets, some PLS would be junior and bear more risk while other PLS in an issue would be senior (and possibly AAA-rated) and bear less risk. Tranching thus allowed private-label securitization to produce AAA-rated securities out of pools of dodgy mortgages by concentrating all of the credit risk on the structure’s subordinated tranches.³⁸ This AAA securitized paper met an enormous global demand for top-rated securities, a demand stoked by a limited supply of AAA-rated government and corporate debt.³⁹ Indeed, in the years prior to 2008, structured offerings made up most of the AAA debt stock.⁴⁰

There was a catch. The senior tranches of PLS got AAA ratings only because the risk of loss on the mortgages in the securitization entity fell on the junior, subordinated tranches.⁴¹ There was a problem finding buyers for this toxic junior byproduct, the sale of which was necessary to the economic viability of PLS.⁴² The solution was resecuritization.⁴³ Junior tranches were bundled into new securitizations called collateralized debt obligations (“CDOs”). Here, instead of residential mortgages being securitized, junior PLS secured by pools of mortgages were themselves securitized.⁴⁴ CDO repackaging meant a corresponding lift in credit ratings—the CDO’s senior tranches bootstrapped junior paper into investment-grade status.⁴⁵ In some cases, junior tranches of CDOs were themselves further resecuritized into CDO²s.

Securitization manufactured top-rated securities—gold standard debt—out of dross mortgages and leaden PLS.⁴⁶ But supply was limited by the finite supply of mortgages and did not satisfy global demand for top-rated debt securities. The

35. *See id.* at 1193 fig.1.

36. *Id.* at 1228.

37. Levitin & Twomey, *supra* note 14, at 21.

38. LEVITIN, *supra* note 33, at 126.

39. BEN S. BERNANKE ET AL., BD. OF GOVERNORS OF THE FED. RESERVE SYS., INTERNATIONAL CAPITAL FLOWS AND THE RETURNS TO SAFE ASSETS IN THE UNITED STATES, 2003–2007 (2011); *see also* Levitin & Wachter, *Explaining the Housing Bubble*, *supra* note 2, at 1225.

40. *See* Levitin & Wachter, *Explaining the Housing Bubble*, *supra* note 2, at 1225.

41. *Id.* at 1227.

42. *Id.*

43. *Id.* at 1238–39.

44. *Id.* at 1237.

45. *Id.* at 1238–39.

46. *Id.* at 1239.

investment banks met the demand with a synthetic version of the CDO that referenced existing CDOs without actually resecuritizing any existing debt.⁴⁷ These structures conjoined debt interests referenced to CDOs with credit default swap (“CDS”) positions. They thereby allowed speculators in the financial markets to take short positions on portfolios of CDOs. Those on the short side of these arrangements did fantastically well during the financial crisis; those on the long side were often wiped out.⁴⁸

Securitization financialized the consumer mortgage market. A wide range of financial institutions invested in PLS and CDOs.⁴⁹ Many then used their investment-grade PLS and CDO tranches to collateralize short-term borrowing in the repurchase (“repo”) market on which many large financial institutions rely for funding.⁵⁰ And it was in the repo market that the global financial crisis began when U.S. housing prices began to fall in 2006.⁵¹ There was a downward spiral—housing price declines resulted in credit contraction, which further depressed home prices because most home purchases are made on credit.⁵²

The second sign of the crisis appeared when warehouse lenders to nonbank subprime mortgage originators began to call their lines of credit. These warehouse lines—structured as repos—funded mortgage loans during the period between loan origination and the completion of the securitization process.⁵³ With their warehouse lines pulled, subprime mortgage originators started to fail beginning in December 2006.⁵⁴ Credit then began to contract more generally, causing housing prices to fall further.

Structured investment vehicles (“SIVs”) were the next domino to fall. SIVs were investment entities often, but not necessarily, organized by banks on an off-balance sheet basis.⁵⁵ They financed themselves by issuing medium-term notes and commercial paper. Bank SIVs engaged in a simple duration arbitrage, financing longer-term assets with shorter-term liabilities.⁵⁶ Other SIVs, particularly those of nonbank securitization sponsors, were used as in-house warehouse financing channels supplementing warehouse lines of credit from unaffiliated parties.⁵⁷ In the summer of 2007, investor skittishness about the mortgage assets made it impossible for the SIVs to roll over their debt.⁵⁸ They were forced to go

47. *Id.* at 1246.

48. *Id.* at 1247.

49. *See, e.g., id.* at 1246–47.

50. *Id.* at 1251–52.

51. Bill Snyder, *The Role of “Repo” in the Financial Crisis*, STAN. GRADUATE SCH. BUS. (Mar. 8, 2012), <http://www.gsb.stanford.edu/insights/role-repo-financial-crisis>.

52. *See* Levitin & Wachter, *Explaining the Housing Bubble*, *supra* note 2, at 1199.

53. David Echeverry et al., *Funding Fragility in the Residential-Mortgage Market*, J. ECON. LITERATURE 1, 5–8 (2016).

54. *Id.*

55. *Id.* at 3–4.

56. Henry Tabe, *Shadow Banking and Leaking SIVs*, VOX: CEPR POLICY PORTAL (July 4, 2011), <http://voxeu.org/article/shadow-banking-and-leaking-sivs>.

57. Tabe, *supra* note 2.

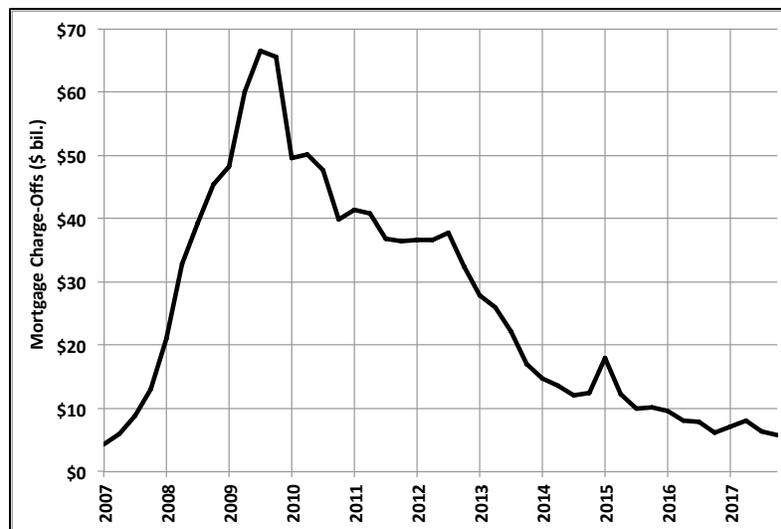
58. *Id.* at 10.

into wind-down. This further constrained the flow of credit to the mortgage market and added to the downward pressure on house prices.⁵⁹

From there, the downward spiral spread throughout a highly leveraged financial system. Credit rating agencies began to downgrade outstanding PLS in July 2007.⁶⁰ Because these PLS were widely used as collateral for borrowing by financial institutions, the ratings downgrades triggered margin calls, which further constrained the liquidity of the financial system and added to the downward pressure on home prices.⁶¹ Finally, on September 15, 2008, came the failure of Lehman Brothers, a large investment bank that was heavily invested in PLS and dependent on repo financing.⁶² Markets, uncertain which firm might fail next, froze.

Notably, the collapse in home prices did not lead to immediate large-scale losses on PLS. As Figure 1 shows, most loss recognition on mortgages occurred *after* the crisis broke in the fall of 2008. Between 2007 through the third quarter of 2008, only \$125 billion of losses had been recognized on home mortgages—just 11% of the total losses recognized between 2007 and 2016, the last year with an elevated level of mortgage charge-offs.

FIGURE 1: HOME MORTGAGE CHARGE-OFFS⁶³



59. Adam J. Levitin et al., *Mortgage Risk Premiums During the Housing Bubble*, J. REAL EST. FIN. & ECON. (forthcoming) (manuscript at 14) (<https://ssrn.com/abstract=3086314>).

60. Announcement, Moody's, *Moody's Downgrades Subprime First-Lien RMBS* (July 10, 2007).

61. See Levitin & Wachter, *Explaining the Housing Bubble*, *supra* note 2, at 1191–92.

62. Richard Kreitner, *September 15, 2008: Lehman Brothers Files for Bankruptcy and American Finance Collapses*, NATION (Sept. 15, 2015), <http://www.thenation.com/article/september-15-2008-lehman-brothers-files-for-bankruptcy-and-american-finance-collapses/>.

63. *Financial Accounts of the United States*, BD. OF GOVERNORS OF THE FED. RESERVE SYS., <https://www.federalreserve.gov/releases/z1/20181206/html/f218.htm> (last updated Dec. 6, 2018).

The trigger for the crisis was instead the market's recognition of *coming* losses on home mortgages and derivative instruments—PLS, CDOs, and CDS, and the uncertainty about the magnitude and allocation of the losses. It was clear by the fall of 2008 that there were going to be massive losses on home mortgages. But it was not clear just how massive those losses would be. More importantly, perhaps, it was not clear where the losses were going to fall because of the opacity and interconnectedness of financial markets.

This uncertainty triggered a market freeze.⁶⁴ Financial institutions obtained short-term funding through repos, which were frequently collateralized with highly-rated PLS and CDOs because these were assets that were assumed to be “safe” and which would retain their value.⁶⁵ When the value of repo collateral became uncertain, lenders either demanded more collateral or called their repo lines of credit.⁶⁶ The valuation uncertainty affecting all mortgage-related exposures put into question the solvency of many highly leveraged financial institutions, institutions whose counterparties suddenly refused to deal with them. Moreover, to the extent that a financial institution was a lender to firms with large mortgage market exposure, its own solvency became questionable due to uncertainty about its ability to recover from its borrowers.⁶⁷ Pervasive uncertainty about the extent and allocation of mortgage losses meant that no one could be sure if a given counterparty was impaired. No one could adequately price for the risk in any event.

The market freeze forced substantial intervention by the federal government to give financial institutions the confidence that their institutional counterparties would be money good.⁶⁸ The list of federal interventions is long and need not be fully catalogued here, but it included two main types of interventions: interventions to support individual institutions and interventions to support particular markets.⁶⁹

In terms of interventions to support individual institutions, the Federal Housing Finance Agency placed Fannie Mae and Freddie Mac into conservatorship, where they each had access to a \$100 billion line of credit from the Treasury.⁷⁰ The Federal Reserve Board acquired certain assets of Bear Stearns to facilitate Bear's acquisition by JPMorgan Chase.⁷¹ The Treasury and Federal

64. See Michael Mackenzie & Aline van Duyn, *Money Market Freeze Intensifies*, FIN. TIMES (Sept. 26, 2008), <http://www.ft.com/content/422a5556-8be6-11dd-8a4e-0000779fd18c>.

65. See Levitin & Wachter, *Explaining the Housing Bubble*, *supra* note 2, at 1232.

66. See Gary Gorton & Andrew Metrick, *Securitized Banking and the Run on the Repo*, 104 J. FIN. ECON. 425, 448 (2012).

67. *Id.* at 426.

68. See Levitin, *In Defense of Bailouts*, *supra* note 4, at 497.

69. See, e.g., *id.*

70. Press Release, Fed. Housing Fin. Agency, U.S. Treasury Support for Fannie Mae and Freddie Mac (Dec. 5, 2008).

71. *Bear Stearns, JPMorgan Chase, and Maiden Lane LLC*, BD. OF GOVERNORS OF THE FED. RES. SYS., <https://www.federalreserve.gov/regreform/reform-bearstearns.htm> (last updated Feb. 12, 2016).

Reserve bailed out insurance giant AIG through an \$85 billion capital injection.⁷² Auto manufacturers GM and Chrysler both received government financing for their bankruptcies.⁷³ And the federal government gave the largest banks capital injections as part of the Troubled Asset Relief Program.⁷⁴

In terms of interventions to support markets, the Treasury guaranteed money market mutual funds while the Federal Reserve Board initiated programs to support auction rate securities (the Term Auction Facility), primary dealers in treasury securities (the Primary Dealer Credit Facility) and securities lending (the Term Securities Lending Facility), and also provided liquidity to the commercial paper market (the Commercial Paper Funding Facility), asset-backed commercial paper (the Asset-Backed Commercial Paper Money Market Mutual Fund Liquidity Facility), money markets (the Money Market Investor Funding Facility), and asset-backed securities (the Term Asset-Backed Securities Loan Facility).⁷⁵ These market-wide facilities totaled trillions of dollars in assistance.

Efforts to assist consumers with mortgage restructuring came later. In February 2009, the federal government commenced two mortgage assistance programs—the Home Affordable Modification Program, which paid mortgage servicers bounties to restructure loans, and the Home Affordable Refinancing Program, which subsidized refinancing of underwater mortgages held in Fannie and Freddie securitizations.⁷⁶ These programs resulted in only 1.7 million permanent mortgage modifications and 3.4 million refinancings (not all of which were of underwater mortgages).⁷⁷ Despite this effort, more than 7.8 million foreclosures were completed between 2007 and 2016.⁷⁸ Relative to the heroic exertions undertaken to stabilize capital markets and financial institutions, the attention given to assisting distressed consumers amounted to an afterthought and an

72. Matthew Karnitschnig et al., *U.S. to Take Over AIG in \$85 Billion Bailout; Central Banks Inject Cash as Credit Dries Up*, WALL ST. J. (Sept. 16, 2008, 11:59 PM), <http://www.wsj.com/articles/SB122156561931242905>.

73. David M. Herszenhorn & David E. Sanger, *Bush Approves \$17.4 Billion Auto Bailout*, N.Y. TIMES (Dec. 19, 2008), <https://www.nytimes.com/2008/12/19/business/worldbusiness/19iht-20autoB.18826530.html>.

74. See, e.g., BD. OF GOVERNORS OF THE FED. RESERVE SYS., FEDERAL RESERVE STATISTICAL RELEASE (2008), <https://www.federalreserve.gov/releases/h41/20080925/> (“On September 21, the Board of Governors authorized the Federal Reserve Bank of New York to extend credit to the U.S. broker-dealer subsidiaries of Goldman Sachs, Morgan Stanley, and Merrill Lynch against all types of collateral that may be pledged at the Federal Reserve’s primary credit facility for depository institutions or at the existing Primary Dealer Credit Facility.”).

75. See *id.*

76. Breck Robinson, *An Overview of the Home Affordable Modification Program*, CONSUMER COMPLIANCE OUTLOOK (2009), https://consumercomplianceoutlook.org/2009/third-quarter/q3_02/ (“On February 18, 2009, President Obama announced the creation of the Homeowner Affordability and Stability Plan (HASP) to help millions of struggling homeowners avoid foreclosure by refinancing or modifying their first mortgages. This plan has two primary components: 1) the Home Affordable Refinance Program (HARP), to help borrowers refinance distressed mortgage loans into new loans with lower rates; and (2) the Home Affordable Modification Program (HAMP), to help homeowners at ‘imminent risk of default’ on their mortgages by modifying their loans. In the current economic environment, banks and servicers may find it beneficial to understand the HAMP program.”).

77. Peter King, *More HAMP Mods Made Permanent*, NASDAQ (Nov. 2, 2011, 6:41 PM), <https://www.nasdaq.com/article/more-hamp-mods-made-permanent-cm101192>.

78. CORELOGIC, UNITED STATES RESIDENTIAL FORECLOSURE CRISIS: TEN YEARS LATER 4–5 (2017), <https://bit.ly/2KIPxoy>.

ineffective one at that. On the financial side, only Lehman Brothers was left out in the cold. On the consumer side, even after financial markets had stabilized, residential mortgage losses continued to mount with problems in mortgage servicing exacerbating the damage by failing to restructure loans and flooding the market with properties in foreclosure.

III. NEW REGULATORY CONSTRAINTS

Once the dust settled in 2010, the federal government began a series of major regulatory reforms of mortgage lending, securitization, and financial markets generally. These reforms began with the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (“Dodd-Frank”),⁷⁹ but continued with various implementing rulemakings through 2014. Additionally, federal and state agencies began a raft of enforcement proceedings alleging various wrongs committed before and during the financial crisis. Meanwhile, the markets themselves, already organically adjusting to the risks revealed by the financial crisis, further adapted to regulation and enforcement. This Part reviews the regulatory changes. Part IV turns to market responses.

A. *Mortgage Lending*

The financial crisis emerged from problems in mortgage lending and continued with problems in mortgage servicing. The legislative centerpiece of the federal response to the problems in the mortgage market was the Dodd-Frank Act.⁸⁰ Dodd-Frank addressed the mortgage market in several ways.

1. *The Consumer Financial Protection Bureau*

Dodd-Frank restructured the lines of regulatory authority over the mortgage market, which had been splintered among nine federal agencies and the states.⁸¹

79. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376.

80. *See id.* at 124 Stat. 1964–65 (establishing the Bureau of Consumer Financial Protection).

81. The lines of authority differed depending by the type of regulatory activity: rulemaking, supervision, and enforcement. For rulemaking, the Board of Governors of the Federal Reserve System had rulemaking authority over the Truth in Lending Act, which included both disclosure requirements and substantive term requirements. The Department of Housing and Urban Development (“HUD”) had rulemaking authority over the Real Estate Settlement Procedures Act, which covered both real estate closings and loan servicing. HUD further exercised rulemaking authority under the Fair Housing Act. The Federal Trade Commission had rulemaking authority over nonbanks for unfair and deceptive acts and practices (“UDAP”), while UDAP authority for banks was vested in the Federal Reserve Board, the Federal Deposit Insurance Corporation, the Office of Comptroller of the Currency, and the Office of Thrift Supervision, and the National Credit Union Administration, depending on the type of insured depository institution. Additionally, HUD, the Veterans Agency, and the U.S. Department of Agriculture had authority over the rules governing mortgage loans insured or guaranteed by FHA, VA, and USDA Rural Development. On top of this, states all had their own mortgage lending laws, some of which were preempted by federal law.

Supervision and enforcement authority were further splintered and did not align with rulemaking authority. Only insured depository institutions were subject to regular supervision by federal regulators: the Federal Reserve Board, the FDIC, the OCC, the OTS, and the NCUA, depending on institution type. Nonbank lenders

Divided authority frustrated attempts to coordinate regulation and encouraged regulated firms to engage in arbitrage between regulatory regimes.⁸² Dodd-Frank streamlined the structure by creating the Consumer Financial Protection Bureau (“CFPB”), a new, dedicated consumer protection regulator with rulemaking authority over the entire mortgage market and supervision enforcement authority over all nonbanks and the largest insured depository institutions (those with more than \$10 billion in total assets).⁸³ As a result, opportunities for regulatory arbitrage disappeared. All mortgage lenders and servicers must now play by the same set of rules.

2. *The Ability-to-Repay Requirement and Qualified Mortgage Rule*

Dodd-Frank also added a number of new substantive regulations. Most notably, it prohibits lenders from making residential mortgage loans without verifying the borrower’s ability to repay the loan, including taxes and insurance on the mortgaged property.⁸⁴ Specifically, lenders must now make a “reasonable and good faith determination based on verified and documented information that, at the time the loan is consummated, the consumer has a reasonable ability to repay the loan, according to its terms, and all applicable taxes, insurance (including mortgage guarantee insurance), and assessments.”⁸⁵ Ability-to-repay must be calculated based on a payment schedule that fully amortizes the loan over its term. Further, for adjustable rate mortgages lenders must use the fully indexed rate, rather than a teaser rate, in the ability-to-repay calculation.⁸⁶

There is a statutory safe harbor from the ability-to-repay requirement for qualified mortgages (“QM”).⁸⁷ For most loans, QM status is an irrebuttable presumption of compliance with the ability-to-repay requirement,⁸⁸ although for “higher-priced” QMs (priced at 150 basis points over the prime rate for first liens mortgages and 350 basis points over prime for junior liens) the presumption is rebuttable.⁸⁹ Per CFPB regulations, a qualified mortgage loan (1) has substan-

and servicers were subject to state supervision. For enforcement, insured depositories were again subject to enforcement actions by their respective federal regulators, as well as state regulators, while nonbanks were subject to enforcement by state regulators and the FTC. For an overview, see Adam J. Levitin, *The Consumer Financial Protection Bureau: An Introduction*, 32 REV. BANKING & FIN. L. 321 (2013).

82. *Id.* at 327–34.

83. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 1011, 124 Stat. 1376, 1964 (2010) (codified at 12 U.S.C. § 5491 (2018)); *see also* 12 U.S.C. § 5515 (supervisory authority over large depositories).

84. Dodd-Frank Wall Street Reform and Consumer Protection Act at 2010, Pub. L. No. 111-203, § 1411, 124 Stat. 1376, 2142 (codified at 15 U.S.C. § 1693c(a) (2018)).

85. 15 U.S.C. § 1639c(a)(1) (2018).

86. 15 U.S.C. § 1639c(a)(3), (6), (7) (2018). Violations of ability-to-repay requirement result in both public liability and private liability under the Truth in Lending Act. 15 U.S.C. § 1640(a) (2018). Additionally, a borrower can raise a violation of the ability-to-repay requirement as a limited defense to foreclosure without regard for the Truth in Lending Act’s general statute of limitations. 15 U.S.C. § 1640(k) (2018).

87. 12 C.F.R. § 1026.43(e)(1)(i) (2019).

88. *Id.*

89. 12 C.F.R. § 1026.43(b)(4) (2019).

tially equal periodic payments (other than changes due to an adjustable rate re-setting); (2) has limits on points and fees; (3) has a maximum thirty-year term; (4) must be underwritten to the maximum interest rate in its first five years; and (5) has a borrower whose income or assets have been verified and whose back-end debt-to-income ratio does not exceed 43%.⁹⁰

Requirements (4) and (5) may be satisfied by two “patches.” Under the first of these, the qualification requirements are met if the loan is eligible for insurance by FHA or guaranty by the VA (the “FHA/VA patch”).⁹¹ Under the second, the requirements are met if the loan is eligible for purchase by the GSEs (the “GSE patch”).⁹² The GSE patch will expire in 2021, however,⁹³ and it is unclear if the CFPB will extend it or otherwise modify it. There is also a third patch pursuant to a 2018 law that creates an exception to requirements (3)–(5) for the debt-to-income ratio for mortgages held in portfolio by financial institutions with \$10 billion or less in total consolidated assets (the “portfolio patch”).⁹⁴ The portfolio patch also allows some balloon mortgages, as long as there is no interest-only period, but limits prepayment penalties.⁹⁵ The FHA/VA patch and GSE patch exclude jumbo loans, which are ineligible for GSE backup, but jumbo loans can still qualify under the portfolio patch.⁹⁶

The QM rule had a limited impact when it went into effect in January 2014.⁹⁷ The market on its own had already abandoned nontraditional mortgage products and returned to solid underwriting fundamentals, including verification of ability to repay. The biggest effect of the QM rule on mortgage terms seems to have been on portfolio lending above 43% DTI.⁹⁸ Such lending dropped off sharply between 2014 and 2018,⁹⁹ but is likely to rebound somewhat given the portfolio patch that went into effect in 2018. The importance of the QM rule, then, is that it locks in the chastened market’s dynamics, rather than forcing a change in the market itself.

The QM rule also affects secondary market dynamics. It encourages lenders to make QMs, but that as a practical matter tends to mean loans that utilize the GSE patch, because the GSEs will often accept loans with up to 45% DTI.¹⁰⁰ In other words, the QM rule channels conforming mortgage lending into loans eligible for

90. 12 C.F.R. § 1026.43(e)(2) (2019).

91. 12 C.F.R. § 1026.43(e)(4)(ii)(B)–(C) (2019).

92. 12 C.F.R. § 1026.43(e)(4)(ii)(A) (2019).

93. 12 C.F.R. § 1026.43(e)(4)(iii)(B) (2019).

94. Economic Growth, Regulatory Relief, and Consumer Protection Act, Pub. L. No. 115-174, § 101 (2018) (codified at 15 U.S.C. § 1639c(b)(2)(F) (2018)).

95. *Id.* (codified at 15 U.S.C. § 1639c(b)(2)(F)(ii)(I)(bb) (2018)).

96. *See* 12 C.F.R. § 1026.43(e)(4)(ii)(A)–(C) (2019); Economic Growth, Regulatory Relief, and Consumer Protection Act, Pub. L. No. 115-174, § 101 (2018).

97. Bing Bai et al., *Has the QM Rule Made It Harder to Get a Mortgage?*, URBAN INST. (Mar. 1, 2016), <https://www.urban.org/research/publication/has-qm-rule-made-it-harder-get-mortgage> (“Our analysis of the rule at the two-year mark again finds it has had little impact on the availability of mortgage credit.”).

98. *Id.* (“Our analysis of the rule at the two-year mark again finds it has had little impact on the availability of mortgage credit.”).

99. *Id.*

100. *Id.*

backing by the GSEs and other federal agencies. While there is non-QM lending occurring, the two patches effectively codify the GSE and other agency dominance of the secondary mortgage market by restricting high-DTI loans to them, making private-label securitization uncompetitive for such loans.¹⁰¹

3. *Other Mortgage Lending Restrictions*

Dodd-Frank included other regulations of primary mortgage market. Two reforms in particular should be noted. First, Dodd-Frank prohibited prepayment penalties on non-QM loans and all adjustable-rate or higher-cost loans and restricted prepayment penalties for other QM loans.¹⁰² The prohibition on prepayment penalties discourages the use of mortgages with low initial teaser rates. During the bubble years, this feature, when combined with prepayment penalties, locked consumers into the post-teaser rate. The removal of the lock-in penalty makes teaser rates unattractive to lenders.

Second, Dodd-Frank required independent property appraisals.¹⁰³ The appraisal independence helps ensure that properties are underwritten at realistic loan-to-value ratios, thereby protecting the purchasers of the mortgages in the securitization market.

4. *Impact*

The overall effect of the Dodd-Frank reforms of the primary mortgage market is to standardize mortgage products: thirty-year maximum term, full amortization, no prepayment penalties, fully underwritten, and fully documented.¹⁰⁴ DTI has also been standardized to some degree with the 43% QM cap for non-GSE/FHA/VA loans.¹⁰⁵ Some terms, however, remain nonstandardized—adjustable vs. fixed-rate, terms that are under thirty years, and loan-to-value ratios.¹⁰⁶

There is still room for nonstandard products in the Dodd-Frank system as a technical matter. Yet the regulatory design heavily favors standardized products, such that nonstandard products will likely remain the exception, marginalized to a small percent of the market where they are unlikely to present a threat to systemic stability. This approach is the hallmark of post-crisis reforms: rather than banning products outright, the reforms simply constrain demand for disfavored products.

It has been suggested that the ATR rules could be relaxed in practice by myopic, over-optimistic lenders seeking short-term advantage in the context of a housing bubble, the regime's penalties being too weak to check the lenders' hard-

101. *Id.*

102. 15 U.S.C. § 1639c(e)(1)–(3) (2018).

103. 15 U.S.C. § 1639h (2018).

104. *See* 15 U.S.C. § 1639c(a)(1)–(c)(4) (2018).

105. *See* Bai, *supra* note 97.

106. *See, e.g.*, 15 U.S.C. § 1639c(b)(2)(F) (2018).

wired behavioral defects.¹⁰⁷ But subsequent studies, inspecting the layers of new regulation more closely, counter that the compliance system accompanying the new regime is thoroughgoing enough to import a break.¹⁰⁸ Empirical reexaminations of pre-crisis mortgages confirms the presence of stalwart barriers.¹⁰⁹

B. Regulation X and Mortgage Servicing Reform

The CFPB undertook a major overhaul of mortgage servicing regulations. The mortgage servicing industry—the business of managing mortgage loans—collapsed as delinquencies soared in 2007.¹¹⁰ Mortgage servicing involves two dissimilar lines of business, depending on whether loans are performing or nonperforming. Servicing performing loans is largely ministerial work: sending out billing statements and processing payments.¹¹¹ It requires little discretion, and therefore does not require a cadre of highly trained personnel and can be heavily automated.¹¹² In contrast, servicing nonperforming loans requires substantial discretion and hands-on attention from skilled personnel if there is to be any attempt at loss mitigation instead of foreclosure.¹¹³

The residential mortgage servicing industry was built to deal with performing loans because default rates were very low prior to the collapse of the bubble.¹¹⁴ Accordingly, servicers did not invest in the capacity to handle a large volume of nonperforming loans.¹¹⁵ They bungled the job as a result, with increased losses for mortgage investors and unnecessary foreclosures which in turn exacerbated the downward spiral in home prices. In addition, incompetence and corner-cutting regarding recordkeeping meant that some homeowners lost their homes without appropriate legal process or were charged inappropriate fees.¹¹⁶

In 2013, the CFPB announced new servicing regulations, known as Reg X.¹¹⁷ Reg X prohibits servicers from commencing a foreclosure until a loan is at

107. Ryan Bubb & Prasad Krishnamurthy, *Regulating Against Bubbles: How Mortgage Regulation Can Keep Main Street and Wall Street Safe—From Themselves*, 163 U. PA. L. REV. 1539, 1610–23 (2015).

108. See Patricia A. McCoy & Susan M. Wachter, *Why The Ability-to-Repay Rule Is Vital to Financial Stability* 42–61 (Aug. 16, 2019) (unpublished manuscript) (on file with the Georgetown Law Journal).

109. Ioannis Floros & Joshua T. White, *Qualified Residential Mortgages and Default Risk*, 70 J. BANKING & FIN. 86, 91 (2016).

110. See Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 1011, 124 Stat. 1376, 1964 (2010).

111. Levitin & Twomey, *supra* note 14, at 4, 25.

112. *Id.* at 25.

113. *Id.* at 28.

114. See *id.* at 4, 29.

115. *Id.* at 4.

116. See *Robo-Signing, Chain of Title, Loss Mitigation, and Other Issues in Mortgage Servicing: Hearing Before the H. Fin. Serv. Comm. & Subcomm. on Hous. and Cmty. Opportunity*, 111th Congress (2010) (testimony of Adam J. Levitin); DAVID DAYEN, CHAIN OF TITLE: HOW THREE ORDINARY AMERICANS UNCOVERED WALL STREET'S GREAT FORECLOSURE FRAUD 25 (2016). For example, Wells Fargo was sanctioned by a federal bankruptcy judge for charging collateral inspection fees on a property that was literally underwater and in an evacuation zone in New Orleans following a hurricane. See *In re Stewart*, 391 B.R. 327, 355–58 (Bankr. E.D. La. 2008).

117. See generally Reg X, 12 C.F.R. § 1024.1 (2014).

least 120 days delinquent¹¹⁸ and mandates early intervention¹¹⁹ and continuity of contact with borrowers.¹²⁰ Reg X also requires a particular loss mitigation eligibility evaluation procedure and appeals process if the servicer offers any sort of loss mitigation options; no loss mitigation is required, however.¹²¹ The servicing rules also limit servicers' ability to profit from forced placements of insurance on delinquent mortgaged properties with affiliates at above market rates.¹²²

While the servicing regulations provide needed protection for consumers, they also add to the cost of managing delinquent loans. Servicing fees are the same for both performing and delinquent loans,¹²³ which means they are too high for performing loans and too low for delinquent loans. The additional costs of servicing delinquent loans and the reduced opportunities to profit from distressed borrowers may have the effect of making lenders with servicing affiliates reluctant to extend credit to higher risk borrowers. The precise impact of the servicing regulations cannot be determined, but it likely has a similar effect to the QM regulation, which is to limit credit on the margins to riskier borrowers.

C. Securitization

Federal post-crisis reforms also include a two-sided intervention in the market for asset-backed securities. First, under Dodd-Frank, securitization sponsors must generally retain a 5% stake in their products.¹²⁴ Second, the SEC has overhauled, extended, and toughened the disclosure requirements attending securitized issues.¹²⁵

1. Risk Retention

Dodd-Frank imposes a risk-retention requirement for all types of asset securitizations, including mortgage securitizations, known as the "skin-in-the-game" requirement.¹²⁶ Under regulations promulgated by a consortium of federal financial regulators, securitizers must retain 5% of the credit risk on asset securitizations, unless an exemption applies.¹²⁷ Securitizations undertaken by Fannie Mae and Freddie Mac inherently meet the risk retention requirement because Fannie and Freddie hold all the credit risk in their securitizations through their guaranties (although some is swapped out in back-end transactions).¹²⁸ Thus, as

118. *Id.* § 1024.41(f)(1)(i).

119. *Id.* § 1024.39.

120. *Id.* § 1024.40.

121. *Id.* § 1024.41(a).

122. *See id.* § 1024.37.

123. Levitin & Twomey, *supra* note 14, at 35–39.

124. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 941, 124 Stat. 1376, 1891–92 (codified at 15 U.S.C. § 78o-11).

125. *Compare* 17 C.F.R. §§ 229.1111(h)(1), 229.1125 (2018), *with* 17 C.F.R. §§ 229.1110, 1111(a)–(b) (2006).

126. Dodd-Frank Wall Street Reform and Consumer Protection Act at 2010, Pub. L. No. 111-203, § 941, 124 Stat. at 1890 (codified at 15 U.S.C. § 78o-11 (2018)).

127. *Id.* at 1892–93.

128. *See* 12 C.F.R. § 1234.8 (2014).

a practical matter the risk-retention requirement only applies to private-label securitizations.

The skin-in-the-game requirement is based on the idea that securitization creates a moral hazard problem—securitizers know more about the assets they are securitizing than investors and will therefore attempt to pawn off “lemons” on investors.¹²⁹ Requiring securitizers to retain some of the risk on the assets that they are securitizing—making them eat their own cooking—should ensure better quality assets in securitizations, which will, in turn, cut off the financing for shoddily underwritten loans. By assuring investors that a party with superior information is willing to assume the same or similar risks, retention is supposed to have a bonding function.¹³⁰

The scholarly evidence on moral hazard in securitization is mixed.¹³¹ But even if securitization has a serious moral hazard problem, risk retention does not provide a complete solution. The retention requirement does ameliorate information asymmetries between securitizers and investors.¹³² But it does not assure that originators have the ability to engage in good underwriting in the first place.¹³³ Moreover, investors may have no way to determine a given originator’s competence as regards mortgage risk evaluation. If the originator is a monoline nonbank, its financial statements could provide assistance, given a track record. But if, as is likely, it is a nonbank of recent origin, a track record is only a future possibility. If the originator is a bank, there likely is a track record.¹³⁴ Unfortunately, however, its financial reports present a composite picture of overall performance (or often of parent financial conglomerate’s overall performance). The performance of the bank’s securitizations is just one factor out of many and may be overshadowed by the performance of the bank’s other assets.¹³⁵ Thus, a bank might be a poor judge of credit risk on mortgages but still be quite profitable

129. Adam J. Levitin, *Skin-in-the-Game: Risk Retention Lessons from Credit Card Securitization*, 81 GEO. WASH. L. REV. 813, 813 (2013).

130. The securitizer may also, separately, make representations and warranties to investors about the quality of the securitized assets. Such representations and warranties are contractual and not mandated by law. They are also not a guarantee of the loans’ performance, only a statement of facts about the loans upon which investors can rely. Representations and warranties in securitization have historically involved lengthy litigation and are only valuable to the extent the securitizer is solvent; if there are too many representation and warranty violations, the securitizer may not have the assets to repay them all. Thus, representations and warranties are protection against fraudulent underwriting, but only on a limited scale.

131. Compare Benjamin Keys et al., *Did Securitization Lead to Lax Screening? Evidence from Subprime Loans*, 125 Q.J. ECON. 307 (2010) (arguing that credit score cutoff rules indicate that securitization is associated with moral hazard), and Beltran et al., *supra* note 14 (finding higher losses on CDOs arranged by vertically integrated banks, which had an informational advantage and could better identify lemons, than those arranged by non-integrated banks), with Ryan Bubba & Alex Kaufman, *Securitization and Moral Hazard: Evidence from Credit Score Cutoff Rules*, 63 J. MONETARY ECON. 1 (2014) (arguing that credit score cutoff rules do not supply evidence for moral hazard in securitization because they applied to originators without regard to whether loans would be securitized).

132. Levitin et al., *The Dodd-Frank Act and Housing Finance: Can It Restore Private Risk Capital to the Securitization Market*, *supra* note 7.

133. *Id.*

134. *Id.* at 162; see also 12 C.F.R. § 1015.9(a) (2018).

135. Levitin et al., *The Dodd-Frank Act and Housing Finance: Can It Restore Private Risk Capital to the Securitization Market*, *supra* note 7.

overall. Indeed, the opacity of bank balance sheets¹³⁶ mutes market discipline, and for larger banks, market discipline is further muted because of the moral hazard of investing in a too-big-to-fail financial institution. Finally, if the bank is willing to “bet” big on mortgages, whose long-term performance is risky for the purpose of booking short-run gains, a “tax” on those short-run gains in the form of a requirement to hold some of the long-term risk in-house will not matter.

The risk retention requirement does not apply to securitizations of certain asset classes, the most important of which are qualified residential mortgages (“QRMs”), a term left to definition by implementing regulation.¹³⁷ Federal regulators have defined QRM to mean qualified mortgage as defined by the CFPB under the ability-to-repay requirements.¹³⁸ In other words, risk retention applies only to securitization of non-QM mortgages. There is no risk retention requirement for QM-mortgage securitizations.¹³⁹ It follows that even as non-QM mortgages still may be securitized, an additional cost is incurred because the sponsor must retain part of the deal. The effect of this is to further herd the market into making only QM loans, but without directly prohibiting non-QM lending.

Notably, neither the QRM rule nor QM rule addresses loan-to-value (“LTV”) ratios on residential mortgage loans.¹⁴⁰ The original proposed QRM rule had an 80% LTV limit for residential mortgages,¹⁴¹ but there is no LTV limit in the final rule. The lack of post-crisis LTV regulation is surprising because of the important role that high LTV lending played in the financial crisis. All else being equal, default rates and losses given default are higher on high LTV mortgages.¹⁴² High LTV mortgages enabled borrowers to bid up housing prices in the first place and increased investor losses. Yet nothing today prevents or even discourages a lender from making or securitizing a high LTV residential mortgage loan.

2. *Disclosure: Regulation AB II*

The other major reform of securitization markets is a revision of the disclosure requirements for securities investors. The regulation governing securitization disclosures to investors is known as Reg AB.¹⁴³ In 2014, the SEC finalized a revision to Regulation AB, known as Reg AB II, which requires issuers of as-

136. See Giuliano Iannotta, *Testing for Opacity in the European Banking Industry: Evidence from Bond Credit Ratings* (SDA Bocconi, Working Paper No. 122/04, 2004), <http://ssrn.com/abstract=570483> (last visited Dec. 3, 2019), for an empirical discussion of bank opacity and its impact on the ratings of bank-issued securities.

137. 15 U.S.C. §§ 78o-11(c)(1)(A), (e)(4)(B) (2018).

138. 12 C.F.R. § 1234.13(a) (2019).

139. See 15 U.S.C. § 78o-11(c)(1)(A) (2018); 12 C.F.R. § 1234.13(a).

140. Floros & White, *supra* note 109.

141. Credit Risk Retention, 76 Fed. Reg. 24089 (proposed Apr. 29, 2011) (to be codified at § 15.15(e)(9)).

142. Kris Gerardi, GSE Mortgage Insurance Pricing, Presentation at the Federal Reserve Bank of New York, Apr. 27, 2017, at 11 (on file with the authors) (showing 5-year cumulative default rate ratios by LTV for Fannie Mae and Freddie Mac single-family, owner-occupied fixed-rate mortgages originated between 2000 and 2011).

143. 17 C.F.R. § 229.1100 (2016); Levitin & Twomey, *supra* note 14, at 57.

set-backed securities, including PLS, to provide standardized loan-level information in the prospectus and ongoing reports. For residential mortgage securitizations this includes disclosure of 272 separate loan-level items.¹⁴⁴

Previously, Reg AB (“Reg AB I”) had required disclosure of only the “material terms” of the assets, as well as disclosure of the underwriting criteria, the identity of any originator of more than 10% of assets, the selection criteria for the asset pool, and the cut-off date for establishing the asset pool.¹⁴⁵ Disclosures were not standardized—what was deemed “material” differed by securitization sponsor. Moreover, disclosures were made on a pool-level basis and stated in averages (and potentially maximums and minimums) for a limited number of loan characteristics.¹⁴⁶ For example, a pool might be disclosed to have a weighted average FICO score of 700, which could be 1,000 loans all with 700 FICOs or 500 loans with 750 FICOs and 500 loans with 650 FICOs. Those are materially different pools, but the difference would not be apparent from the original Reg AB I disclosures.

Reg AB II’s loan-level disclosures make it possible to see the interactions of numerous characteristics and thus gives investors a much clearer picture of the risk involved in a loan pool. Moreover, the Reg AB II loan-level disclosures must be provided to the SEC in XML format,¹⁴⁷ so they are readily downloaded and useable by investors. Previously, nonstandard formatting of disclosures in prospectus supplements required hand collection.

Reg AB II also includes a provision designed to ensure that investors have adequate time to analyze securitization deals prior to investing.¹⁴⁸ It does so by mandating a delay between disclosure of the terms of the deals and sale as a condition to eligibility for shelf registration.¹⁴⁹ Under the previous regime, the prospectus supplement merely had to be provided to buyers at the time of sale, and to the SEC two business days later.¹⁵⁰ Reg AB II mandates disclosure of the prospectus supplement at least three business days before the first sale, and also requires a forty-eight-hour delay on pricing after any material change.¹⁵¹ The delay gives investors a chance to digest the information on the underlying collateral in the prospectus supplement.

144. 17 C.F.R. §§ 229.1111(h)(1), 229.1125 (2018).

145. 17 C.F.R. §§ 229.1110, 1111(a)–(b).

146. 17 C.F.R. § 229.1111(a)–(b).

147. 17 C.F.R. §§ 229.1111(h)(2), 232.11, 232.301.

148. Asset-Backed Securities Disclosure and Registration, 79 Fed. Reg. 57184, 57189 (Sept. 24, 2014).

149. Asset-Backed Securities Disclosure and Registration, 79 Fed. Reg. at 57259. Shelf registration allows repeated issuances of securities under the same issuance program. Specifically, it allows securities to be registered in advance with a generic form base prospectus in advance and then, when, market conditions for a securities issuance are favorable, the issuer can then take the securities down “off the shelf” and quickly sell them without subsequent SEC staff review through a “prospectus supplement” that contains more specific information about the particular securities being offered.

150. Asset-Backed Securities, 75 Fed. Reg. 23328, 23334 (May 3, 2010).

151. 17 C.F.R. § 230.424(h) (2018).

Reg AB II also conditions shelf registration on inclusion of a set of investor protections regarding “putbacks” in the wake of false representations.¹⁵² All securitizations include sets of representations and warranties regarding the securitized assets.¹⁵³ In theory, these representations and warranties give investors confidence in what they are buying. If the assets backing a securitized loan are not as represented, the loan can be “put back” to the sponsor through a repurchase process. The putback process is meant to be self-executing, and assumes that all parties will act in good faith.

Post-crisis, however, parties faced with a large volume of potential putbacks did not always act in good faith.¹⁵⁴ Securitization servicers, the parties positioned to enforce the putbacks in the first instance, proved reluctant to enforce them because of affiliations with the sponsors.¹⁵⁵ Securitization trustees also proved reluctant. They got no additional compensation for the time and effort spent on putback enforcement and relied on the sponsors rather than the investors for deal flow.¹⁵⁶ They had a special disincentive when it came to pushing servicers, for if the servicer were fired the trustee would be responsible for the servicing. Moreover, when putback actions were brought, they were often contested by sponsors. Bank of America CEO Brian Moynihan stated that his bank would fight putbacks “hand-to-hand.”¹⁵⁷

Reg AB II attempts to address these problems by making shelf registration eligibility contingent upon a securitization transaction having four terms.¹⁵⁸ First, the securitization must have a certification by the CEO of the depositor (the entity that transfers the loans to the securitization entity) that the prospectus information is correct and that the deal should be able to generate the cash flows to pay all of the securities in full.¹⁵⁹ The certification provision puts more teeth into the representations and warranties; a violation of representations and warranties is now a securities law violation, not merely a contractual violation with remedies limited to putbacks.¹⁶⁰ Second, the transaction must provide that if defaults hit a specified level, an investor vote may be triggered upon the request of no more than 5% of the total interest in the pool.¹⁶¹ If that vote is affirmative, there will be an independent investigation of possible representation and warranty violations on at least all loans that are sixty-plus days delinquent.¹⁶² Based on the findings of the investigation, the trustee must then decide whether to pursue put-

152. 79 Fed. Reg. 57,184, 57,190 (Sept. 24, 2014).

153. See 17 C.F.R. § 230.413(b) (2018).

154. See e.g., 79 Fed. Reg. 57,184, 57,190 (Sept. 24, 2014) (acknowledging concerns that securitization by some ABS issuers was driven by short-term sales goals rather than long-term performance).

155. See Jonathan R. Laing, *Banks Face Another Mortgage Crisis*, BARRON'S (Nov. 20, 2010, 7:03 AM), <https://www.barrons.com/articles/SB50001424052970203676504575618621671054514?tesla=y>.

156. See *id.*

157. *Id.*

158. 17 C.F.R. §§ 239.45(a)–(b) (2018).

159. *Id.* § 239.45(b)(1)(i).

160. *Id.* § 239.45(b)(1)(ii)(C).

161. *Id.*

162. *Id.* § 239.45(b)(1)(ii)(D).

backs, and the trustee must provide investors with a summary of any report provided to investors.¹⁶³ This process removes the putback decision from the hands of the servicer, although it still allows the trustee substantial control over the scope of the review and the process by which votes are solicited.¹⁶⁴ Third, the transaction must allow the party bringing the putback request to seek arbitration or mediation at its option if the dispute is not resolved within 180 days.¹⁶⁵ This drops the assumption that putback requests will lead to good faith informal resolution and inserts a cost-effective resolution mechanism. And finally, trustees are required to disclose all investor requests to communicate with each other, which facilitates surmounting collective action thresholds for investors to demand that the securitization trustee take action.¹⁶⁶

Reg AB II's bite is limited because it applies only to offerings of registered securities.¹⁶⁷ The post-crisis PLS market has now largely shifted to private placements, all of which are exempt from Reg AB II.¹⁶⁸ Synthetic securitizations and derivative credit-risk transfers also remain exempt from registration, along with Fannie Mae, Freddie Mac, and Ginnie Mae securitizations.¹⁶⁹ Thus, the Reg AB II fixes apply to only a very small part of the current mortgage market. Given the changes in the mortgage market, including the relative decline of PLS issues,¹⁷⁰ Reg AB II looks like a weapon for the last war, a solution to a problem already addressed through migrations in the market.

D. Bank Capital

Banks are required to maintain minimum equity cushions.¹⁷¹ The rules are elaborate, but the gist can be explained readily. The rule sets a base line requirement of 8¢ of equity for every dollar of assets and then goes on to temper the 8% requirement by applying different “risk weights” to different assets, so as to adjust the dollar amount of the assets to which the 8% requirement applies.¹⁷² A treasury bond, for example, is treated as riskless, so it carries a risk weight of zero, no matter how large the bond. Thus, a \$1 billion Treasury bond is treated as being \$0 in terms of risk-weighted assets. As a result, the bank does not have to support its investment in the Treasury bond with any equity capital.¹⁷³ A cor-

163. *Id.* § 239.45(b)(1)(ii)(E).

164. *Id.* § 239.45(b)(1)(ii).

165. *Id.* § 239.45(b)(1)(iii)(A).

166. 17 C.F.R. § 229.1121(e) (2018).

167. *See* 79 Fed. Reg. 57,201–02 (Sept. 24, 2014).

168. *See* U.S. DEP'T OF THE TREASURY, A FINANCIAL SYSTEM THAT CREATES ECONOMIC OPPORTUNITIES CAPITAL MARKETS: REPORT TO PRESIDENT DONALD J. TRUMP 23 (2017) [hereinafter TREASURY REPORT].

169. 12 U.S.C. § 1455(g) (2018) (Fannie Mae); § 1723c (Freddie Mac); 15 U.S.C. §§ 77c(a)(2), 78c(a)(12) (2018) (Ginnie Mae).

170. *See infra* text accompanying notes 335–37.

171. 12 C.F.R. §§ 3.31–3.45 (2018).

172. *Id.*

173. 12 C.F.R. § 3.32(a).

porate loan, in contrast, carries a risk weight of 100% and therefore must be supported by the full 8% equity dose.¹⁷⁴ Thus, a bank would have to have \$80 million in equity for every \$1 billion in corporate loans it holds. Generally, the lower the percentage of equity capital required to support the bank's balance sheet, the higher the possible return to the bank's shareholders, so banks are incentivized to seek out assets whose potential return is disproportionately high to their risk-weighting.

Prior to the financial crisis, the risk-weighting system made investment in CDOs very attractive to bank portfolio managers.¹⁷⁵ Credit ratings drove the risk-weights in those days—the higher the rating, the lower the amount of equity capital required to support the investment, and the higher the rate of return to the bank. Because the rating agencies rated CDOs highly (too highly as it turned out), many banks accumulated large portfolios of them.¹⁷⁶

Section 939A of the Dodd Frank Act requires the elimination of regulatory reliance on credit ratings and the substitution of other measures of creditworthiness.¹⁷⁷ The section accordingly triggered an overhaul of bank capital rules.¹⁷⁸ New methodologies for assessing the riskiness of securitized paper were devised and specified. Risk weights applied to securitized assets were also revised upward.

Under the new rules, speaking generally, a bank must support securitization exposures with more equity capital than would be required to hold the asset directly.¹⁷⁹ A 2017 Report of the Treasury Department charges that the rules “overly burden activity in securitized products.”¹⁸⁰ One can argue with the “overly,” but the “burden” characterization is fair.

Each bank is charged with the responsibility to conduct a risk appraisal of every one of its securitization exposures.¹⁸¹ Absent an appraisal, a risk rating of 1250% (implying 100% equity capitalization) applies automatically. One hundred percent equity capitalization means that the bank must have \$1 of equity for

174. *Id.* § 3.32(f).

175. See Michel G. Crouhy et al., *The Subprime Credit Crisis of 07*, at 7–8 (July 7, 2008), <https://www.fdic.gov/bank/analytical/cfr/bank-research-conference/annual-8th/turnbull-jarrow.pdf>.

176. See Bubb & Krishnamurthy, *supra* note 107, at 1581–83 (2015) (listing the top 20 securitizers and comparing their investment portfolios).

177. Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, Pub. L. No. 111-203, § 939A, 124 Stat. 1376, 1887.

178. TREASURY REPORT, *supra* note 168, at 96. The Federal Reserve Board, the Office of Comptroller of the Currency, and the Federal Deposit Insurance Corporation issued the “Final Rules” in 2013. 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. 62,017, 62,120 (Oct. 11, 2013).

179. *Basel III Risk-Based Regulatory Capital Framework for Securitization Exposures* (Black Swan Consulting, New York, N.Y.), Feb. 10, 2015, at 1–2, 7.

180. TREASURY REPORT, *supra* note 168, at 96.

181. The big banks are required to generate risk weighting methodologies internally; smaller banks are provided with an off-the-rack risk assessment methodology. See TREASURY REPORT, *supra* note 168, at 97–98; *Basel III Risk-Based Regulatory Capital Framework for Securitization Exposures* (Black Swan Consulting, New York, N.Y.), Feb. 10, 2015, at 3–4, 6.

every \$1 of the amount of the asset that it keeps on its books; a \$100 million asset would require \$100 million of equity to support. This in turn means that the bank cannot borrow money to finance the asset, depriving its return on equity of the benefit of leverage. If an appraisal is done, however, the risk-rating on a securitization exposure can go as low as 20% (which implies equity capital support of 1.6%) but no lower, no matter how safe the security.¹⁸² Prior to the financial crisis, the floor was 7%.¹⁸³

The appraisal methodology takes into account the risk weighting and historical performance of the securitization's underlying assets, the particular exposure's place in the ladder of tranches, and whether or not the exposure is a resecuritization. The calculative results can change over time based on the asset's performance.

The risk calculation begins with the risk characteristics of assets in the SPE.¹⁸⁴ Adjustments are then made for the different tranches—the most junior tranches ratchet right up to a 1250% rating; ratings of senior tranches can go lower than the rating applied to the underlying asset.¹⁸⁵ In addition, an automatic surcharge (the *p* factor) of 50% of the risk weighting of the underlying asset gets worked into the calculation.¹⁸⁶ There is no reduction for credit enhancements. Furthermore, if there is a single resecuritized asset in the SPE, the surcharge is 150%.¹⁸⁷ In other words, from the point of view of bank capital planning, the capital charge is lower when mortgages and debt securities are held directly; investment in a CDO now no longer makes any sense.

Disadvantages regarding securitization exposures also crop up at other points in the safety and soundness regulatory landscape. Under the Federal Reserve Board's stress testing regime, for example, the negative shock against which securitization holdings are tested is pegged to price levels recorded at the depth of the financial crisis.¹⁸⁸ The Basel III liquidity standards make for a second example when they deem private label securitization paper to be *per se* illiquid.¹⁸⁹

Return now to the Dodd Frank risk retention rules for non-QRM securitizations. One sees quickly why the banks view them with distaste. It is not that the banks object to being required to leave "skin in the game." Instead, the objection goes to the skin-in-the-game's implications for their regulatory capital. A

182. 12 C.F.R. § 3.52 (2018).

183. GLOB. LEGAL GRP., *THE INTERNATIONAL COMPARATIVE GUIDE TO: SECURITIZATION* 26 (10th ed. 2017).

184. 12 C.F.R. § 3.52.

185. Black Swan, *supra* note 179, at 3–4.

186. *Id.* at 4.

187. For a calculative exemplar, see *id.* at 7.

188. TREASURY REPORT, *supra* note 168, at 99.

189. *Id.* at 100–01; see Liquidity Coverage Ratio: Liquidity Risk Measurement Standards, 79 Fed. Reg. 61,440 (Oct. 10, 2014) (to be codified at 12 C.F.R. pt. 329); Peter J. Green, Jeremy C. Jennings-Mares & Kenneth E. Kohler, Morrison & Foerster, *Securitization: Risk Weightings and Risk Retention—Approaches in the EU and the US* 60–61 (Oct. 7, 2015).

horizontal first-loss tranche carries a punitive 100%, dollar-for-dollar equity capital charge.¹⁹⁰ Retention of a vertical slice avoids this problem, and, indeed, can be treated as a direct exposure to the underlying asset, escaping the punitive capital add-ons resulting from application of the new calculus.¹⁹¹ But the bank's view of securitization exposure is still fundamentally altered because the economics of origination favor horizontal first-loss tranche retention.¹⁹²

Add all of this up, and investment by a bank in any structured product other than an agency-backed RMBS is affirmatively discouraged, not only by the equity capital charge, but also by the added transaction cost of calculating the risk weight.

E. Accounting

Structured finance posed a serious question for accounting standard setters: Should the SPE (and its debt obligations) be consolidated with the originator's balance sheet? The Financial Accounting Standards Board ("FASB") originally said no—the SPE debt could be incurred off-balance sheet provided that the asset transfer was a "true sale" and an unaffiliated party held a small sliver of the SPE's junior-most tranche.¹⁹³ It followed that a bank sponsor of a PLS deal could get off-balance sheet treatment even as it retained the right to service the mortgages being transferred to the SPE and simultaneously retained 90% of the structure's junior tranche.¹⁹⁴ Under this approach, the "true sale" that is the legal cornerstone of securitization had form without substance, for the seller retained the power to manage the asset and both the upside and downside risk of a change in its value.

Revised standards went into effect in 2010.¹⁹⁵ Under these, a securitization vehicle is classified as a "variable interest entity" ("VIE"), which is defined as an entity that either has no equity investors or whose equity investors do not control the business in their capacity as equity investors.¹⁹⁶ A party must consolidate a VIE if it has both the power to direct the activities that most significantly impact the VIE's economic performance and either an obligation to assume the VIE's losses or the right to receive benefits that could potentially be significant

190. See Credit Risk Retention, 79 Fed. Reg. 77,602, 77,637–41 (Dec. 24, 2014) (to be codified at 12 C.F.R. pt. 43) (setting out rules mandated by Section 941 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.).

191. *Id.* at 77,604.

192. *Id.* at 77,607.

193. See ACCOUNTING FOR TRANSFERS AND SERVICING OF FINANCIAL ASSETS AND EXTINGUISHMENTS OF LIABILITIES, Statement of Fin. Accounting Standards No. 140, §§ 83, 124 (Fin. Accounting Standards Bd. 2000).

194. See WILLIAM W. BRATTON, CORPORATE FINANCE: CASES AND MATERIALS 414–16 (8th ed. 2016).

195. See AMENDMENTS TO FASB INTERPRETATION NO. 46(R), Statement of Fin. Accounting Standards No. 167 (Fin. Accounting Standards Bd. 2009), which descended from FSP FIN 46(R)-5, FASB Staff Position (Fin. Accounting Standards Bd. 2005). The rules are now located in ASC 810, Consolidation. They were heavily revised in February 2015. See AMENDMENTS TO CONSOLIDATION ANALYSIS, Accounting Standards Update No. 2015-02 (Fin. Accounting Standards Bd. 2015).

196. See AMENDMENTS TO FASB INTERPRETATION NO. 46(R), Statement of Fin. Accounting Standards No. 167, Effective Date and Transition (Fin. Accounting Standards Bd. 2009); CONSOLIDATION OF VARIABLE INTEREST ENTITIES, FASB Interpretation No. 46, § 2(a) (Fin. Accounting Standards Bd. 2003).

to the VIE.¹⁹⁷ Under this standard, an originator retaining servicing rights and holding on to the junior tranche must consolidate the securitization entity.¹⁹⁸ Contrariwise, the securitization is off-balance sheet if the servicing is contracted out to a third party and the originator does not retain the junior tranche.¹⁹⁹

Consolidation conceivably can result solely as a function of servicing rights retention. To see why, consider the servicing of an RMBS. The servicer has the power to foreclose a mortgage in the SPE's asset pool in the event it defaults and the power to enter into an agreement that cures the default by modifying the mortgagor's obligations. These are "significant activities" that meet the first leg of the VIE test.²⁰⁰ The second, financial leg of the test can be triggered when servicing rights also entail financial risk. This is not uncommon. For example, servicers in Ginnie Mae guaranteed securitizations are required to take a loss position junior to that of the agency guarantor.²⁰¹ Such a guaranty satisfies the financial test and the originator thus will have to include the RMBS debt on its balance sheet.²⁰² Alternatively, if the compensation received for servicing is greater than what an arm's length third party would charge to perform the same administrative task, then potentially significant economic benefits are also being received,²⁰³ meeting the second leg of the test.

These rules pose a trade-off to an originating bank: taking maximum financial advantage of a securitization now means doing the deal on balance sheet; keeping the deal (and its debt) off balance sheet means limiting the bank's continuing financial interest in (and potential returns on) the assets. Restating, true sale now means what it says.

Banks are resolving the trade-off in favor of off-balance sheet treatment, as a look at a few big bank financial statements readily confirms.²⁰⁴ The choice is not just a function of management of the balance sheet's appearance. Consolidation has a knock-on effect under the bank capital rules and raises total equity capital required to support the balance sheet, lowering returns to the shareholders.²⁰⁵

197. DELOITTE, SECURITIZATION ACCOUNTING 7 (10th ed. 2017).

198. *Id.* at 6–23.

199. *Id.* at 27.

200. *Id.* at 10.

201. *Id.* at 16.

202. *Id.* at 51–52.

203. *Id.* at 51.

204. *See, e.g.*, Bank of America Corp., Annual Report (Form 10-K), 140–44 (Feb. 22, 2018) (showing that all credit card receivable securitizations are consolidated but relatively little of other types). JPMorgan Chase reported \$182.763 billion of securitized real estate, of which only 2% was consolidated. Its total consolidated securitizations amounted to \$73.1 billion, of which 89% was made of credit card receivables and multi-seller conduits. JPMorgan Chase & Co., Annual Report (Form 10-K), 237, 241 (Feb. 27, 2018).

205. *See* 12 C.F.R. § 217.2 (2019). Significantly, a 2017 Treasury Department report that laid out a long deregulatory wish list for companies in the financial sector, singled out this constraint. TREASURY REPORT, *supra* note 168, at 98.

F. Enforcement

1. Prosecution as a Regulatory Alternative

Although the Dodd-Frank Act does many things, it does not impose an ex post penalty for causing a financial crisis by taking and externalizing excessive risks. Such a mode of regulation is off-limits. Even assuming such a penalty could have a cost-beneficial deterrent effect, the definition of “excessive (but unregulated) risk” presents an insurmountable hurdle for the drafter. An empowered regulator conceivably could perform the backstop function of monitoring and checking excessive risk-taking in unregulated space—it would have to be an uncaptured agency with discretionary enforcement powers so great as to impose a conservative mindset on the entire financial sector by informal means. Some think that federal regulators had that kind of prestige and influence in the post-New Deal era.²⁰⁶ But any such power waned a long time ago.²⁰⁷ Regulators now bear the burden to specify and justify new constraints. Companies treat regulators as adversaries without fear of reprisal.

But the system has discovered ways to compensate, extracting compensatory and punitive give-backs from companies that otherwise benefit from the rollback of the big stick state.²⁰⁸ One such adjustment is tied to the rise of “compliance” as an independent regulatory concern. Even as companies are free to fight regulators tooth and nail in warding off new regulation, failures to comply with existing regulation are treated with increasing seriousness.²⁰⁹ The trend first showed itself when mandated internal compliance systems appeared in the Foreign Corrupt Practices Act of 1977.²¹⁰ Such mandates now apply across the board.²¹¹

Public enforcement, including criminal prosecution, is the other give-back. When a company’s compliance system breaks down and the company falls into shabby practices, takes excessive risks, and externalizes financial losses, it can fall to prosecutors to devise violations (criminal or civil) of open-ended statutory prohibitions against corruption.²¹² The Arthur Andersen accounting firm was the pre-crisis exemplar of this: it collapsed in 2002 after losing the first round of a post-Enron criminal prosecution.²¹³ The Supreme Court’s later rejection of the prosecutors’ broad reading of the statute underlying the indictment²¹⁴ vindicated

206. William W. Bratton & Michael L. Wachter, *Shareholder Primacy’s Corporatist Origins: Adolf Berle and the Modern Corporation*, 34 J. CORP. L. 99, 135–43 (2008).

207. William W. Bratton, *The Separation of Corporate Law and Social Welfare*, 74 WASH. & LEE L. REV. 767, 768 (2017).

208. See, e.g., Sarbanes-Oxley Act of 2002, 107 Pub. L. 204, § 308, 116 Stat. 745, 784.

209. 15 U.S.C. § 78dd-2(g) (2018).

210. Foreign Corrupt Practices Act of 1977, Pub. L. No. 95-213 § 30A, 91 Stat. 1494, 1495. The current version of the Foreign Corrupt Practices Act of 1977 is codified at 15 U.S.C. §§ 78dd-1 to 78dd-3 (2018).

211. See, e.g., 15 U.S.C. § 7262 (2018).

212. See, e.g., 15 U.S.C. § 78ff (2018).

213. See, e.g., N. Craig Smith & Michelle Quirk, *From Grace to Disgrace: The Rise & Fall of Arthur Andersen*, 1 J. BUS. ETHICS EDUC. 91, 91–93 (2004).

214. *Arthur Andersen LLP v. United States*, 544 U.S. 696, 705–06 (2005).

the firm's legal position but did not bring the firm back.²¹⁵ *Arthur Andersen* was effectively a backdoor return to the disused common law remedy of *quo warranto* dissolution of a miscreant company by the state's attorney general,²¹⁶ wielded not by an official in the state of incorporation but by a U.S. attorney.

The financial crisis had no Arthur Andersen, however: "too big to fail" ("TBTF") has that effect. Nor did the crisis result in widespread criminal prosecution of individual miscreants—the Jeff Skillings and Andy Fastows of the banks responsible.²¹⁷ The crisis did, however, trigger a civil enforcement initiative of unprecedented magnitude by federal and state regulatory agencies and prosecutors. The trick lay not only in the shift of framework but in the timing. TBTF meant that punitive retaliation had to be delayed until the banks were strong enough to withstand it.²¹⁸ Thus, billion-dollar settlements related to events that occurred in years prior to 2008 began to occur only in 2012, after the banks were on more solid financial footing.²¹⁹

The post-crisis enforcement push was so big as arguably to add an ex post deterrent to the front line of formal rules and regulations that constrain excessive risk taking. On this view of the world, banking, commodities, and securities law are now backstopped by an implicit threat: when an institution exploits loopholes to take excessive risks and then externalizes the negative effects of the resulting losses on the rest of the economy, federal regulators and prosecutors will extract a significant financial penalty afterward. TBTF status does not import an exemption because the enforcers wait until the crisis is past and the institution is out of danger before going forward.

The threat has a substantive kicker: there is no requirement of a well-tested legal theory. Andersen was an outlier in more ways than one: prosecutorial concoctions from open-ended statutory prohibitions are rarely tested in court because risk-averse institutions tend to settle, even in civil enforcement contexts where no "conviction" will be forthcoming.²²⁰ The enforcers who bring such proceedings wield preemptive power that primary financial and other regulators

215. Former Andersen partners bought the name in 2014 and changed the name of their San Francisco firm to "Andersen Tax." See James Titcomb, *Arthur Andersen Returns 12 Years After Enron Scandal*, TELEGRAPH (London) (Sept. 2, 2014, 11:22 AM), <https://www.telegraph.co.uk/finance/newsbysector/banksandfinance/11069713/Arthur-Andersen-returns-12-years-after-Enron-scandal.html>.

216. State attorney generals still have the power to seek dissolution. See, e.g., DEL. CODE ANN. tit. 8, § 284(a) (2019). But the remedy no longer figures importantly in business regulation.

217. To wit, Angelo Mozillo of Countrywide or Lloyd Blankfein of Goldman. For a cogent explanation as to why no prosecutions occurred, see David Zaring, *Litigating the Financial Crisis*, 100 VA. L. REV. 1405, 1437–45 (2014) (describing the government as shy of the level of difficulty, worried about unintended effects and overconfident about the impact of civil enforcement). The closest exception came with FDIC civil initiative against individual in charge of the failed S&Ls, WaMu and IndyMac. *Id.* at 1461–64.

218. Cf. Levitin, *supra* note 42, at 510–13 (proposing structuring bailouts as force-placed loans that are only to be repaid after crisis has passed).

219. Cf. Zaring, *supra* note 217 (identifying Bank of America's \$16.65 billion settlement, part of which was in response to its failure to disclose facts about securitized loans resulting in losses when the RMBS collapsed).

220. *Id.* at 1143 n.136

no longer possess.²²¹ The same company that defends stoutly and uncooperatively in rulemaking contexts,²²² treats a prosecutorial initiative with utmost risk aversion, making a quick deal.

At the same time, even as there is a new threat, its magnitude and parameters are not clear. The threat is not defined by a range of fines stated in an *ex ante* regulation, although the fines are subject to an implicit cap—we will not be seeing numbers so large as to impair a bank’s soundness and destabilize the financial system; there is no “death penalty” post-*Arthur Andersen*. Thus contained, the threat’s more particular magnitude follows from a projection of future enforcement behavior. One estimates a price tag by reference to the prosecutors’ past track record, and then discounts the number not only for time but for political economic vagaries.

2. *Post-Crisis Enforcement Initiatives*

How much of a threat have the post-crisis enforcers left behind? To get a picture of the enforcement initiative’s scope and magnitude we selected a sample of large banks, comprised of the twenty largest domestic bank holding companies with institutional continuity extending back to 2000.²²³ The banks on the list, as a practical matter, fall into two groups. The biggest six—JP Morgan Chase, Bank of America, Wells Fargo, Citigroup, Goldman Sachs, and Morgan Stanley (the “Top Six”)—are universal banks incorporating global investment banks. The remaining fourteen are very large commercial banks without global investment banking reach—U.S. Bancorp, PNC Financial Services, Bank of NY Mellon, Capital One Financial, State Street, BB&T, Charles Schwab, SunTrust Banks, American Express, Fifth Third Bancorp, KeyCorp, Northern Trust, Regions Financial, and M&T Bank (the “Second Group”). We collected data on all fines

221. See, e.g., 12 U.S.C. § 5552 (2018) (setting out state attorney general and state regulator enforcement powers).

222. See Romano, *supra* note 18, at 2 (suggesting that notorious delays in the implementation of Dodd-Frank provisions was due to intense lobbying by the affected parties).

223. This process began with the Financial Stability Board’s 2017 list of the largest U.S. bank holding companies and intermediate holding companies. See FIN. STABILITY BD., 2017 LIST OF GLOBAL SYSTEMICALLY IMPORTANT BANKS (G-SIBS) 1, 3 (2017), <https://www.fsb.org/wp-content/uploads/P211117-1.pdf>. The intermediate holding companies are U.S. establishments of large foreign banks. They were dropped on the theory that *ceteris paribus* a branch of a foreign bank might make more attractive enforcement target for a U.S. prosecutor than a domestic bank. The omitted banks are TD Group US, HSBC North America, Credit Suisse US, Deutsche Bank Trust, Barclays US, MUFG Americas Holdings, RBC US, UBS Americas, BNP, Santander Holdings USA, and BMO Financial. Two additional banks from the remaining top twenty on the ground we dropped on the ground that they lacked comparability from an enforcement point of view due to changes in their institutional profiles between 2000 and 2018. One, Ally Financial, formerly was General Motors Acceptance Corporation and emerged from bankruptcy as an independent bank. The other, Citizens Financial, was the domestic arm of The Royal Bank of Scotland until 2014.

We did the same statistical workup on the intermediate holding companies that we did for the domestic banks. They break down into two groups that resemble the breakdown of the domestic banks. One group, comprised of HSBC, Credit Suisse, Deutsche Bank, and Barclays was swept up in the Task Force enforcement effort and paid significant fines. A second and partially overlapping group of four, Deutsche Bank, Barclays, UBS, and BNP, paid significant fines in connection with enforcement actions relating to the LIBOR rate fixing scandal. Otherwise the picture resembles that of the domestic Second Group.

and damage settlements incurred in connection with federal enforcement actions against each bank holding company and all constituent companies from 2000 to June 5, 2018.²²⁴

Some bold patterns emerge. A look at the bottom line of Table 1²²⁵ shows that 96.7% of fines and damages incurred date from 2009 and thereafter, strongly implying a concerted and broad-based enforcement response to the crisis. Enforcement activity increased almost across-the-board, sweeping in anti-discrimination, foreign trade, and antitrust regulation in addition to subject matters related to the financial crisis.²²⁶ The only categories in which incurrence slacked off after 2008, in the sense that less than 85% percent of activity occurred thereafter, were securities and commodities regulation and labor law.²²⁷

Table 1's categorical breakdown adds detail to the picture. Crisis-related subject-matter looms overwhelmingly after 2008. A total of 83.7% of all fines and damages incurred during the period 2000–2018 fall into the “mortgage and securitization” category and concerned either (1) securitization in the consumer real estate sector, in particular defalcations connected to the origination and packaging of mortgages into RMBS; and (2) the servicing of defaulted mortgages during and after the financial crisis.²²⁸ This is an enforcement category that for all intents and purposes did not exist before the financial crisis: 99.9% of the fines in the category were incurred beginning in 2009.²²⁹

A few more situation-specific, but nonexclusive reasons for the shift in enforcement should be mentioned. First, politics might have played a role. A new Democratic administration came into office in 2009, an administration presumptively more inclined toward enforcement initiatives than either its Republican predecessor or successor. Second, enforcement actions are reactive and commence only after a period of investigation. As long as the economy kept humming along until 2007, there was little reason for prosecutors to go poking around the home mortgage and financial markets. It is not surprising to see an uptick in enforcement after 2008, once deals had gone bad and the mobs were out with pitchforks howling against bailouts and in favor of accountability at the banks. And third, as noted, prosecutors and regulators were reluctant to squeeze the banks until the financial system had stabilized, lest they contribute to the financial crisis themselves.

224. The data are collected from the Good Jobs First Violation Tracker. GOOD JOBS FIRST VIOLATION TRACKER, <https://www.goodjobsfirst.org/violation-tracker> (last visited Dec. 3, 2019).

225. The second category, banking other than consumer-related concerns enforcement of the regime of bank regulation including regulations respecting money laundering. The fourth category, “other banking-related consumer-related regulation” includes enforcement activities by the Consumer Financial Protection Bureau and enforcement activity concerning credit cards, FTC actions and actions under the Servicemen's Civil Relief Act. *See infra* Table 1.

226. *Id.*

227. The falloff in securities activity is more apparent than real in any event—the “mortgage and securitization” enforcement, although not based on federal securities law, concerned activity in the securities markets. *Id.*

228. *Id.*

229. *Id.*

TABLE 1: TOP 20 BANKS: FINES INCURRED, 2000-2018

Category	Nominal Amount	Percentage Incurred 2009-2018	Percentage of Total
Mortgage and Securitization	\$114,732,145,751	99.9	83.7
Banking (other than consumer-related)	\$7,335,851,414	88.9	5.6
Securities and Commodities Regulation	\$5,773,754,724	34.4	4.2
Other Banking-Related Consumer Protection Regulation	\$2,716,517,000	88.4	2
Housing and Services Discrimination	\$1,015,113,118	96.5	0.7
Energy Regulation	\$460,000,000	89.1	0.3
Antitrust	\$380,800,000	100.0	0.3
Economic sanctions	\$105,936,859	98.9	0.07
Employment Discrimination	\$61,086,323	94.3	0.04
Labor	\$12,798,031	27.9	0.01
Environmental Regulation	\$1,771,892	99.6	0.001
Total	\$137,113,959,734	96.7	

Within the “mortgage and securitization” category, 61.8% of the fines were incurred in connection with settlements reached under two Obama administration enforcement initiatives, both under the aegis of a Financial Fraud Enforcement Task Force (the “Task Force”) organized in November 2009 to combat “financial fraud.”²³⁰

The first, and larger initiative is the RMBS Working Group, a collection of more than 200 attorneys from dozens of federal and state agencies (including the Securities and Exchange Commission (“SEC”), the Department of Housing and Urban Development (“HUD”), and the Federal Reserve) under the leadership of the Department of Justice (“DOJ”), assembled for an “enforcement effort focused on investigating fraud and abuse in the RMBS market that helped lead to the 2008 financial crisis.”²³¹

The second, smaller, initiative was more focused. Here, the DOJ, together with HUD and the attorneys general of forty-nine states, brought claims against the five largest bank servicers (Bank of America, JPMorgan Chase, Wells Fargo, Citigroup, and Ally Financial (formerly GMAC)) “relating to mortgage servicing abuses including abuses in the bankruptcy process.”²³² In 2012, this initiative

230. Exec. Order No. 13,519, 3 C.F.R. § 13,509 (2010).

231. See, e.g., DEP’T OF JUSTICE, OFFICE OF PUB. AFFAIRS, *Justice Department, Federal and State Partners Secure Record \$13 Billion Global Settlement with JPMorgan for Misleading Investors About Securities Containing Toxic Mortgages*, (Nov. 19, 2013), <https://www.justice.gov/opa/pr/justice-department-federal-and-state-partners-secure-record-13-billion-global-settlement>.

232. DEP’T OF JUSTICE, *The National Mortgage Settlement*, <https://www.justice.gov/ust/national-mortgage-settlements> (last updated Oct. 3, 2019).

resulted in a group settlement with a nominal amount of \$25 billion,²³³ making up 21% of the \$114.7 billion in the mortgage and securitization category.

Other federal enforcement activity accounts for the remaining yield of fines in the category—activity yielding a not inconsiderable figure of \$43.9 billion in our dataset.²³⁴ These actions emanated mainly from the Office of the Comptroller of the Currency, the Federal Housing Finance Agency (“FHFA”), Fannie Mae, and Freddie Mac.²³⁵ Here, the main push came from “putback” actions instituted by Fannie Mae, Freddie Mac, and the FHFA. The packaging of mortgages into GSE securitizations entails representations and warranties from the seller-packager regarding the mortgages and their underwriting.²³⁶ When the representations and warranties turn out to have been untrue, the GSEs can force the packager to repurchase it.²³⁷

3. *The Bank Targets*

There is a skew in the incidence of enforcement activity, particularly in the mortgage and securitization category. The fines fall disproportionately on the Top Six banks. Figure 2 shows the percentage of total fines and damages (95.7%), mortgage-related fines and damages (98.3%), and other fines and damages (87.6%) incurred by the Top Six, all of which outstrip the group’s 75.6% share of the top twenty banks’ total assets.²³⁸

233. *Id.*

234. *See supra* Table 1.

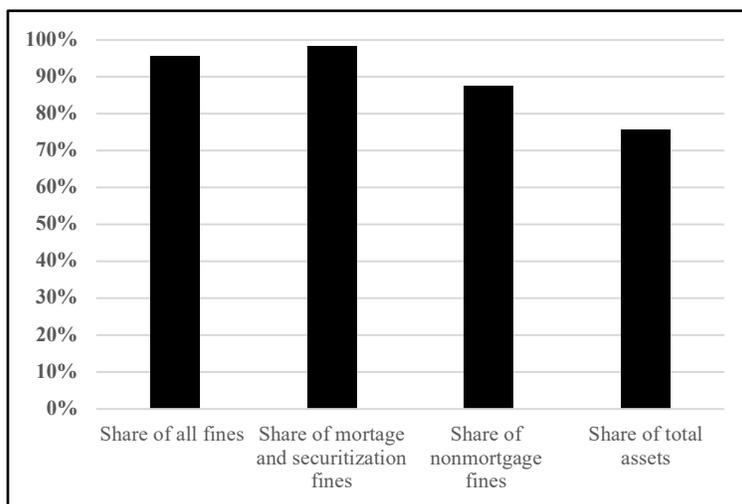
235. Resolution is ongoing. Bank of America, for example, reports \$17.634 billion of unresolved repurchase claims related to past securitizations in its 2017 financials. Bank of America Corporation, Form 10-K for the Fiscal Year Ended December 31, 2017, *supra* note 204, at 144.

236. *See, e.g.*, FANNIE MAE, *Selling Guide: Fannie Mae Single family*, § A2-2-01, Dec. 4, 2018, <https://www.fanniemae.com/content/guide/sel120418.pdf>.

237. Our figures only represent public settlements of disputed repurchase claims. The GSEs have also consensually settled billions in repurchase claims. From 2009 through 2017, the GSEs have forced sellers to repurchase over \$78 billion in mortgages, but have also withdrawn nearly \$64 billion in additional repurchase claims. *See* Inside Mortgage Finance, 2018 Mortgage Market Statistical Annual: GSE Repurchase Activity.

238. The assets taken as of the banks’ most recent calendar year, 2017. *See infra* Figure 2.

FIGURE 2: TOP SIX BANKS SHARE OF FINES INCURRED AND TOTAL ASSETS



We can heighten the contrast by taking some averages. The mean of the total assets of the Top Six is 7.2 times greater than the mean of the assets of the Second Group; the mean of fines incurred by the Top Six in the mortgage and securitization category is 111 times the mean of the fines incurred in the category by banks in the Second Group. For all fines and damages (not just mortgage and securitization-related) the size multiplier between the average paid by the Top Six and the average paid by the Second Group is fifty-two. It should be noted that for all fines and damages *outside* of the mortgage and securitization category, the Top Six/Second Group size multiplier is a much smaller 12.5. But that is still a 74% increase over the asset-based size multiplier of 7.2.

In sum, enforcement activity against banks is up across-the-board since the crisis, especially against the biggest banks. By far the largest chunk of fines incurred stemmed from the work of the Task Force and was laid at the door of the Top Six. This was in part directly tied to subject matter—the enforcers focused on the packaging of RMBS and the Top Six (including banks they acquired as the financial crisis unfolded, which included Bear Stearns, Countrywide, Merrill Lynch, and Washington Mutual) were amongst the largest packagers.²³⁹ But there was more going on—enforcement activity lay disproportionately against the Top Six in all subject matter categories.²⁴⁰ This suggests that a target's public salience matters to the enforcers. It is also possible that there is a cultural tendency toward risk taking and noncompliance within universal banks.

239. See Bubb & Krishnamurthy, *supra* note 107, at 1581–82 (listing the top 20 securitizers). The Top Six plus banks they acquired are ten of the twenty. Five were excluded from our sample as U.S. establishments of foreign banks (Credit Suisse, Deutsche, RBS, UBS) or for institutional discontinuity (GMAC); they were not excluded from Task Force enforcement. The remaining five include one bank that collapsed, IndyMac, and four nonbank originators. Three of them collapsed—Lehman, Ameriquest, and New Century. The fourth, Option One, survived as a mortgage servicer.

240. See *supra* note 237 and accompanying text.

Can we fairly call this scapegoating? Not if one takes a step back and looks at the enforcement effort as a form of payback for the financial crisis. From that perspective, the Top Six and the Second Group are indeed materially different, for as between the Top Six and the Second Group, it was the Top Six that caused the financial crisis, fully justifying these banks' selection as targets.

4. *Subject Matter*

The Task Force, then, can be seen to have “gone after” the banks that caused the financial crisis, appropriately targeting securitization as a proxy for having done so. But a skew in the particulars of the enforcement effort also needs to be noted, for the enforcers focused on only one part of a two-part causal fact pattern.²⁴¹

They singled out the packaging of mortgages into RMBS but not the creation, marketing and purchase of the CDOs that made subprime lending possible and then concentrated first-loss risk on the mortgages in critical, highly leveraged nodes in the system.²⁴² The enforcers, in constructing their bills of particulars and legal theories, looked for old-fashioned fraud regarding the quality and origination of the mortgages in the RMBS pools. They bypassed the excessive risk-taking bound up in the creation of the subprime mortgage market and the pecuniary externalities stemming therefrom.²⁴³ The secondary initiative against mortgage servicers, which resulted in one-third of fines incurred in connection with Task Force settlements, addressed an effect rather than the cause of the crisis.²⁴⁴ The servicing actions amounted partly to a consumer protection initiative and partly to a phase of a larger campaign to rehabilitate the infrastructure of the residential mortgage market.

This does not go to say that CDOs entirely slipped through the enforcement net. The first wave of the post-crisis enforcement concerned synthetic CDOs. It began in 2010 with an SEC action against Goldman Sachs concerning Goldman's Abacus synthetic securitization,²⁴⁵ positions in which had been recklessly marketed and resulted in total losses for those holding long positions.²⁴⁶ The \$550 million Goldman settlement, a record at the time, was followed by similar

241. See *infra* note 242 and accompanying text.

242. See THE FINANCIAL CRISIS INQUIRY COMM'N, THE FINANCIAL CRISIS INQUIRY REPORT: FINAL REPORT OF THE NATIONAL COMMISSION ON THE CAUSES OF THE FINANCIAL CRISIS IN THE UNITED STATES 127–50 (2011).

243. See, e.g., *id.* at 113–18, 120–30, 143–46, 188–89.

244. Matthew C. Turk, *Securitization Reform after the Crisis: Regulation by Rulemaking or Regulation by Settlement?*, 37 B.U. REV. BANKING & FIN. L. 861 (2018).

245. Bratton & Levitin, *supra* note 2, at 847–57. For discussion of other SEC initiatives related to the financial crisis, see Zaring, *supra* note 217, at 1447–54 (discussing in addition to the synthetic CDO actions, enforcement concerning disclosure failures in respect of deteriorating conditions at banks and money funds and actions connected to the failure of the market in auction rate securities).

246. Bratton & Levitin, *supra* note 2, at 847–59.

SEC proceedings against nine other banks in respect of synthetics.²⁴⁷ The settlements, concluded through 2014, had a \$3.76 billion nominal amount.²⁴⁸ These are big numbers when considered against pre-crisis enforcement initiatives against financial institutions. But the numbers do not impress at all when considered against the Task Force yield. There is also a point of commonality. The SEC, when devising its legal theories against the packagers of synthetics, went to the same well later visited by the Task Force.²⁴⁹ Its enforcers targeted misstatements in the offering process, but not the reckless magnification of the risk attending subprime mortgages facilitated by the transaction form.

These observations should not be taken to say that the Task Force was averse to theoretical innovation, even as it hewed to traditional bases of liability. It had a taste for finding new bottles for the old wine. It avoided federal securities law, even as it packaged what amounted to old-fashioned securities law complaints. It drew instead on the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (“FIRREA”)²⁵⁰ and the False Claims Act,²⁵¹ a post-Civil War *qui tam* statute, framing allegations out of whole doctrinal cloth. It had its reasons for so doing—FIRREA has a long limitations period and a low threshold for proof of claim, and the False Claims Act has a treble damages kicker.²⁵² Even so, none of the banks forced the Task Force to test its novel statutory applications in court and so none of the theories was ever adjudicated. The entire yield of fines and damages was raised at the settlement table.²⁵³

Thus were billions of dollars extracted based on expedient, untested legal theories. The targeted banks were on the defensive and so could have deemed themselves compelled to settle even where the long-term odds might have favored spirited defense.²⁵⁴ In the final tally, then, prosecutorial discretion rather

247. See Zaring *supra* note 217, at 1448–49.

248. See Sec. & Exch. Comm’n, *SEC Enforcement Actions: Addressing Misconduct that Led To or Arose from the Financial Crisis* (Oct. 7, 2016), <https://bit.ly/2b9w82o>; Turk, *supra* note 244 (listing Goldman, Wachovia, JP Morgan Chase, Credit Suisse, UBS, RBS, Merrill Lynch, and Morgan Stanley).

249. See DEP’T OF JUSTICE, OFFICE OF PUB. AFFAIRS, *Justice Department, Federal and State Partners Secure Record \$13 Billion Global Settlement with JPMorgan for Misleading Investors About Securities Containing Toxic Mortgages* (Nov. 19, 2013), <https://www.justice.gov/opa/pr/justice-department-federal-and-state-partners-secure-record-13-billion-global-settlement>.

250. Financial Institutions Reform, Recovery, and Enforcement Act of 1989, Pub. L. No. 101-73, 101 Stat. 183 (1989) (codified at 12 U.S.C. § 1833a (2018)) (imposing civil liability for acts of fraud committed against banks with federally-insured deposits). Under the novel theory of liability devised by the Task Force, the target bank violates FIRREA by defrauding itself. See Turk, *supra* note 248.

251. False Claims Act, 31 U.S.C. §§ 3729–3733 (2018). The statute prohibits making false claims to the government, a role played in this case by Fannie Mae. See Turk, *supra* note 244.

252. Patricia A. McCoy & Susan Wachter, *Representations and Warranties: Why They Did Not Stop the Crisis*, in EVIDENCE AND INNOVATION IN HOUSING LAW AND POLICY 300 (Lee Anne Fennell and Benjamin J. Keys eds., 2017). There was also an unusual reliance on state Blue Sky laws. *Id.*

253. There was some successful defense as regards the GSE put backs, however. See U.S. *ex rel.* Edward O’Donnell v. Countrywide Home Loans, 822 F.3d 650 (2d Cir. 2016) (rejecting the government’s culpability theory and incorporating the common law’s contemporaneous fraudulent intent principle into FIRREA).

254. Steven L. Schwarcz, *Securitization Ten Years after the Financial Crisis: An Overview*, 37 B.U. REV. BANKING & FIN. L. 757, 763 (2018).

than lawmaking determined the outcomes, with the economic cost falling entirely on the banks' shareholders. Rule of law problems attend such exercises of "regulation by settlement."²⁵⁵

These rule of law deficiencies do not deprive the enforcement push of legitimacy, at least not for us. As we see it, what comes around goes around: just as a financial crisis, by definition, requires regulators to put their standard playbooks to one side and extemporize,²⁵⁶ so might a financial crisis justify an improvisational ex post reckoning by government enforcers, especially in a political economy allergic to heavy-handed ex ante regulation.

5. *Magnitude*

The more worrisome criticism of the enforcement surge concerns its magnitude. The critics take opposing positions. Some, principally in Europe, worry that the enforcers have gone too hard on weak banks, which otherwise would be more strongly capitalized.²⁵⁷ Their opposite numbers scoff at claims of deterrent effectiveness, characterizing the penalties as a cost of doing business: so long as the present gain from a risky line of investment exceeds the discounted expected penalty cost, the banks will continue to run the enforcement risk.²⁵⁸ The critics add that effective deterrence presupposes human rather than corporate enforcement targets,²⁵⁹ of which none emerged in the wake of the financial crisis.²⁶⁰

So, how much deterrent effect did the enforcement surge leave behind? To see how large the numbers loom, let us take Task Force yield against the Top Six, average it, and then compare it to the average 2017 financial results of the banks in the group. The idea is to get a sense of the magnitude of the fine set in a settlement concluded a few years ago from the point of view of a present-day bank evaluating enforcement risk looking forward. Table 2 sets out the results.

255. *Id.*

256. See Gelpern, *supra* note 16, at 1058–71.

257. See EUROPEAN SYSTEMIC RISK BD., EUROPEAN SYS. OF FIN. SUPERVISION, REPORT ON MISCONDUCT RISK IN THE BANKING SECTOR 12–16 (2015).

258. Hannes Köster & Matthias Pelster, *Financial Penalties and Bank Performance*, 79 J. BANKING & FIN. 57, 57 (2017).

259. See Schwarcz, *supra* note 254, at 761; William W. Bratton & Michael L. Wachter, *The Political Economy of Fraud on the Market*, 160 U. PA. L. REV. 69, 103–17 (2011).

260. Jed S. Rakoff, *The Financial Crisis: Why Have No High-Level Executives Been Prosecuted?*, N.Y. REV. BOOKS (Jan. 9, 2014) <https://www.nybooks.com/articles/2014/01/09/financial-crisis-why-no-executive-prosecutions/>.

TABLE 2: TASK FORCE SETTLEMENTS AS PROSPECTIVE PENALTIES

	Top Six	Second Group
Average fines to average 2017 net assets	1.10%	0.07%
Average fines to average 2017 shareholders' equity	10.10%	0.60%
Average fines to average 2017 net earnings	124.50%	6.40%

If we compare the average Big Six settlement to average Big Six total assets, we get a bite of an unimpressive 1% of the bank.²⁶¹ If we switch our metric to average shareholders' equity, the figure increases to 10%, which is still financially unimpressive, even as one can imagine it arousing the concern of a safety and soundness regulator and triggering some unwelcome financial adjustment at the bank.

Only when we turn the metric to net earnings do we see the Task Force finally draw some financial blood—the analysis shows that the average settlement wipes out a year and quarter's worth of shareholder return. But, significantly, the settlements only loom this large at the Top Six. In the Second Group, average Task Force settlements amount to only 6.4% of 2017 average earnings and are miniscule when compared to assets and shareholders' equity.²⁶²

With a little bit of work, we have thus managed to coax out a scary-looking statistical snapshot from the enforcement fact pattern. But how big is the scare (and the concomitant deterrent constraint) in the real world? Much less than appears, unfortunately, for none of the banks actually experienced a net loss year as a result of its Task Force settlement process. JP Morgan Chase, to take an example, did not in 2013 write a single \$18.33 million check that erased its earnings for the year.²⁶³ Like the other Top Six, JP Morgan entered into its Task Force settlements over two years, in this case in 2012 (\$5.33 billion) and in 2013 (\$13 billion).²⁶⁴ Net of whatever expense charges were taken due to the settlements, the bank still reported \$21.28 billion in after tax earnings in 2012 and \$17.92 billion in 2013.²⁶⁵ Red ink would have been unlikely even if both settlements had come in the same year. Indeed, JP Morgan, like all companies accounting under GAAP, establishes an accounting reserve for contingent liabilities, expensing them on an anticipated basis before any payment is made.²⁶⁶ It thereby smooths the negative effect of enforcement actions on its earnings across multiple periods.

261. *See supra* tbl. 2.

262. *Id.*

263. Assuming no related run on the bank, it could have written the check in 2013. It had \$39.7 billion in its own cash account and \$316 billion on deposit at other banks at the end of the year and \$211.2 billion of shareholders' equity. *See generally* JP MORGAN CHASE & CO., ANNUAL REPORT 2013 (2013).

264. JP Morgan Chase & Co., Annual Report (Form 10-K) 68 (Apr. 9, 2013).

265. *Id.* at 1.

266. An estimable and probable liability is expensed on the income statement in advance of incurrence and booked as a balance sheet liability. *Id.* at 326; *see* CONTINGENCIES, Proposed Accounting Standards Update, Topic 450 (FIN. ACCOUNTING STANDARDS BD. 2010) (reporting an estimated \$0 to \$5 billion of possible liability above its loss reserve).

Let us further unpack JP Morgan's settlements. The larger of the two was a \$13 billion agreement in respect of RMBS.²⁶⁷ Only \$2 billion of the \$13 billion involved the payment of outright civil penalties to the federal government.²⁶⁸ The lion's share, \$9 billion, went to a variety of governmental entities to settle various fraud-related claims, and amounted to compensatory damages.²⁶⁹ The last \$4 billion was a future commitment to come to the aid of consumers with mortgage modifications and new originations,²⁷⁰ a figure accordingly in need of discounting for time value and uncertainty. JP Morgan also was one of the five mortgage servicers party to the "National Mortgage Settlement" of 2012, contributing \$5.33 to a total of \$25 billion.²⁷¹ In that case, all of the sums were either compensatory or involved future aid commitments—technically, there were no penalties at all.

Why do government enforcers prefer to settle for compensatory damages and future grants to consumers rather than for penalties? It may be that they have no such preference and that the motivation came from the banks' side of the table. Under Internal Revenue Code section 162(f), a payment to the government "in relation to the violation of any law" is not a deductible business expense, but the deduction does obtain for payments in restitution or remediation.²⁷² The banks accordingly would have been keenly interested in steering the settlements away from penalties and much more willing to sign off on a compensatory recovery. This seems to be what happened, and it much blunts the settlements' deterrent blow.

Indeed, the stock market rewarded the settling banks. Studies of the behavior of bank stocks show slightly abnormal negative cumulative returns around the date an enforcement initiative is first announced, reflecting an expected reduction in cash flows, increased business risk, and reputational damage.²⁷³ Around the date of the settlement, in contrast, there are slightly positive returns,²⁷⁴ reflecting either relief and dissipating uncertainty about an outcome or an expectation of governance improvements incident to the bank's experience as an enforcement target.²⁷⁵ One study also confirms that settlements have a significant negative effect on earnings going forward, but only on pre-tax earnings.²⁷⁶

267. Press Release, Dep't of Justice, Justice Dep't, Fed. and State Partners Secure Record \$13 Billion Global Settlement with JPMorgan for Misleading Investors about Sec. Containing Toxic Mortgages (Nov. 19, 2013), <https://www.justice.gov/opa/pr/justice-department-federal-and-state-partners-secure-record-13-billion-global-settlement>.

268. *Id.*

269. *Id.*

270. *Id.*

271. Press Release, Dep't of Justice, Federal Government and State Attorneys General Reach \$25 Billion Agreement with Five Largest Mortgage Servicers to Address Mortgage Loan Servicing and Foreclosure Abuses (Feb. 09, 2012), <https://www.justice.gov/opa/pr/federal-government-and-state-attorneys-general-reach-25-billion-agreement-five-largest>.

272. 26 U.S.C. § 162(f) (2018).

273. See Köster & Pelster, *supra* note 258, at 5 (surveying the literature).

274. Sharadha V. Tilley et al., *An Empirical Analysis of the Impact of Fines on Bank Reputation in the US and UK*, 18–19 (2018), <https://ssrn.com/abstract=2980352> (last visited Dec. 3, 2019).

275. Köster & Pelster, *supra* note 258, at 5–6.

276. *Id.* at 4.

On an after-tax basis, the study shows no significant effect on bank profitability,²⁷⁷ a result dependent on a compensatory characterization on amounts paid under the settlement.

A *caveat* should be entered to this discussion, which has been very much focused on the Task Force. The banks greeted GSE and FHFA “putback” enforcement under FIRREA and the False Claims Act with a more conventional adversarial response. Bank of America, for example, successfully appealed a \$1.2 billion verdict.²⁷⁸ They also threatened to steer their business plans away from residential lending.²⁷⁹ Wells Fargo’s CEO addressed put back enforcers as follows in an August 2014 interview: “If you guys want to stick with this [program] of ‘putting back’ any time, anyway, whatever, that’s fine, we’re just not going to make those loans, and there’s going to be a whole bunch of Americans that are underserved in the mortgage market.”²⁸⁰ In other words, as long as the GSEs were going to insist on enforcing representations and warranties, the banks would take their toys and go home.

Why the usual stonewalling with the GSEs, but quiet cooperation with the Task Force? We attribute the difference to immediate implications for the banks’ business plans. Where the Task Force raked the coals of history, the GSE putbacks had threatening implications for transactions in the post-crisis pipeline.

Unsurprisingly, the putback push back got results for the banks. The FHFA, due to concerns about overly aggressive representation and warranty enforcement, announced in 2012 that representations and warranties regarding loans in future GSE securitizations would not be enforced if the loan did not default in the first three years.²⁸¹

277. *Id.* at 13.

278. Elkan Abramowitz & Jonathan Sack, *Implications of ‘Countrywide’ for Mail and Wire Fraud Prosecutions*, 256 N.Y.L.J. 1, 1 (2016).

279. *Id.*

280. Camilla Hall, *Wells Chief Warns on Mortgage Lending*, FIN. TIMES, Aug. 26, 2014.

281. News Release, Federal Housing Finance Agency, FHFA, Fannie Mae and Freddie Mac Launch New Representation and Warranty Framework, (Sept. 11, 2012); see NEW LENDER SELLING REPRESENTATION AND WARRANTIES FRAMEWORK, FANNIE MAE 2–3 (Sept. 11, 2012).

There is a private enforcement parallel regarding reps and warranties putbacks and a long list of cases. Here the frequent question is whether the plaintiff must follow the literal words of the servicing agreement and show a misrepresentation regarding individual loans in the pool or may proceed by way of a statistical sampling. The answer has changed over time, with the trend now against sampling. Compare *MBIA Ins. Corp. v. Countrywide Home Loans Inc.*, 958 N.Y.S.2d 647, *5 (N.Y. Sup. Ct. Dec. 22, 2010)(permitting plaintiff monoline insurer to use a sampling methodology in pursuing and action for breached representations and warranties), and *Assured Guaranty Municipal Corp. v. Flagstar Bank*, 920 F. Supp.2d 475, 513–17 (S.D.N.Y. 2013)(sustaining a damages calculation based on sampling methodology), with *MASTR Adjustable Rate Mortgages Tr. 2006-OA2 v. UBS Real Estate Sec. Inc.*, No. 12-CV-7322 PKC, 2015 WL 797972, at *3 (S.D.N.Y. Feb. 25, 2015)(requiring evidence of breach regarding individual loans). For discussion, see Emily Strauss, *Crisis Construction in Contract Boilerplate 17–22* (Aug. 22, 2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3446156 (explaining the shift in interpretive approach); Tracy Lewis & Alan Schwartz, *Unenforceable Portfolio Contracts 3–9* (Apr. 25, 2019), <https://ssrn.com/abstract=3361222> (contending that representations and warranties regarding mortgages in RMBS pools are intrinsically unenforceable and recommending that the Federal Reserve Board or the UCC Permanent Editorial Board create a task force to draft sample solutions).

6. *Evaluation*

It seems, then, that there is less deterrent impact than meets the eye looking at the \$137 billion bottom line. The message going forward *should* be that a bank, in the wake of significant financial externalization involving regulatory arbitrage, can expect to see the Feds show up and extract at least 125% of one year's earnings. But that is not quite the numerical takeaway yielded by review of the track record. The enforcers shied away from challenges based on the financial crisis writ large and instead cabined their claims into classic transactional categories like fraud and breach of contract, which limited the initiative's prospective deterrent impact. The Task Force in effect invented two vague torts for the occasion, one related to shabby residential mortgage securitization and the other to shabby servicing,²⁸² both involving misconduct unlikely to be repeated (at least on the same scale) in the post-crisis regulatory environment. The policy problem, however, going forward is risk management at large financial institutions, whether or not regulated as banks. In other words, the enforcement targeting failed to relate to the real policy problem.

Let us nonetheless attempt to put a positive gloss on this enforcement precedent. On this view, the terms of the complaints are neither here nor there. The Task Force was there to extract payback for the crisis²⁸³ from the big players that caused it. Given the motivation and target profile, the initiative's more particular legal details can be dismissed as unimportant, more a matter of optics than of substance. The enforcers doubtless found that theories more closely related to traditional fraud and consumer abuse imparted better settlement traction than would have a substantively novel theory grounded in the economics of the crisis. The message going forward is that a TBTF bank, in the wake of significant financial externalization involving regulatory arbitrage, can expect to see the Feds show up and extract a year-and-a-quarter's earnings based on whatever theory resonates in the circumstances.

One hopes the more positive reading is fair. If it is, there is a follow-up argument in the enforcers' favor: as compared with new affirmative regulation, an *ex post*, punitively motivated enforcement blow carries a reduced the risk of unintended future effects. Critics of financial regulation, particularly regulation enacted in the wake of a crisis, allege that there is a tendency to impose crude off-the-rack policy solutions that turn out to be flawed but nonetheless survive indefinitely due to a structural bias favoring the status quo.²⁸⁴ An impromptu *ex*

282. Professors Turk and Schwarcz differ as regards the standard of culpability, Professor Turk describing a negligence tort and Professor Schwarcz seeing strict liability on the ground the settlements followed from political expediency. Schwarcz, *supra* note 254, at 4–5.

283. This is Professor Turk's view. See Turk, *supra* note 248, at 3 (“[R]egulation by settlement in the securitization area can be justified on two grounds. For one, it can be seen in second best terms as an imperfect but much-needed backstop against the problem of regulatory arbitrage, which is endemic to the financial system and will inevitably be attendant to cumbersome statutory regimes such as the Dodd-Frank Act. More surprisingly, regulation by settlement can be understood as a first best policy response, because in practice it functions to impose a fairly well-tailored Pigouvian tax on the specific externality costs that accompany securitization.”).

284. See Romano, *supra* note 18, at 1 (describing a one-way ratchet and recommending a sunset procedure).

post enforcement strike lacks any such dead weight. Indeed, we saw that in the one case where the enforcement initiative destabilized the present lending arrangements—the putback initiative—the FHFA promptly imposed a prospective time cap.²⁸⁵

There's still a residual question about the numbers. We have seen that even an \$18.33 billion settlement tab is insufficient in magnitude to trigger red ink in the settlement year.²⁸⁶ Income smoothing and tort-based enforcement theories lending themselves to tax deductibility soften any such blow. It follows that it would take even bigger penalty numbers to send an institutional message with culture-altering shock value. The problem is that the higher the number goes, the more likely the enforcement initiative materially impairs safety and soundness. Thus, the system intrinsically caps the deterrent magnitude of enforcement initiatives that target the banks as corporate entities.²⁸⁷ This returns us to the standard criticism of enforcement initiatives targeting corporations: If deterrence really is the enforcement objective, future initiatives must go where the Task Force did not, targeting the individuals in charge of bank investment policy rather than the banks themselves, both individuals at banks and individuals at other financial institutions situated at the system's risk nodes.

IV. MARKET RESPONSES

This Part takes a new look at the four sectors of the structured products market that played leading causative roles in the financial crisis—agency-backed home mortgage origination and securitization, other private label securitization, synthetic securitization, and structured investment vehicles—and looks for traces and replications of pre-crisis toxicity.²⁸⁸ A mixed report card results. Although the subprime mortgage machine was never reassembled after its collapse, many of its individual components are still on the table for utilization. Their availability to cater to appetites for risk varies with the venue. Post-crisis regulation constrains utilization by banks more tightly than utilization by nonbanks.²⁸⁹ Meanwhile, nonbank lending and other risk taking is on the rise, some cases anticipated by the regulators and others not.²⁹⁰ Restating, regulatory arbitrageurs are hard at work in the post-crisis framework. Structured finance, battered and reduced by the crisis, is recovering, with the rate of recovery following directly from the particular product's track record for reliability.

285. See Federal Housing Finance Agency, *supra* note 281.

286. JP Morgan incurred the \$18.33 over 2012 and 2013. Net of the whatever hit it took in those years, it still showed after tax earnings of \$21.28 billion in 2012 and \$17.92 billion in 2013.

287. Cf. Eric J. Mogilnicki & Melissa S. Malpass, *The First Year of the Consumer Financial Protection Bureau: An Overview*, 68 BUS. LAW. 557, 559 (2012) (commenting that the CFPB “flips the safety and soundness regulatory paradigm on its head” by directing scrutiny to the banks’ most profitable product lines).

288. FINANCIAL CRISIS INQUIRY COMM’N, *supra* note 242, at xvi.

289. Mogilnicki & Malpass, *supra* note 287, at 558.

290. Diana Olick, *Subprime Mortgages Make a Comeback—With a New Name and Soaring Demand*, CNBC (Apr. 12, 2018, 1:54 PM), <https://www.cnbc.com/2018/04/12/sub-prime-mortgages-morph-into-non-prime-loans-and-demand-soars.html>.

A. The Agency-Backed Home Mortgage Market

The home mortgage market has experienced a post-crisis expansion fueled by low interest rates and the support of securitization programs under the sponsorship of the GSEs and Ginnie Mae.²⁹¹ It also has experienced structural change. Nonbank mortgage originators have an expanding market share, once again supplying credit to the market's weaker consumers.²⁹² The nonbank share is not only greater than it was pre-crisis, it now amounts to more than half of the market.²⁹³ The banks, still reeling from the shock of the post-crisis enforcement initiative, have shifted to indirect participation in the sector, providing warehouse lending to the nonbank originators, while reducing direct contact with consumers.²⁹⁴ New questions about safety and soundness arise in the wake of the shift.

1. The Emergence of Ginnie Mae and Nonbank Lenders

The new pattern brings to the fore distinctions among the agency-backed securitization platforms—the GSEs (Fannie Mae and Freddie Mac) on the one hand, and Ginnie Mae on the other. The GSEs are conventional securitizers. They buy and pool mortgages from originators, finance the pools with RMBS issued by their own SPEs, and set quality standards for the mortgages in the pools.²⁹⁵ The GSEs take the loss on defaulting mortgages (unless a private mortgage insurance company has been inserted into the deal to take the first loss).

Ginnie Mae works differently, operating as a guarantor of securities issued by others—the originator pools the mortgages and issues RMBS with Ginnie Mae facilitating a backup guaranty.²⁹⁶ The securitizations eligible for a Ginnie Mae guaranty are securitizations comprised of loans insured or guaranteed by the Federal Housing Administration, Department of Veterans Affairs, the Farm Service Agency, the Rural Housing Service, or the Office of Public and Indian Housing.²⁹⁷ These agencies provide loan-level insurance or guaranties, but they do not promise a particular timeline for payout on their insurance or guaranties.²⁹⁸ Ginnie Mae fills this gap by guarantying timely payment of principal and interest on the RMBS. The Ginnie Mae guaranty is a secondary one, however. In the event of a default on a mortgage, the servicer must advance the payments due on the mortgage to the SPE noteholders for an extended period and eventually buy the loan out of the securitization pool. The servicer can then look to the loan-level insurer (FHA, VA, or other agency) for whatever coverage might exist. The loan-level insurance, however, does not come with a guaranty of timely payment, so the servicer must front the liquidity between the default on the mortgage and the

291. Adam J. Levitin et al., *supra* note 7, at 157.

292. You Suk Kim et al., *Liquidity Crises in the Mortgage Market*, BROOKINGS PAPERS ON ECON. ACTIVITY 1, 3 (2018).

293. *Id.*

294. *Id.* at 21–26.

295. See Gerardi, *supra* note 142.

296. *Id.* at 26–28.

297. *Id.* at 5.

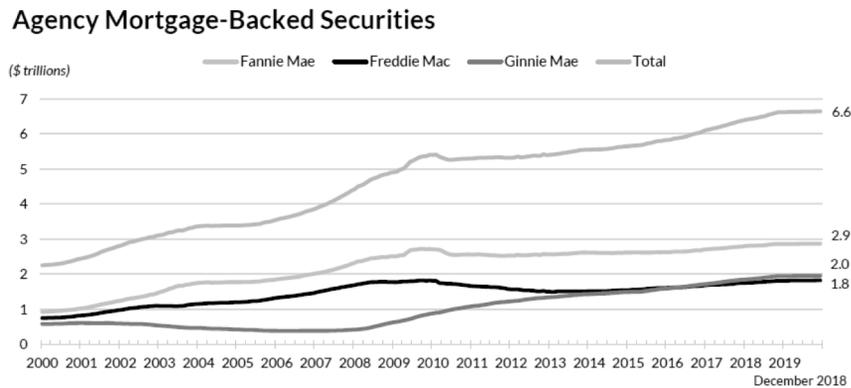
298. *Id.*

payout from the loan-level insurer. Ginnie Mae pays if and only if the servicer is unable to meet its duty to advance payments and buy the loan out of the securitization pool, which would mean that the servicer is insolvent.²⁹⁹ Thus, Ginnie Mae is really in a second-loss position behind the servicer.

The agencies that provide loan-level insurance or guaranties in Ginnie Mae deals also set the quality standards for the pooled mortgages.³⁰⁰ These standards are looser than those imposed by the GSEs. Delinquency rates bear this out. In the fourth quarter of 2018, serious delinquencies for FHA- and VA-sponsored loans on single family homes were 3.7% and 2% respectively; delinquencies on similar Fannie and Freddie loans were 0.8% and 0.7%.³⁰¹

Ginnie Mae's market share has been rising steadily since 2008, when it was a minor player in the agency-backed market.³⁰² Figure 3 shows that Ginnie Mae's share of outstanding agency-backed issues came to exceed Freddie's by May 2016.³⁰³ As of November 2018, market shares were as follows: Fannie Mae: 43.2%; Ginnie Mae 29.4%; and Freddie Mac 27.4%.³⁰⁴

FIGURE 3: AGENCY MORTGAGE-BACKED SECURITIES³⁰⁵



The share of nonbank originations in the agency-backed market has grown substantially in tandem. Nonbanks originated around 20% of all mortgages in 2007.³⁰⁶ As Figure 4 shows, by mid-2013 their proportionate share of Fannie, Freddie, and Ginnie originations ran between 25% and 35%. There has been a more marked rise since then. By December 2018, 83% of Ginnie issues came from nonbank originators compared to 56% at Fannie and 57% at Freddie.

299. *See id.* at 29.

300. *Id.* at 5.

301. URBAN INSTITUTE HOUSING FINANCE POLICY CENTER, HOUSING FINANCE AT A GLANCE: A MONTHLY CHARTBOOK 29 (Jan. 2019).

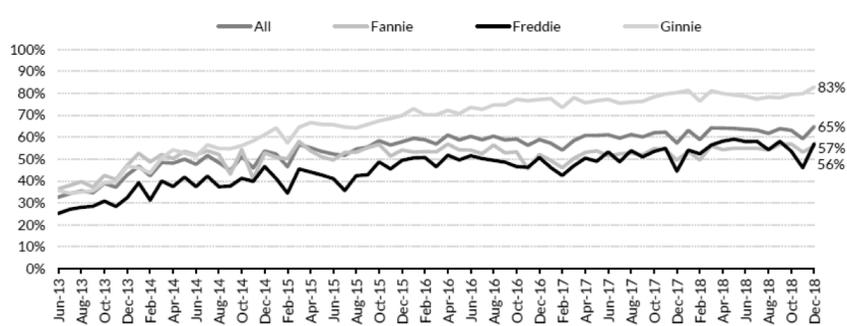
302. *Id.* at 31.

303. *Id.* at 7.

304. *Id.*

305. *Id.*

306. Kim et al., *supra* note 292, at 3.

Figure 4: Nonbank Origination Share³⁰⁷

Nonbank originations are of lower quality, with the lowest quality going through Ginnie Mae.³⁰⁸ Although loan-to-value ratios are comparable between bank and nonbank originations,³⁰⁹ median debt-to-income (“DTI”) ratios differ. At the GSEs, the banks have been loaning at a median of 36% and the nonbanks at 39%.³¹⁰ Ginnie Mae bundles bank originations with a median DTI just under 42%, but nonbank originations have a median DTI at just under 44%.³¹¹ Data on median FICO scores continue the pattern. At the GSEs, the median FICO for bank originations come in at just under 760, while it is just under 750 for nonbank originations.³¹² At Ginnie Mae, the bank-originated median FICO is around 700, while the nonbank-originated median is just over 670.³¹³

It is not as if the banks are withdrawing their capital from the housing market, however. The nonbanks—outfits like Quicken Loans, Inc., Freedom Mortgage Company, loanDepot.com, and Caliber Home Loans, Inc., to name the top four³¹⁴—rely on the banks for financing. They fund 95% of their loan originations (or, alternatively, loan acquisitions) using secured warehouse lines of credit from banks.³¹⁵ The warehouse lines are paid down and the security interests in the mortgages in the pool are released upon the closing of a GSE or Ginnie Mae securitization pool.³¹⁶ A recent study estimates aggregate bank warehouse commitments at the end of 2016 at \$40 billion.³¹⁷ Because borrowings under the lines of credit turn over quickly—the duration from draw down to refunding is fifteen

307. URBAN INSTITUTE, *supra* note 301, at 11.

308. *Id.* at 18.

309. *Id.* at 18.

310. *Id.*

311. *Id.*

312. *Id.* at 17.

313. *Id.*

314. See Neil Bhutta et al., *Residential Mortgage Lending in 2016: Evidence from the Home Mortgage Disclosure Act Data*, 103 FED. RES. BULL. 6, at 24 (2017), https://www.federalreserve.gov/publications/files/2016_HMDA.pdf.

315. Kim et al., *supra* note 292, at 361. These are structured as mortgage repos to take advantage of Bankruptcy Code safe harbors for repo transactions.

316. *Id.* at 361–62.

317. *Id.* at 360.

days—the \$40 billion aggregate commitment implies actual annual warehouse lending amounting to \$1 trillion.³¹⁸

2. *Systemic Weakness*

Nonbank lenders were the financial crisis' canary in the coalmine. Then as now, they relied on warehouse lines of credit from banks (even as many also funded through captive SIVs).³¹⁹ Of nineteen nonbanks and depositories that relied on warehouse lines before the crisis, only two survive today. The rest either collapsed or were acquired by stronger banks in transactions engineered by the Federal Deposit Insurance Corporation.³²⁰ Warehouse lines outstanding dropped by 90% between the end of 2006 and mid-2008.³²¹

Today's warehouse lines are similarly vulnerable to negative shocks. The loans' durations tend to be a year or less,³²² creating roll-over risk. A rise in interest rates can destabilize the borrower's position even in advance of maturity, for these are variable rate facilities. A rate rise also can result in downward marking to market of the value of mortgage collateral and a consequent margin call. Even a slowdown in the home lending market in the absence of a rate increase implies vulnerability—a mortgage that sits in the pipeline between origination and repackaging beyond a minimum period gets pulled out of the agency-backed collateral pool. Finally, borrowers are subject to financial covenants, making default a possibility given balance sheet deterioration.³²³

Liquidity risk continues even after mortgages have been pooled and packaged.³²⁴ As servicers to the securitized pools, the nonbanks commit to back up the payment stream when a mortgage in the pool defaults.³²⁵ With GSE structures, the backup commitment lasts for 120 days.³²⁶ With Ginnie Mae structures, the commitment to provide liquidity to the SPE security holders covers the life of the loan.³²⁷ FHA loan-level insurance, however, becomes collectable only after forty months after a default and then only partially compensates missed interest.³²⁸ The FHA also leaves the servicer with the duty to put the collateral into

318. *Id.*

319. *Id.* at 366.

320. *Id.* at 367–68. The survivors are Nationstar Mortgage and SunTrust. *Id.*

321. *Id.* at 366.

322. *Id.* at 369.

323. *Id.* at 362–63.

324. *Id.* at 376.

325. *Id.* at 377.

326. *Servicing Guide: Fannie Mae Single Family*, FANNIE MAE, § A1-3-07 (Dec. 13, 2017), <https://www.fanniemae.com/content/guide/svc121317.pdf>.

327. Kim et al., *supra* note 292, at 377.

328. *Id.* at 378.

saleable condition.³²⁹ The VA's loan-level guaranty, in contrast, covers everything but only up to 25% of the original principal amount.³³⁰ Both types of loans leave seller-servicers with substantial liquidity risk.

The nonbanks are lightly regulated by the states. There is an effort to tighten scrutiny: safety and soundness examination procedures have been developed by the Conference of State Bank Supervisors and the American Association of Residential Mortgage Regulators.³³¹ A proposal for prudential standards also is in process.³³² Meanwhile, more focused scrutiny of the nonbanks comes from the GSEs and Ginnie Mae themselves, in the form of minimum capital, net worth, and liquidity requirements.³³³ The required equity capital cushion is an undemanding 6%.³³⁴ But it is not clear the stepped up demands would alleviate problems very much. Let us hypothetically raise the cushion to 10% and see what we have accomplished. The nonbanks rely on short-term borrowed money to support an average 88% of their total assets.³³⁵ Meanwhile, the values booked on the left sides of their balance sheets depend completely on the health of the home mortgage market. Their asset bases are made up of mortgages in the pipeline and intangible mortgage servicing rights. The latter are highly volatile and go straight south when the mortgage market suffers a negative shock.³³⁶ It follows that there is only so much safety that can be added by an upward tick in required equity capital—because their assets are soft, these are intrinsically flimsy financial institutions.

3. *Regulatory Roots and Implications*

Three things happened simultaneously around five years ago. First, the banks reviewed their business models as post-crisis regulation became effective, making consumer lending and securitization more expensive out-of-pocket and more heavily freighted with regulatory risk. Second, the banks were either defending, or, more likely, settling expensive enforcement actions grounded in consumer lending and securitization activity undertaken prior to 2008. Third, the nonbank sector had reconstituted itself and recaptured its pre-crisis share of the market.

329. *Id.*

330. *VA Servicer Handbook M26-4 Chapter 14: Claims*, U.S. DEP'T OF VETERANS AFF. 10 (Feb. 26, 2019), https://www.benefits.va.gov/warms/m26_4.asp.

331. Kim et al., *supra* note 292, at 400.

332. *Proposed Regulatory Prudential Standards for Nonbank Mortgage Servicers*, CONF. ST. BANK SUPERVISORS, <https://bit.ly/2MQGwMw> (last visited Dec. 3, 2019).

333. Karan Kaul & Laurie Goodman, *Nonbank Servicer Regulation: New Capital and Liquidity Requirements Don't Offer Enough Loss Protection*, URB. INST. 8–9 (Feb. 2016), <https://www.urban.org/research/publication/nonbank-servicer-regulation-new-capital-and-liquidity-requirements-dont-offer-enough-loss-protection> (criticizing these regulations for risk insensitivity).

334. *Id.* at 4.

335. Kim et al., *supra* note 292, at 395 (showing that 83% of nonbanks' total liabilities are lines of credit and 5% is other short-term debt).

336. Kaul & Goodman, *supra* note 333, at 5–6.

Consumer mortgage lending had suddenly become less profitable at the banks, markedly so at the primary enforcement targets.³³⁷ Putback litigation in particular raised the level of regulatory risk attending new consumer loans.³³⁸ Accordingly, the banks made an ordinary course adjustment to their business plans. Faced with a sudden shift in the costs and benefits of regulation and enforcement respecting agency-backed home lending, they ceded the lower end of the consumer market to the nonbanks.³³⁹ At the same time, they kept their invested capital on the consumer mortgage table in the form of warehouse lines of credit to nonbanks.³⁴⁰ Given that these lines are structured as repos secured by mortgage assets, the banks remain exposed to the mortgage market.³⁴¹ If the value of the mortgages posted as collateral falls, the banks are likely to take losses.

The nonbanks remain subject to the same consumer lending constraints as the banks, but labor under a marginally less onerous regime of safety and soundness. Their prospective enforcement burden also is markedly lighter.³⁴² We have seen that post-crisis enforcement proceeded after a long pause, while the enforcers waited for their targets to emerge from the financial hospital. The pre-crisis nonbank originators never got that far, having ended up in the financial mortuary, and so never joined the banks as enforcement targets. Nothing in the financial profiles of the post-crisis nonbanks suggests any change in this regard.

B. Private Label Securitization

I. Overview

Private label securitization issuance (excluding private label RMBS) peaked at \$796 billion in 2007, with 61% of the volume coming from CDO issuance and 10% arising in connection with auto lending.³⁴³ In 2010 total issuance was \$126 billion, 47% of which was originated in connection with auto lending, a relatively resilient sector, and none of which came from CDOs.³⁴⁴ Table 3 shows that the market is once again expanding, having risen in 2018 to \$445 billion (excluding RMBS) and \$686 billion (including RMBS and CLO refinancings).

337. Marshall Lux & Robert Greene, *What's Behind the Non-Bank Mortgage Boom?*, HARV. KENNEDY SCH.: M-RCBG ASSOC. WORKING PAPER SERIES NO. 42, 17 (June 2015), https://www.hks.harvard.edu/sites/default/files/centers/mrcbg/working.papers/42_Nonbank_Boom_Lux_Greene.pdf.

338. Kim et al., *supra* note 292, at 365.

339. McCoy & Wachter, *supra* note 252, at 302.

340. Kim et al., *supra* note 292, at 356.

341. *Id.* at 375.

342. McCoy & Wachter, *supra* note 252, at 302.

343. Kim et al., *supra* note 292, at 377 n.38.

344. *Id.*

TABLE 3: PRIVATE LABEL SECURITIZATION, 2015-2018 (\$ BILLIONS)³⁴⁵

	2015	2016	2017	2018
Asset-Backed Securities (including auto, credit cards, student loan, and equipment)	183	191	229	239
CMBS	101	76	93	77
CLO	98	72	118	129
RMBS	54	34	70	86
Total	436	372	510	531
CLO reset and refinancing	10	39	167	155

2. From CDOs to CLOs

The CDOs that figured into the causal chain of the financial crisis were resecuritizations of RMBS—the *debt* in those collateralized debt obligations tended to be mezzanine and junior tranches of private label securitizations of residential mortgages.³⁴⁶ Nothing in post-crisis regulation prevents the assembly or sale of such packages. But our search for renewed activity yields a null set. The only CDOs still in existence are pre-crisis holdovers.³⁴⁷

But there remains an appetite for private label collateralized debt. It is just that the debt collateralized is not resecuritized RMBS but loans to corporations, often but not necessarily made by banks.³⁴⁸ These collateralized loan obligations (“CLOs”) are the anomaly in this discussion. They shine forth as the only segment of the private structured credit market enjoying a present rate of growth higher than the level before the crisis. Indeed, in recent years, the CLO market has been growing faster than the corporate bond market.³⁴⁹ From a post-crisis trough of \$263 billion, the amount outstanding now exceeds \$450 billion.³⁵⁰

The anomaly is two-sided, for not only has the CLO market grown, it has done so in the teeth of substantial regulatory barriers imposed under Dodd-

345. *Global Structured Finance Outlook 2019: Securitization Continues to be Energized With Potential \$1 Trillion in Volume Expected Again*, S&P GLOBAL RATINGS (Jan. 7, 2019), https://www.capitaliq.com/CIQDotNet/CreditResearch/RenderArticle.aspx?articleId=2149773&SctArtId=465279&from=CM&nsl_code=LIME&sourceObjectId=10827894&sourceRevId=7&fee_ind=N&exp_date=20290110-16:07:04.

We note that Emily Strauss explains recent increases in private label RMBS volume by reference to the courts’ shift to a literal reading of a limitation of remedy respecting representations and warranties to proof of breach and put back of individual mortgages. See Strauss, *supra* note 281, at 26–28.

346. FINANCIAL CRISIS INQUIRY COMMISSION, *supra* note 242, at 113–18.

347. Beltran et al., *supra* note 14, at 17–18.

348. See *It’s Official: US Leveraged Loans Are a \$1 Trillion Market*, S&P GLOBAL (Apr. 30, 2018, 5:09 PM), <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/leveraged-loan-news/official-us-leveraged-loans-1-trillion-market>; see generally Efraim Benmelech et al., *Securitization without Adverse Selection: The Case of CLOs*, 106 J. FIN. ECON. 91 (2012).

349. *Understanding Collateralized Loan Obligations (CLOs)*, GUGGENHEIM INV. (May 1, 2019), <https://www.guggenheiminvestments.com/perspectives/portfolio-strategy/collateralized-loan-obligations-clo>. Only the growth of bank loans themselves is higher. *Id.*

350. *Id.* at 5; Laila Kollmorgen, *CLOs: Why Now*, PINEBRIDGE INVS. (Jan. 22, 2018), <https://bit.ly/2TrKOW3>.

Frank.³⁵¹ A two-sided lesson follows in turn. First, keen demand for structured products still exists, provided the product possesses risk-return characteristics attractive to portfolio managers with long-term time horizons.³⁵² Second, given such investor demand, regulatory barriers stemming from a desire to deter risk-taking at banks do not prevent growth in the market even as they (by definition) inhibit it.³⁵³ There is also a concomitant warning: between light regulation of corporate lending by banks and the nonexistence of regulation of corporate lending by nonbanks, the CLO may be facilitating excess risk-taking in its sector with negative implications for the wider economy. Some today think that CLOs are to the economy's next recession what CDOs were to the financial crisis.³⁵⁴

a. Characteristics

The CLO comeback can be accounted for easily: CLO defaults during the crisis were minimal—less than 1%.³⁵⁵ Not that there wasn't a rough patch—new CLO issuance almost ceased beginning in the third quarter of 2007³⁵⁶ and market values of CLO tranches declined as investors dumped any and all securitized paper in 2008. But values recovered by 2011 as the economy stabilized and the market caught on to the fact that corporate loans, even junk bond equivalent loans encased in CLOs (called “leveraged loans”), had weathered the crisis much better than loans on residential real estate. New CLO issues followed, with activity moving in lockstep with growth in leveraged corporate bank lending.³⁵⁷

There are two transaction types—balance-sheet CLOs and arbitrage CLOs. Balance-sheet CLOs are the functional equivalents of bank-originated RMBS: a bank transfers a corporate loan portfolio to an SPE which finances the transfer by selling tranching debt securities.³⁵⁸ Arbitrage CLOs, in contrast, are not initiated by loan originators. Here, an asset manager goes into the OTC trading market for bank loans and engineers the SPE's purchase of interests in existing loans. The SPE funds the purchase with lower yielding liabilities, thereby picking up a

351. GUGGENHEIM INV., *supra* note 349, at 6; Kollmorgen, *supra* note 350.

352. Cf. GUGGENHEIM INV., *supra* note 349, at 4–6 (comparing contemporary asset managers to short-term traders in securitized products pre-crisis). \$118 billion new CLOs were issued in 2017 making 2017 the next best year ever for the sector, the best having been 2014 with \$124 billion. See *It's Official: US Leveraged Loans Are a \$1 Trillion Market*, *supra* note 348.

353. GUGGENHEIM INV., INCOME OPPORTUNITY IN THE MIDDLE MARKET: AN OVERVIEW OF BUSINESS DEVELOPMENT COMPANIES (BDCs) 1 (n.d.), <https://www.guggenheiminvestments.com/getattachment/Page-Types/UIT/BDCS004/UIT-WP-BDCS.pdf.aspx>.

354. Matt Phillips, *Wall Street Loves These Risky Loans. The Rest of Us Should Be Wary.*, N.Y. TIMES, Oct. 19, 2018, <https://www.nytimes.com/2018/10/19/business/economy/clo-corporate-loans.html>.

355. Benmelech et al., *supra* note 348, at 93.

356. *Id.* at 92–93.

357. GUGGENHEIM INV., *supra* note 349, at 2–3.

358. These were the first CLOs. The transaction form dates to the mid-1990s. The motivation, as with balance-sheet synthetic securitization, see *infra* text accompanying note 390: bank capital relief. The bank, provided it retained the servicing rights, could securitize a relational loan portfolio without overly disrupting client relations. Getting capital relief, however, meant avoiding any retention of subordinated tranches. See Kenneth Kohler, *Collateralized Loan Obligations: A Powerful New Portfolio Management Tool for Banks*, MAYER BROWN (1998), <https://bit.ly/2Tqs6VC>.

spread for the benefit of the junior investors in the CLO.³⁵⁹ Most of the market's action occurs in the arbitrage category.³⁶⁰

As noted, the loans bundled into arbitrage CLOs tend to be leveraged loans. Leveraged loans are loans made by banks, or, in the alternative, underwritten and packaged by banks, to borrowers with noninvestment grade credit ratings—the bank lending equivalent of junk bonds.³⁶¹ Many of these loans originate as “tranche B” add-ons to “tranche A” term loans made by syndicates of banks.³⁶² Compared to the A tranches, tranche B loans tend to have longer durations and junior security—the tranche A takes a first lien on the borrower's property while the tranche B is relegated to a second lien.³⁶³ Where tranche A loans tend to be privately placed amongst groups of bank participants, tranche B loans are underwritten into a limited-access trading market populated by nonbank lenders like asset managers, hedge funds, private equity funds, pension funds, and Business Development Companies (“BDCs”).³⁶⁴ An arbitrage CLO comes into existence when a “manager” (either an asset management firm or a private equity firm) teams up with an “arranger” (a large bank).³⁶⁵ The manager organizes the CLO SPE and has it draw down on a warehouse loan from a bank to go into the trading market and assemble a portfolio of leveraged loans. The arranger lines up purchasers for the CLO's tranches, collecting commitments to purchase and negotiating prices.³⁶⁶ The arranger then underwrites the CLO. Some of the proceeds go to pay down the warehouse loan; the excess is used to buy more loans. On an “effective date” the CLO's loan portfolio has been completed.³⁶⁷

The structure that starts operation on the effective date is one part securitization, one part corporate bond, and one part structured investment vehicle.³⁶⁸ Assets in the SPE are actively managed during a “reinvestment period.”³⁶⁹ The manager has the power to add new loans to the portfolio, reinvesting principal

359. DELOITTE, CLO STRUCTURES: AN EVOLUTION 2 (2018).

360. JENNIFER JOHNSON, NAT'L ASS'N OF INS. COMM'RS, COLLATERALIZED LOAN OBLIGATIONS (CLOS) PRIMER (n.d.), https://www.naic.org/capital_markets_archive/primer_180821.pdf.

361. See S&P GLOBAL, LEVERAGED LOAN PRIMER (2019), <https://www.spglobal.com/marketintelligence/en/pages/toc-primer/lcd-primer#sec32>.

362. See *id.*

363. BRATTON, *supra* note 194, at 341. Proponents of CLOs are quick to point out that default rates on CLO tranches between 1994 and 2013 were substantially lower than default rates on corporate bonds. GUGGENHEIM INV., *supra* note 349, at 7. Indeed, there has never been a default on a AAA or AA- tranche and even junior tranches have done better than have bonds. *Id.* at 2–3. This is true, but the closer one looks, the less surprising it is. Leveraged loans, whether tranche A or B are secured; corporate bonds, whether investment or noninvestment grade, are not.

364. A BDC is a registered closed-end investment company organized to provide financing to small and medium sized companies. See GUGGENHEIM INV., *supra* note 348, at 1–2. In recent years a third variety of leveraged loan has been developed in the nonbank sector—a “unitranche” facility that moves all matters relative to seniority and subordination into an “Agreement Among Lenders” negotiated on the side. See Laura Appleby et al., *Leveraged Lending Guidelines, New Debt Structures and Pitfalls in Bankruptcy*, 30 AIRA J., no. 2, 2016, at 11–12.

365. See Loan Securitization & Trading Ass'n, *Overview of CLOs 6* (June 8, 2017).

366. *Id.*

367. *Id.*

368. *Id.*

369. *Id.*

payments received on existing loans and the proceeds of any loans sold back into the trading market.³⁷⁰ At the expiration of this period, the vehicle goes into amortization and principal received and the proceeds of any loan sales go to pay off the principal of the tranches in order of seniority.³⁷¹ There is also a noncall period. When this expires, the “equity” investors holding the junior tranches can by majority vote decide to pay down any or all senior tranches at par, financing the pay down either by having the SPE sell portfolio loans or issue new senior tranches (presumably at a lower interest rate).³⁷² A refinancing of all senior tranches can be combined with a time extension, based on a unanimous vote of the equity. This is called a “reset.” The equity has every reason to consent to a reset given good market conditions, an effective manager, a desire to remain invested in the sector, and an attractive loan portfolio already in place.³⁷³

Add all of this up, and the manager and the holders of the equity tranches together exercise discretion respecting the entity’s choice of assets and duration, potentially impairing the interests of holders of senior tranches. Coverage tests constrain this discretion.³⁷⁴ CLOs are set up to be overcollateralized and negative consequences follow when the collateral loses value.³⁷⁵ A percentage test must be met for each senior tranche—for example, the indenture could require the principal value of the assets in the SPE to exceed 125% of the face amount of the tranche.³⁷⁶ If the assets in the SPE fail to pass the test, reinvestment by the manager stops and all cash received goes to pay down the tranches in order of seniority until such time as the test is met.³⁷⁷ An interest coverage test operates similarly. There is also a test that caps the assets’ weighted average life to maturity, preventing the manager from shifting to higher risk assets for the equity’s benefit.³⁷⁸

b. Evolution and Regulation

CLOs have evolved in three phases, called CLO 1.0, 2.0, and 3.0. CLO 1.0 covers the first generation through the financial crisis. CLO 2.0 is the first generation of post-crisis issues. CLO 3.0 succeeded CLO 2.0 around 2014, adjusting for new regulatory constraints.³⁷⁹

370. *Id.*

371. *Id.*

372. *Id.* at 6, 22.

373. *Id.* at 22.

374. *See id.* at 6, 22.

375. GUGGENHEIM INV., *supra* note 349, at 3.

376. *Id.* at 4.

377. DELOITTE, *supra* note 359, at 4; GUGGENHEIM INV., *supra* note 349, at 3.

378. DELOITTE, *supra* note 359, at 4.

379. Laila Kollmorgen et al., *Seeing Beyond the Complexity: An Introduction to Collateralized Loan Obligations*, PINEBRIDGE INVS. (Aug. 8, 2017), <https://www.pinebridge.com/insights/investing/2017/08/clo-beyond-the-complexity>.

The transition from CLO 1.0 to CLO 2.0 concerned risk and return. Terms were adjusted to make senior tranches safer and more attractive: noncall and re-investment periods became shorter,³⁸⁰ leverage ratios declined,³⁸¹ and collateral eligibility requirements tightened.³⁸² There were also adjustments to boilerplate indenture provisions that had given rise to disputes and litigation.³⁸³ Some of these imported flexibility to the manager—it was made clear that managers could consent to modifications of the loans in the portfolio in the event of borrower distress.³⁸⁴ Other changes closed loopholes that had opened doors to opportunistic conduct by equity tranche holders.³⁸⁵

The transition from CLO 2.0 to CLO 3.0 concerned compliance hurdles erected by the Dodd-Frank Act. One came from the Act's Volcker Rule. Banks can run afoul of it when they invest in arbitrage CLOs, whether by providing warehouse financing, holding equity, or even holding senior tranches.³⁸⁶ The solution to the problem lies in setting up an arbitrage CLO so that it qualifies for a Volcker Rule exception for bank securitizations.³⁸⁷ The CLO is "Volckerized" by including an affirmative provision that limits the vehicle from investing in anything other than bank loans.³⁸⁸ The provision limits the CLO's upside, but is easily enough interpolated into a new deal. Existing deals presented a problem, however. Historically, managers of arbitrage CLOs have retained (and utilized) explicit powers to stoke the yield on the portfolio with bonds, floating rate notes, and letters of credit.³⁸⁹ For existing CLOs, Volckerization means amending away this power, incidentally benefiting the holders of senior tranches.³⁹⁰ Because the

380. DELOITTE, *supra* note 359, at 5.

381. *Id.*

382. *Id.* at 4.

383. Anthony R.G. Nolan et al., *Private Civil Litigation Involving Collateralized Debt Obligations*, K&L GATES (Nov. 16, 2009), <http://m.klgates.com/private-civil-litigation-involving-collateralized-debt-obligations-11-16-2009/>.

384. Craig Stein, *U.S. CLOs: Past and Present*, 22 J. STRUCTURED FIN., Summer 2016, at 17–18.

385. *Id.* at 16–17; see *Concord Real Estate CDO 2006-1, Ltd. v. Bank of America*, 996 A.2d 324, 339 (Del. Ch. 2010), *aff'd sub nom. Bank of America v. Concord Real Estate CDO 2006-1, Ltd.*, 15 A.3d 216 (Del. 2011) (interpreting CLO language governing overcollateralization).

386. Under the definition of "ownership interest," a right to vote to remove and replace the investment manager causes an interest to fall within the category. Senior tranche sin most CLOs tranches get that right. Stein, *supra* note 384, at 20–21.

387. See generally Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, Pub. L. No. 111-203, § 619(a)(1)(B), 124 Stat. 1376, 1620 (codified at 12 U.S.C. § 1851) (prohibiting a bank from taking an ownership interest in a "hedge fund or private equity fund." The covered funds are intended to be private equity firms and hedge funds but are generally defined as investment companies relying on the registration exemptions in Investment Company Act sections 3(c)(1) and 3(c)(7), pursuant to Bank Holding Company Act of 1956, 12 U.S.C. § 1851(h)(2). CLOs also tend to rely on section 3(c)(7), which limits access to "qualified purchasers."

388. Along with exempted servicing assets and derivatives related to the loans in the portfolio. See Prohibitions and Restrictions on Proprietary Trading and Certain Interests in, and Relationships With, Hedge Funds and Private Equity Funds, 79 Fed. Reg. 5536, 5788 (Jan. 31, 2014) (to be codified at 12 C.F.R. pts. 44, 248, 351 & 17 C.F.R. pt. 255).

389. Stein, *supra* note 384, at 21.

390. *Id.*

amendment has the effect of lowering returns to holders of the junior tranches, give-backs had to be tacked on in exchange for junior votes.³⁹¹

Dodd-Frank's risk retention rules, which became effective in December 2016,³⁹² created a second problem. Indeed, many in the sector thought that risk retention amounted to a death knell for arbitrage CLOs. Recall that the risk retention rules are designed to ameliorate moral hazard in originators by forcing them to retain 5% of each securitization,³⁹³ whether in a horizontal or vertical slice. With arbitrage CLOs there is no originator—the manager has made no loans. It instead acts like other asset managers and causes an entity to buy assets in a trading market, in this case loans rather than securities.³⁹⁴ Like other asset managers, the CLO manager will be thinly capitalized. It follows that being required to invest \$50 million long-term in order to assemble a \$1 billion loan portfolio would be prohibitively burdensome for some in the sector.³⁹⁵

But the hurdle was surmounted by the time the risk retention rules became effective.³⁹⁶ The managers created special vehicles in which they placed the retained tranches and recruited a new set of equity investors, pension funds most prominently, to invest in the vehicles, becoming the CLO manager's partner in holding the junior interest.³⁹⁷ For the managers, 2017 turned out to be a banner year, despite risk retention.³⁹⁸

The industry, even as it solved the retention problem in practice, also successfully brought a court challenge to the government's³⁹⁹ application of the risk retention rules to arbitrage CLOs.⁴⁰⁰ The issue was whether a manager is a "securitizer" within the meaning of Dodd Frank section 941(a)(3) as someone who "organizes and initiates an asset backed securities transaction by selling or transferring assets."⁴⁰¹ The D.C. Circuit, in *Loan Syndications & Trading Association v. SEC*, read the language literally, holding that even as asset managers do "organize and initiate" arbitrage CLOs, they neither "sell" nor "transfer" assets to

391. *Id.* Balance-sheet CLO practice is also affected. Banks customarily threw all sorts of things into CLO SPEs. See Kohler, *supra* note 358, at 2 (mentioning participation interests, structured notes, revolving credit facilities, trust certificates, letters of credit, bankers' acceptances, synthetic lease facilities, guarantee facilities, corporate bonds and asset-backed securities).

392. Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, 15 U.S.C. § 78o-11(a)(3).

393. 15 U.S.C. § 78o-11(c)(1)(A). See generally Bubb & Kaufman, *supra* note 131.

394. See generally Kenneth Kohler, *supra* note 358.

395. See DELOITTE, *supra* note 197, at 8.

396. See Credit Risk Retention Rule, 79 Fed. Reg. 77,602, 77,602 (Dec. 24, 2014) (to be codified at 12 C.F.R. pts. 43, 244, 373, 1234, 17 C.F.R. pt. 246 & 24 C.F.R. 267).

397. See David Bell, *Securitization: Hot Loan Market to Test CLO Managers' Mettle in 2018*, GLOBALCAPITAL, <https://www.globalcapital.com/article/b16bdj3zgzkz/securitization-hot-loan-market-to-test-clo-managers-mettle-in-2018> (last visited Dec. 3, 2019).

398. See *id.*

399. Collectively, the SEC, the FRB, the Office of the Comptroller of Currency, the Federal Deposit Insurance Corporation, the Department of Housing and Urban Development and the Federal Housing Finance Agency. These agencies explicitly included the managers as securitizers in the final rules under Dodd Frank section 941. Credit Risk Retention Rule, 79 Fed. Reg. 77,602, 77,608 (Dec. 24, 2014) (to be codified at 12 C.F.R. pts. 43, 244, 373, 1234, 17 C.F.R. pt. 246 & 24 C.F.R. 267).

400. *Loan Syndications & Trading Ass'n v. SEC*, 882 F.3d 220, 229 (D.C. Cir. 2018).

401. 15 U.S.C. §§ 78o-11(a)(3)(A)–(B).

the SPE.⁴⁰² And, literally speaking, the industry did have the better side of the argument. The CLO SPEs buy the loans from the market directly; nothing is sold or transferred by the manager.⁴⁰³ We nonetheless do not doubt that the statute's drafters, if questioned on the matter, would answer that they intended CLO managers to be covered by section 941. Unfortunately, they did not manage to draft their way into that result in a literal-minded world.

c. Excessive Risk

CLOs contain portfolios of leveraged loans, and, indeed are the leveraged loan market's biggest purchasers, having soaked up around one-half of the amount outstanding.⁴⁰⁴ It follows that the CLO structure becomes implicated when regulators express concerns about the deteriorating creditworthiness of leveraged corporate borrowers and excess risk-taking by leveraged lenders. Such expressions were numerous and loud in late 2018,⁴⁰⁵ when the face amount of leveraged loans outstanding came to exceed \$1 trillion, making the leveraged loan debt stock half as big as the stock of high yield bonds.⁴⁰⁶ To see the cause for concern, compare Figure 5 with Figure 6. Figure 5 depicts the ratio of U.S. household indebtedness to GDP since 2006, showing a peak at the beginning of the Great Recession followed by a steady and continuing decline.⁴⁰⁷ Figure 6 depicts the ratio of total credit to U.S. nonfinancial corporations to GDP since 1950.

402. 882 F.3d at 222–23.

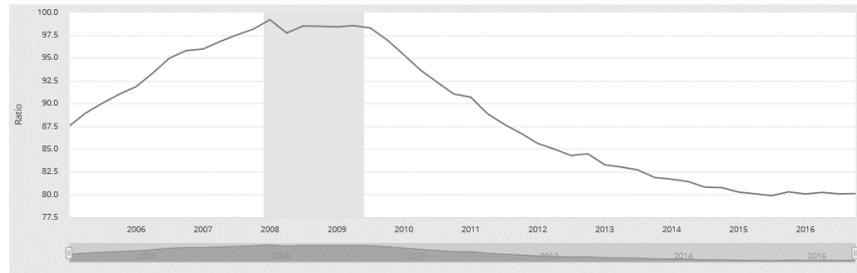
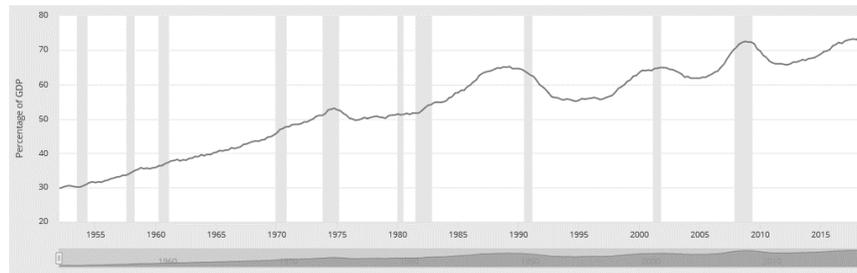
403. *Id.* at 223.

404. See Briefing, *American Corporate Debt*, THE ECONOMIST 21, 22 (Mar. 16, 2019); Colby Smith, *Who's Buying Leveraged Loans Anyway?*, FIN. TIMES: ALPHAVILLE (Nov. 20, 2018, 9:28 AM), <https://ftalphaville.ft.com/2018/11/20/1542706123000/Who-s-buying-leveraged-loans-anyways-/>.

405. See, e.g., Briefing, *American Corporate Debt*, *supra* note 404; Jesse Hamilton, *Fed's Warning on Leveraged Loans Seconded by U.S. Bank Regulator*, BLOOMBERG: DEALS (Dec. 3, 2018, 12:00 PM), <https://www.bloomberg.com/news/articles/2018-12-03/fed-s-warning-on-leveraged-loans-seconded-by-u-s-bank-regulator>; Kristen Haunss, *Regulators Sound the Alarm About Leveraged Loan Market*, REUTERS: CREDIT RSS (Oct. 30, 2018, 11:39 AM), <https://www.reuters.com/article/regulators-sound-the-alarm-about-leverag/regulators-sound-the-alarm-about-leveraged-loan-market-idUSL8N1XA7MH>; Mayra Rodriguez Valladares, *Leveraged Loan Market Warnings Have Been Ignored For Over Five Years*, FORBES: MONEY (Oct. 26, 2018, 12:21 PM), <https://www.forbes.com/sites/mayrarodriguezvalladares/2018/10/26/leveragedloanmarketleveragleveragedloanmarketleveragedloa/#1b857d023df3>.

406. Anaïs Brunner et al., *Leveraged Loans or High Yield Bonds? Finding the Best Income Solution in a Rising Rate Environment*, UBS (July 2018), https://www.ubs.com/content/dam/static/asset_management/global/newsletter/Investment_Comms/leveraged-loans-or-high-yield-bonds.pdf.

407. Federal Reserve Bank of St. Louis (data on file with authors).

FIGURE 5: U.S. HOUSEHOLD DEBT TO GDP, 2006–2018⁴⁰⁸FIGURE 6: TOTAL CREDIT TO U.S. NONFINANCIAL CORPORATIONS TO GDP, 1950–2019⁴⁰⁹

A post-crisis reduction in this macro debt equity ratio has been reversed—corporate leverage is now at an all-time high.⁴¹⁰

Speaking roughly, the regulators are worried that today’s CLOs are to corporate debt what the previous decades’ CDOs were to residential real estate debt—the means to the end of a massive overleveraging with potentially destabilizing effects for the rest of the economy.⁴¹¹ Underwriting standards at origination have declined, they say, even as leverage rises inexorably.⁴¹²

There is only so much the safety and soundness regulators can do about this, for much of the market is populated by nonbank lenders and nonbank purchasers and so lies outside of their immediate reach. And, as with nonbank lending in the residential mortgage sector, regulatory initiatives against the banks are thought to have played a causative role in the nonbank surge.⁴¹³ In this case, the initiative is a set of lending guidelines promulgated in 2013 by the Federal Reserve and the Office of the Comptroller of the Currency (“OCC”).⁴¹⁴ The guidelines include underwriting standards and risk management instructions regarding

408. *Id.*

409. *Id.*

410. *See supra* notes 407–08.

411. *See* Mayra Rodriguez Valladares, *supra* note 405.

412. *Briefing, supra* note 404, at 22.

413. *See, e.g.,* OCC Head Says Banks Need Not Comply with Leveraged Lending Guidance, ROPES & GRAY (Mar. 1, 2018), <https://www.ropesgray.com/en/newsroom/alerts/2018/03/OCC-Head-Says-Banks-Need-Not-Comply-with-Leveraged-Lending-Guidance>.

414. Interagency Guidance on Leveraged Lending, 78 Fed. Reg. 17,766 (Mar. 22, 2013).

leveraged loans in the banks' portfolios and in the pipeline for securitization.⁴¹⁵ As explicated by the agencies, the guidelines cover not only loans originated and retained by a banks but loans in CLOs sponsored by the bank and CLOs funded by the bank.⁴¹⁶

The causal account resonates, but there is also reason for caution. The Government Accountability Office ruled in 2017 that the Guidelines amount to a rule under the Congressional Accountability Act⁴¹⁷ and so are subject to Congressional review and rejection. Each of the OCC and the Federal Reserve have since signaled that the Guidelines would no longer be enforced.⁴¹⁸ Any side-effect respecting nonbank lending thus lies in the past. Meanwhile, the regulators' recent expressions of concern about corporate leverage are doubly understandable.

3. *From Subprime to Nonprime RMBS*

Subprime mortgage origination with a view to securitization returned in 2014,⁴¹⁹ rebranded as "nonprime." Such titular cleansings are not uncommon in finance—those from "junk bond" to "high-yield bond" and from "leveraged buy-out" to "private equity" being the most prominent. Significantly, in the case of subprime the change is not just cosmetic. "Subprime" described mortgages that qualified as neither prime nor Alt-A in the regulatory environment that prevailed prior to the financial crisis.⁴²⁰ "Nonprime" describes nonqualifying loans in a regulatory environment much altered by Dodd-Frank.⁴²¹

Literally speaking, "nonprime" means not a Qualifying Mortgage within the meaning of the ability-to-repay and risk retention rules.⁴²² Nonqualification has two consequences. First, the mortgage has no safe harbor and the originator must satisfy the full-dress ability-to-repay rules. Second, under a parallel qualification standard in the risk retention rules, the originator must retain 5%.⁴²³ Between the two requirements, origination to securitize costs the originator considerably more per dollar loaned in the nonprime sector than in the qualified

415. *Id.*

416. See Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation & Office of the Comptroller of the Currency, *Frequently Asked Questions (FAQ) for Implementing March 2013 Interagency Guidance on Leveraged Lending* (Nov. 7, 2014), <http://www.federalreserve.gov/newsevents/press/bereg/bereg20141107a3.pdf>.

417. GAO Letter Related to Interagency Guidance on Leveraged Lending to Sen. Pat Toomey, 163 Cong. Rec. S6636 (Oct. 19, 2017).

418. *Monetary Policy and the State of the Economy: Hearing before the H. Comm. on Fin. Servs.*, 115th Cong. 30–31 (2018) (statement of Jerome Powell, chairman of the Federal Reserve); *OCC Head Says Banks Not Bound by Lending Guidelines, Expects Leverage to Increase*, DEBTWIRE (Feb. 27, 2018), <https://www.debtwire.com/info/occ-head-says-banks-not-bound-lending-guidelines-expects-leverage-increase>.

419. Grant Bailey et al., *The Return of Non-Prime U.S. RMBS: What Investors Need to Know*, FITCH RATINGS (Jan. 25, 2017), <https://www.fitchratings.com/site/dam/investors/US-RMBS-Loan-Loss-Model-Criteria.pdf>.

420. See *id.* at 2.

421. *Id.*

422. *Id.*

423. See Ron D'Vari & Timothy Bernstein, *What Lies Ahead: The Challenges of Securitizing Non-Qualifying Mortgage Loans*, J. STRUCTURED FIN., Spring 2016 at 47, 52.

sector.⁴²⁴ There is also a negative kicker, for the added regulatory risk held out under the ability-to-repay rules extends beyond the originator to the securitization trust—a borrower’s defense to foreclosure respecting an ability-to-repay violation sweeps in not only the lender but its assignees.⁴²⁵ There being no safe-harbor, the SPE would have to prove that the originator complied with the ability-to-repay underwriting standards.⁴²⁶

If the new nonprime market has a mantra, it is “proper underwriting.”⁴²⁷ Even so, quality control questions loom large in nonprime negotiations. No across-the-board answers have emerged: the sell-side and the buy-side have not yet hammered out a standard set of generally accepted contract terms. Unsurprisingly, seller representations and warranties are the sticking point. The buy-side wants more in the way of backup regarding nonperforming loans than the sellers are willing to provide.⁴²⁸ Intermediaries patch over the points of disagreement by adding credit enhancements.⁴²⁹

Other new buyer protections have settled in as practice standards. Third party oversight is the norm—nonprime deals are conditioned on independent third-party review of each loan in the pool.⁴³⁰ Payment waterfalls are now more favorable to senior tranches, drawing on CLO structures that cut off principal payments to junior tranches.⁴³¹

Finally, and most importantly, nonprime loans are not nearly as “sub” as were subprime loans. During the 1998–2008 period, the average FICO score of prime mortgage borrowers was 736, the average Alt-A score was 711, and the average subprime score was 623.⁴³² Nonprime deals have average FICOs of 697, much closer to pre-crisis Alt-A than to subprime.⁴³³ Even so, where many nonprime borrowers obtain loans insured by the FHA, the loans in nonprime RMBS would generally fail to qualify under for insurance FHA’s guidelines.⁴³⁴

The lending on nonprime loans is done almost entirely by nonbanks. The archetypical nonprime originator or aggregator is a subsidiary of a private equity

424. The D.C. Circuit’s ruling in *Loan Syndications & Trading Assoc. v. SEC*, see *supra* text accompanying note 400, may hold out some regulatory relief. Aggregators operate alongside originators as sponsors of nonprime securitizations. To the extent that the aggregation practice fits into the exception from the risk retention rules opened up in the case, a door could be opened to volume expansion in the sector.

425. 15 U.S.C. § 1640(k) (2018) (overriding limitation on assignee liability of 15 U.S.C. § 1641).

426. Bailey et al., *supra* note 419, at 13–14.

427. Olick, *supra* note 290.

428. Bailey et al., *supra* note 419, at 3–4. The buyers want independent third-party review of any loan that becomes delinquent along with binding arbitration; the sellers resist. See also D’Vari & Bernstein, *supra* note 423, at 53.

429. See Bailey et al., *supra* note 419, at 5.

430. *Id.* at 3; see also D’Vari & Bernstein, *supra* note 423, at 52–53.

431. Bailey et al., *supra* note 419, at 4.

432. *Id.* at 2.

433. *Id.*

434. Loans tend to fall into the nonprime category because the principal amount exceeds the FHA limit, a prior credit event makes the borrower ineligible, or there is some shortcoming in the documentation. *Id.*

firm with pre-existing expertise in residential real estate lending and investment.⁴³⁵ As with nonbank lending more generally, the banks participate on a secondary basis only, both as warehouse lenders to originators and aggregators and as underwriters.⁴³⁶ Their reticence makes sense in view of the difficulties stemming from the combination of the risk retention rules and stepped-up capital requirements.⁴³⁷ Indeed, with many of the banks still dealing with (or recovering from) litigation stemming from subprime originations prior to 2008, it would take a powerful financial incentive to get them to return to origination in this sector. It does not appear that nonprime spreads have been wide enough to hold out the necessary inducement.

Nonprime RMBS deal volume has grown since 2014, when a mere \$500 million were issued.⁴³⁸ By 2017, the figure had grown to \$4.1 billion;⁴³⁹ the 2018 figures come in at over \$12 billion.⁴⁴⁰ But nonprime is still just a niche in the overall private label market. The \$12 billion of 2018 issues comprised only 14% of private RMBS issuance and 1.7% of overall private issuance.⁴⁴¹

4. Comparison

There are noteworthy parallels between the post-crisis CLO and nonprime markets. In both cases, nonbank intermediaries jumpstarted a moribund transaction form, innovating in the process, partly to achieve compliance with new regulations and partly to reallocate risk from seniors to juniors to adjust for changes in investor risk preferences.⁴⁴² With CLOs, the innovators met with significant success where with nonprime the results have been modest. Track records certainly have something to do with this—CLOs have an excellent record where subprime does not.⁴⁴³ Regulation certainly also matters—the ability-to-repay compliance cost burdens attending nonprime origination have no parallel in the corporate market.⁴⁴⁴ But yields also matter—nonprime yields apparently are not high enough to trigger strong investor demand. Finally, as we will see in the next Section, there is also a new, synthetic mode of high risk-high return participation in home mortgage credit that soaks up potential demand for high risk/high return products.

435. *Id.* at 9–11.

436. See Olick, *supra* note 290; *Big Banks Expose Themselves to Subprime Loans Through Other Lenders*, REAL DEAL (Apr. 10, 2018, 4:45 PM), <https://bit.ly/2D13dJb>.

437. D'Vari & Bernstein, *supra* note 423, at 52.

438. Bailey et al., *supra* note 419, at 3.

439. Jeff Andrews, *Subprime Mortgage Bonds Are Making a Comeback*, CURBED (Mar. 30, 2018, 12:14 PM), <https://bit.ly/2Gn5LBR>. It is noted that the effective date of risk retention for RMBS was December 24, 2015 did not coincide with a decrease in deal flow.

440. Ben Eisen, *No Pay Stub? No Problem. Unconventional Mortgages Make a Comeback*, WALL ST. J. (Jan. 23, 2019, 5:30 AM), <https://on.wsj.com/2CD0R3a>.

441. *Non-Agency RMBS Issuance Doubles in 2017*, MORTGAGE DAILY (Jan. 4, 2018), <http://www.mortgagedaily.com/stories/RmbsIssuance010418MBA.asp>.

442. See Bailey et al., *supra* note 419, at 4.

443. See Olick, *supra* note 290.

444. See Bailey et al., *supra* note 419, at 1.

C. Synthetic Securitization and Credit Default Swaps

This Section takes up synthetic securitization, which when referenced to collateralized debt obligations yielded the most toxic of all pre-crisis structured products. These were the vehicles that made the famous “short” on the mortgage market in *The Big Short*,⁴⁴⁵ that triggered Goldman Sachs’s Abacus scandal, and that brought down AIG.⁴⁴⁶ They greatly magnified the risk-taking attached to subprime mortgages⁴⁴⁷ without facilitating so much as one dollar of real investment. Indeed, to the extent that synthetics competed with real securitizations, they diverted investment from the home mortgage market. Yet nothing in post-crisis regulation prohibits them. They continue to be produced in considerable volume; interestingly, the GSEs are the major users.⁴⁴⁸

Synthetic CDOs conjoin a securitization and a credit default swap (“CDS”). We accordingly take the occasion for a brief review of the post-crisis regime of swap regulation.

1. Balance Sheet Synthetics

Synthetic securitization originated as a device to facilitate regulatory capital relief for banks by expanding the availability of CDS protection.⁴⁴⁹ Banks routinely enter into CDS with other banks as a means of diversifying the risk attending their portfolios of corporate loans.⁴⁵⁰ When such a swap is entered into with a sufficiently sound bank counterparty, the bank capital rules’ risk weighting of the referenced loan is reduced from 100% (implying equity capital support of 8¢ on the dollar) to 20% (reducing the support requirement to 1.6¢ on the dollar).⁴⁵¹ Synthetic securitization expands the population of qualified swap counterparties.

In a synthetic securitization, the bank sets up an SPE which funds itself by selling “credit linked notes” (“CLNs”).⁴⁵² The SPE invests the proceeds of the sale of the notes in treasury securities and enters into a credit default swap with the bank referencing the bank’s loan portfolio.⁴⁵³ This swap covers approximately 20% of the face value of the loan portfolio and takes the first loss risk.⁴⁵⁴ The combined returns on the swap and the treasuries put the SPE in a position to

445. MICHAEL LEWIS, *THE BIG SHORT: INSIDE THE DOOMSDAY MACHINE* 24 (2010).

446. Bratton & Levitin, *supra* note 2, at 847–63.

447. FINANCIAL CRISIS INQUIRY COMM’N, *supra* note 242, at 143–46, 188–89.

448. S&P GLOBAL RATINGS, *Ten Years After the Financial Crisis, Global Securitization Lending Transformed by Regulation and Economic Growth*, RATINGSDIRECT: STRUCTURED FINANCE (July 21, 2017), <https://www.spratings.com/documents/20184/1393097/SF10Years/b0f1300a-5ed5-407d-8d3b-77fde3b1f20c>.

449. Bratton & Levitin, *supra* note 2, at 815.

450. *Id.*

451. *Id.*

452. *Id.* at 817.

453. *Id.*

454. *See id.* at 800.

offer an attractive yield on the CLNs, which serve as the securitization's mezzanine and junior tranches.⁴⁵⁵ The remaining 80% of the default risk on the bank's portfolio, called "super senior," is transferred under a CDS entered into directly between the bank and another financial institution.⁴⁵⁶ From the point of view of the bank buying CDS protection on its loan portfolio, the deal makes sense if the value of the capital relief exceeds the cost of the swaps.

Prior to the financial crisis, the Federal Reserve Board accorded risk weighting relief from 100% to 20% for corporate loan portfolios protected under these arrangements on the condition that the counterparty to the super senior swap had a AAA credit rating.⁴⁵⁷ When the capital relief question came up again after the financial crisis, the Federal Reserve modified its view. It now grants capital relief only if the SPE is unaffiliated with the bank.⁴⁵⁸ It views affiliated SPEs as suspect, in effect analogizing them to bank SIVs: "such transactions . . . generally do not involve effective risk transfer because of the sponsored entity's ongoing relationship with the firm and . . . the implicit obligation that the firm may have to provide capital to the sponsored entity in a period of financial stress affecting the sponsored entity."⁴⁵⁹

The Federal Reserve's ruling has had a chilling effect on the use of balance sheet synthetics by banks in the United States.⁴⁶⁰ European bank regulators do not disqualify affiliated structures, and the transactions have reappeared there during the last five years.⁴⁶¹

Substantial transaction volume in synthetic securitization continues in the US, but not at the banks.⁴⁶² Instead, today's major domestic users are the Fannie Mae and Freddie Mac (the GSEs), which are using balance sheet synthetics to transfer default risk on the mortgages in the RMBS pools they guarantee.⁴⁶³

GSE securitization separates interest rate risk and credit risk. The investors in GSE RMBS assume interest rate risk on the securitized mortgages, while the

455. *Id.* at 817–18.

456. *Id.* at 817–19. The super senior CDS can be omitted, with the result that the bank has to show capital above the risk-weighted minimum to support the residual default risk on the portfolio. *See* Board of Governors of the Federal Reserve System, Guidance Letter, SR 13-23 (Dec. 20, 2013), <https://www.federalreserve.gov/supervisionreg/srletters/sr1323.htm>.

457. GILLIAN TETT, *FOOL'S GOLD: HOW THE BOLD DREAM OF A SMALL TRIBE AT J.P. MORGAN WAS CORRUPTED BY WALL STREET GREED AND UNLEASHED A CATASTROPHE* 60–63 (2009).

458. *See* Board of Governors of the Federal Reserve System, *supra* note 456.

459. *Id.*

460. *US Banks Exploring Synthetic CLO Revival*, ABALERT (Oct. 7, 2016), <https://www.abalert.com/search.pl?ARTICLE=169589>.

461. Daniel N. Budofsky, *A Resurgence of Synthetic Securitizations*, PILLSBURY (June 20, 2017), <https://bit.ly/2MN2Lmf>; *Synthetic Securitisation: A Different Sort of Comeback*, DELOITTE (June 2017), <https://www2.deloitte.com/de/de/pages/financial-services/articles/synthetische-verbrieftung-English.html>.

462. Allison Bisbey, *Nonbanks Seize on New Source of Funding for Multifamily Lending*, AMERICAN BANKER (Aug. 2, 2017, 4:40 PM), <https://www.americanbanker.com/news/nonbanks-seize-on-new-source-of-funding-for-multifamily-lending>.

463. DARRYL E. GETTER, CONG. RESEARCH SERV., *OVERVIEW OF RECENT ADMINISTRATIVE REFORMS OF FANNIE MAE AND FREDDIE MAC* 4 (2019).

GSEs retain the credit risk through their guaranties of timely payment of principal and interest on the MBS.⁴⁶⁴ The GSEs have been in conservatorship since 2008 and their conservator, the Federal Housing Finance Agency, has pushed them to reduce risk levels (without mandating any particular form of de-risking).⁴⁶⁵ Fannie and Freddie both opted to transfer part of the credit risk on the MBS they guaranty on a synthetic basis, entering into credit default swaps with SPEs that fund themselves with CLNs and invest the proceeds in highly liquid, safe assets.⁴⁶⁶

Notably, the GSEs do not transfer all of the credit risk on the RMBS pool. Instead, they retain the first loss position of 0.5% of the reference pool (much like an insurance deductible), as well as the senior 97% of the pool.⁴⁶⁷ They sell only a second-loss mezzanine slice of 2.5% of the pool to investors, but also retain at least 5% of all mezzanine tranches, for a total transfer of 2.375% of the credit risk on the reference pool.⁴⁶⁸

A transfer of 2.375% of the credit risk may sound small, but it is most of the first 3% of loss on the pool, which exceeds expected loss in most scenarios. The idea is that the GSEs will bear normal operating risk, the CLN investors will bear the risk of a serious market downturn, and the GSEs (and thus effectively the federal government) will bear the tail risk of a market catastrophe. From 2013 to November 2018, Fannie and Freddie collectively transferred more than \$65 billion in credit risk on over \$2.2 trillion in mortgages through synthetic structures.⁴⁶⁹ While \$65 billion is a fairly small slice of the \$10 trillion mortgage market, it is a large percentage of the most immediate exposure to losses in the mortgage market.

The synthetic credit risk transfer programs have substantially de-risked the GSEs.⁴⁷⁰ In so doing, the GSEs have reoriented the credit markets. Those seeking high-risk-high-return participations in the housing credit now take CLN positions in these GSE synthetics.⁴⁷¹ Previously, investors demanding credit risk on

464. *Id.*

465. Federal Housing Finance Agency, *History of Fannie Mae and Freddie Mac*, <https://www.fhfa.gov/Conservatorship/Pages/History-of-Fannie-Mac--Freddie-Conservatorships.aspx> (last visited Dec. 5, 2019).

466. Adam Levitin, *Two Cheers for Fannie and Freddie Synthetic CDO's*, CREDIT SLIPS, (Dec. 31, 2015, 3:55 PM), <https://www.creditslips.org/creditslips/2015/12/a-tentative-two-cheers-for-fannie-and-freddie-cdos.html>.

467. *See, e.g.*, Fannie Mae, *Connective Avenue Securities Trust 2018-R07*, at 4, (Nov. 5, 2018), <https://www.fanniemae.com/resources/file/credit-risk/pdf/connave-2018-r07-offering-memorandum.pdf>.

468. This risk retention is not mandated by section 941 of the Dodd-Frank Act, which does not cover synthetic securitizations.

469. Housing Finance Policy Center, *Housing Finance at a Glance: A Monthly Chartbook*, URBAN INSTITUTE, Jan. 2019, at 27.

470. Laurie Goodman et al., *How to Improve Fannie and Freddie's Risk Sharing Effort*, URBAN INSTITUTE, Aug. 2016, at 2, <https://www.economy.com/mark-zandi/documents/2016-08-25-How-to-Improve-Fannie-and-Freddies-Risk-Sharing-Effort.pdf>.

471. *Overview of Fannie Mae and Freddie Mac Credit Risk Transfer Transactions*, FEDERAL HOUSING FINANCE AGENCY 1, 17 (Aug. 2015), <https://www.fhfa.gov/AboutUs/Reports/ReportDocuments/CRT-Overview-8-21-2015.pdf>.

mortgages had to purchase PLS.⁴⁷² We look here for a partial explanation for the anemic nature of the post-crisis nonprime market. While there are endogenous reasons for its failure to revive, the emergence of a new market in first loss mortgage credit risk has also contributed to the lack of investor interest.

2. *Naked Synthetics*

Nothing requires a party buying CDS protection to be reducing the risk on its own portfolio of corporate loans or other debt securities. Speculators not seeking to protect their portfolios buy swap protection on a “naked” basis.⁴⁷³ Here, the swap protection buyer, rather than reducing risk on a debt security that it owns, wants to bet that a referenced debt security it does not own is going to default.

Synthetic securitization was adapted to facilitate these naked bets. The structure is the same as in a bank’s balance sheet securitization, except that the debt securities referenced under the swap can be any extant debt securities on which the parties agree.⁴⁷⁴ Such naked synthetic structures proliferated prior to the financial crisis based on reference portfolios of CDOs tied to the residential real estate market.⁴⁷⁵ The structures provided a cheap and quick means to sell a long position in CDOs (to the buyer of the CLNs) and, on the other side of the transaction, to place a bet that CDOs were going to default.⁴⁷⁶ Those on the long side of the structures lost their investments, while the shorts became rich.⁴⁷⁷

A handful of bank swap desks remain ready to put longs and shorts together in these structures.⁴⁷⁸ Pension funds and asset managers looking for yield take the long positions.⁴⁷⁹ Today’s transactions differ from pre-crisis transactions in two respects: first, today’s reference security is not a security at all but a credit default swap index; and, second, durations have shortened from around seven to ten years to two or three.⁴⁸⁰ Volume appears to be modest.

472. Morris A. Davis et al., *Mortgage Risk Since 1990* 25 (Fed. Hous. Fin. Agency, Working Paper No. 19-02), <https://www.fhfa.gov/PolicyProgramsResearch/Research/PaperDocuments/wp1902.pdf>.

473. Yeon-Koo Che & Rajiv Sethi, *Credit Market Speculation and the Cost of Capital*, 6 AM. ECON. J. MICROECONOMICS 1, 2 (2014).

474. *Id.* at 24 n.20; Orcun Kaya, *Synthetic Securitization Making a Silent Comeback*, EU MONITOR GLOBAL FINANCIAL MARKETS (Feb. 21, 2017), https://www.dbresearch.com/PROD/RPS_EN-PROD/PROD0000000000441788/Synthetic_securingitisation%3A_Making_a_silent_comeback.pdf.

475. Tracy Alloway et al., *Bid to Relaunch Synthetic CDO Unravels*, FINANCIAL TIMES (June 16, 2013), <https://www.ft.com/content/313889be-d42c-11e2-8639-00144feab7de>.

476. William W. Bratton & Adam J. Levitin, *A Transactional Genealogy of Scandal: From Michael Milken to Enron to Goldman Sachs*, 86 S. CAL. L. REV. 783, 791–92 (2013).

477. Bratton & Levitin, *supra* note 2, at 858.

478. These banks are BNP Paribas, Citigroup, Goldman Sachs, JP Morgan Chase, and Société Générale. See Christopher Whittall & Mike Bird, *In a Blast From a Financial Crisis Past, Synthetic CDOs Are Back; Market for Collateralized Debt Obligations is on the Rise Again After Years on the Decline*, WALL ST. J., (Aug. 28, 2017, 5:30 AM), <https://www.wsj.com/articles/in-a-blast-from-a-financial-crisis-past-synthetic-cdos-are-back-1503912601>.

479. Jiajia Cui et al., *When Do Derivatives Add Value in Pension Fund Asset Allocation*, 6 ROTMAN INT’L J. PENSION MGMT. 46, 47 (2013).

480. Whittall & Bird, *supra* note 478; see also Sridhar Natarajan, Dakin Cambell & Alastair Marsh, *Citi Is Bringing Back One of the Most Infamous Bets of the Credit Crisis*, BLOOMBERG, (Sept. 26, 2017, 4:00 AM),

3. *Credit Default Swaps*

It bears noting that there is a discontinuity in the post-crisis treatment of credit default swaps under the bank capital rules. We have seen that equity support requirements for investment in structured products rose dramatically.⁴⁸¹ There also have been increases applied to bank exposures to other financial firms, apparently for the purpose discouraging interconnectedness.⁴⁸² Regulatory capital relief stemming from inter-bank CDS arrangements continues without modification⁴⁸³ despite interconnectedness.

The pattern can be explained by the reference to Dodd-Frank's new regime of swap intermediation. The banks were the focal point players in the pre-crisis swap market—counterparties took positions with bank dealers whose job it was to match the exposure with a client taking the opposite position.⁴⁸⁴ Many worried that the resulting exposures could lead to a financial crisis. But, as it turned out, when a crisis did occur, swap exposures did not figure prominently as a cause.⁴⁸⁵ They did, however, become an aggravating factor. When Lehman Brothers collapsed, leaving behind an opaque \$21 billion over-the-counter dealer portfolio and a wave of cancelled transactions and unmet claims,⁴⁸⁶ a new and substantial dose of downside risk shook the markets at an inopportune time.

Dodd-Frank title VII addresses the problem of bank swap exposure by pushing most swaps out of the banks. It mandates that the creation, clearing, and trading of standardized swap transactions be conducted by central clearing counterparties (“CCPs”).⁴⁸⁷ The CCPs, which amount to swap exchanges, had to be created for the occasion.

With central clearing, the exchange is the counterparty, all contracts are standardized, a short position automatically matches every long position, and all

<https://www.bloomberg.com/news/articles/2017-09-26/as-synthetic-cdos-roar-back-a-young-citi-trader-makes-her-name>.

481. See *supra* text accompanying notes 166–84.

482. Jill Cetina, et al., *More Transparency Needed for Bank Capital Relief Trades*, OFFICE OF FINANCIAL RESEARCH 15-04, at 1 (June 11, 2015), <https://www.financialresearch.gov/briefs/files/OFRbr-2015-04-bank-capital-refief-trades.pdf>.

483. *Id.*

484. Wenxin Du et al., *Counterparty Risk and Counterparty Choice in the Credit Default Swap Market* 1 (Nov. 2018), <http://w4.stern.nyu.edu/finance/docs/pdfs/Seminars/1803/1803w-du.pdf>.

485. Thomas A. Russo & Aaron J. Katzel, *The 2008 Financial Crisis and Its Aftermath: Addressing the Next Debt Challenge*, GROUP OF THIRTY 25 (2011), https://group30.org/images/uploads/publications/G30_2008FinancialCrisisAftermathDebtChallenge.pdf (describing how credit default swaps aggravated the crisis but did not cause it).

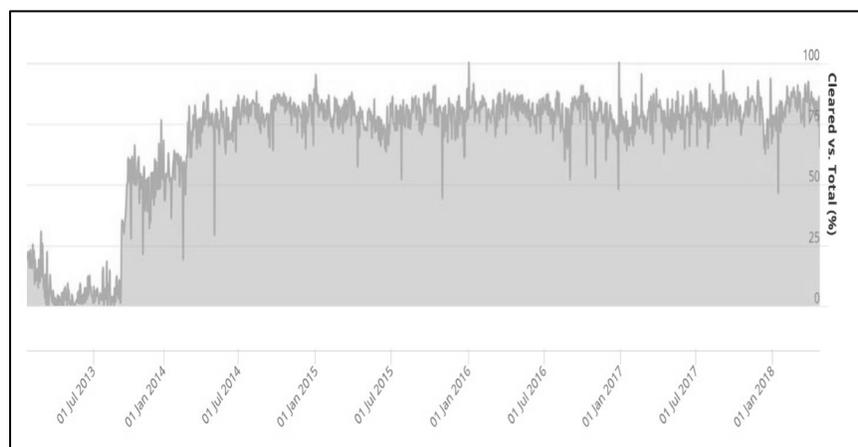
486. TREASURY REPORT, *supra* note 168, at 115–16.

487. The CFTC promulgated rules to determine which swaps are required to be cleared by registered CCPs in 2011. Process for Review of Swaps for Mandatory Clearing, 76 Fed. Reg. 44464 (July 26, 2011). Mandatory CCP clearing directives began in 2013. Press Release No. 6607-13, U.S. Commodity Futures Trading Commis's'n, CFTC Announces that Mandatory Clearing for Category 2 Entities Begins Today (June 10, 2013), <https://www.cftc.gov/PressRoom/PressReleases/pr6607-13>. Title VII also imposes data reporting requirements and a new set of registration requirements and capital requirements on OTC dealers. The CFTC promulgated its swap dealer registration rules in 2012. Registration of Swap Dealers and Major Swap Participants, 77 Fed. Reg. 2613, (Jan. 19, 2012).

of the exchange's counterparties must post a margin.⁴⁸⁸ In theory, this arrangement reduces counterparty default risk (and therefore systemic risk) by assuring balanced exposures and limiting a given counterparty's exposure to the CCP itself rather than to a broad range of other financial institutions. The CCP also serves as a regulatory focal point for imposition of capital and liquidity standards on all players.⁴⁸⁹

The transition to CCPs has been substantially accomplished. Figure 7, produced by the International Swaps and Derivatives Association, shows trading activity and signals a remarkable shift from over-the-counter to CCP: as Dodd-Frank mandates became effective in 2013, the CCPs suddenly became the venue for 90% of trading activity.⁴⁹⁰

FIGURE 7: CREDIT DEFAULT SWAPS PERCENTAGE OF CENTRALLY CLEARED TRADING VOLUME⁴⁹¹



It should be noted that the trading figures overstate the prominence of CCPs because trading tends to be concentrated in recent short-term contracts. The CCPs' share of new contracts is slightly lower: by mid-2017, the CCPs were the venue for 87% of all new interest rate swap transactions and about 79% of index

488. Colleen M. Baker, *Clearinghouses for Over-the-Counter Derivatives* 17–23 (Nov. 2016) (unpublished paper), https://www.volckeralliance.org/sites/default/files/attachments/VolckerAlliance_ClearinghouseForOverTheCounterDerivatives.pdf (describing the structure of clearinghouses and necessity of posting a margin).

489. *Central Counterparties*, EUROPEAN SECURITIES & MARKETS AUTHORITY, <https://www.esma.europa.eu/policy-rules/post-trading/central-counterparties> (last visited Dec. 3, 2019).

490. Inaki Aldasoro & Torsten Ehlers, *The Credit Default Swap Market: What a Difference a Decade Makes*, BIS Q. REV., June 2018, at 1, 4.

491. Source: ISDA Swapsinfo.

credit default swaps.⁴⁹² Movement to CCPs has rationalized the market, causing a steep drop in the notional amount outstanding.⁴⁹³

Unfortunately, the CCP transition raises as many questions as it answers. CCPs do absorb risks. But they also concentrate them. ICE Clear Credit dominates the dollar-denominated segment with upwards of 80% of the contracts.⁴⁹⁴ Margin arrangements, introduced to reduce risk, also create it: an ICE Clear Credit margin call against a big player could have disruptive consequences.⁴⁹⁵ The banks remain in the system as risk bearers—as with nonbank mortgage lending, they now participate on an indirect basis.⁴⁹⁶ Each big bank has multiple exposures to CCPs: it is a user of the services of several of them; it is an equity investor in one or more of them;⁴⁹⁷ it is a lender to one or more of them; and it is a provider of depository and custodial services to one or more of them.⁴⁹⁸ Critics, variously pointing out new risks implicit in the structure,⁴⁹⁹ question its safety and soundness.

There are telling comparisons with mortgage and corporate lending. In all three cases, post-crisis reforms have pushed risk out of the banks, even as the banks simultaneously retain risk on a secondary basis as financiers. In all cases there are questions about the safety and soundness of the nonbank replacements and salience of the risk retained by the banks. But there is also a big distinction. With mortgage and corporate lending, the transition was inadvertent and new nonbanks flew in under the regulatory radar.⁵⁰⁰ With swaps, the transition was

492. TREASURY REPORT, *supra* note 168, at 121–22. A Bank for International Settlements study shows that the real numbers on swap creation are elusive. The one thing that is clear is that CCPs contracts are displacing inter-dealer contracts. Inter-dealer positions shrank from 57% of outstanding contracts globally in 2011 to 25% by the end of 2017 with CCP contracts making up 55%. Aldasoro & Ehlers, *supra* note 490, at 4.

493. Aldasoro & Ehlers, *supra* note 490, at 4, 6.

494. *Id.* at 6–7.

495. Baker, *supra* note 488, at 40–42 (discussing the relationship between margins and risk in clearing-houses).

496. See generally Umar Faruqui et al., *Clearing Risks in OTC Derivatives Markets: The CCP-Bank Nexus*, BIS Q. REV. 73 (2018) (discussing the relationship between CCPs and banks and the risks associated with that relationship).

497. Dietrich Domanski et al., *Central Clearing: Trends and Current Issues*, BIS Q. REV., Dec. 2015, at 59, 63.

498. *Id.* at 62–63.

499. See, e.g., Adam J. Levitin, *The Tenuous Case for Derivatives Clearinghouses*, 101 GEO. L.J. 445, 463 (2013) (discussing whether clearinghouses create systemic risk); Stephen J. Lubben, *Failure of the Clearinghouse: Dodd-Frank's Fatal Flaw?*, 10 VA. L. & BUS. REV. 127 (2015) (discussing Dodd-Frank's failure to provide a process for failed CCPs); Albert J. Menkveld, *Crowded Positions: An Overlooked Systemic Risk for Central Clearing Parties*, 7 REV. ASSET PRICING STUD. 209 (2017) (discussing systematic risk associated with crowded positions and showing that CCP risk management does not account it); Paolo Saguato, *The Ownership of Clearinghouses: When "Skin in the Game" Is Not Enough, The Remutualization of Clearinghouses*, 34 YALE J. ON REG. 101 (2017) (arguing that clearinghouse ownership structures are key to the risks implicit in clearing-houses); Rama Cont, *Central Clearing and Risk Transformation* (Norges Bank Research, Working Paper, Paper No. 3, 2017), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2955647 (contending that central clearing transforms counterparty risk into liquidity risk; and that the main focus of risk management should member liquidity and CCP liquidity resources); Paul Glasserman et al., *Hidden Illiquidity with Multiple Central Counterparties* (Oct. 30, 2014), <https://ssrn.com/abstract=2519647> (arguing that multiple memberships permit evasion of margin requirements).

500. ENGEL & MCCOY, *supra* note 14, at 19.

an ex ante regulatory strategy designed to bring new nonbanks into existence under in a heavily regulated context.⁵⁰¹ It is not clear that this is a distinction with a difference.

D. Structured Investment Vehicles

Structured Investment Vehicles or “SIVs,” were the shadow banks par excellence of the pre-crisis era,⁵⁰² combining aspects of a bank, a securitization, and a hedge fund. The banks created and advised them initially as unregulated, off-balance sheet alter egos holding assets that suffered unfavorable treatment under the bank capital rules.⁵⁰³ With a SIV, such investment could be financed with an all-debt capital structure.⁵⁰⁴ The banks’ SIVs went on to become holders of diversified portfolios of actively managed, highly-rated (mostly securitized) assets funded through the issuance of medium-term notes and commercial paper.⁵⁰⁵ Like a bank, a SIV arbitrated the spread in yields between long-term debt investments and short-term liabilities.⁵⁰⁶ Like a hedge fund, there was an advisory relationship and an absence of deposit-based funding.⁵⁰⁷ Like a securitization, there was an SPE and tranching debt.⁵⁰⁸

A variant, the “SIV-Lite” invested more heavily in mortgage related assets and relied on shorter term funding.⁵⁰⁹ The SIV-Lites played a key role in the subprime mortgage market. They were set up by the big nonbank home mortgage originators—American Home Mortgage, GMAC, Lehman, New Century, and the like⁵¹⁰—as captive providers of short-term warehouse funding for portfolios of home mortgages in transit to RMBSs. The SIV-Lites bought repos from their sponsors and funded their repo portfolios with asset-backed commercial paper.⁵¹¹

The sponsors, whether of SIVs or SIV-Lites, maintained close ties to their entities. The sponsor designed the entity’s investment plan and served as its investment advisor, acted as the dealer when the entity invested, and arranged for financing with debt investors.⁵¹² On the upside, the management contract with the sponsor drained out the SIV’s profits in the form of incentive compensation.⁵¹³ The sponsors also took the downside risk, holding the subordinated debt that as a practical matter served as the equity in the entity.⁵¹⁴

501. See Conference of State Bank Supervisors, *Proposed Regulatory Prudential Standards for Nonbank Mortgage Servicers*, at 1–7 (2017), <https://bit.ly/2MQGwMw>.

502. See Tabe, *supra* note 56.

503. *Id.*

504. Bratton & Levitin, *supra* note 2, at 838.

505. Tabe, *supra* note 2, at 16.

506. Bratton & Levitin, *supra* note 2, at 836.

507. *Id.*

508. *Id.* at 836–38.

509. *Id.* at 837.

510. Kim et al., *supra* note 292, at 18.

511. Tabe, *supra* note 2, at 17.

512. *Id.* at 76.

513. BASEL COMMITTEE ON BANKING SUPERVISION, *supra* note 30.

514. Bratton & Levitin, *supra* note 2, at 838–41.

The bank sponsors promised back-up liquidity support in addition. SIVs had to refinance between 20% and 50% of their debt every year.⁵¹⁵ To ameliorate the resulting refunding risk, the bank sponsors promised to provide funding (or promised to repurchase SIV assets) if the external markets proved unwilling.⁵¹⁶ The commitments, however, were subject to a cap of 5% to 10% of the entity's total assets.⁵¹⁷ The SIV-Lites, which were not sponsored by banks, relied on backup liquidity commitments from commercial banks with at least AAA credit ratings.⁵¹⁸

At the beginning of 2007 this was a \$400 billion sector.⁵¹⁹ By October 2008, every SIV and SIV-Lite had lapsed into insolvency.⁵²⁰ Their lenders, suddenly wary of subprime-related assets, refused to roll over the SIVs short-term funding beginning in June 2007.⁵²¹ It was a classic case in which a small drop in the value of a firm's assets triggers the firm's failure due to combination of high leverage and short duration financing.⁵²² Asset fire sales followed. Senior lenders to SIV-Lites and SIVs unaffiliated with big banks suffered losses of 60% to 95%; junior lenders were wiped out.⁵²³ Lenders to big bank SIVs did better. Despite an absence of a contractual duty to do so, the bank sponsors took their SIVs back to their own balance sheets, partly to protect their own reputations and partly to ameliorate distress in the asset markets.⁵²⁴ The bank SIV lenders were doubly lucky when the banks were later bailed out by the government.

The SIVs, then, were the canary in the coal mine of the financial crisis. They have not come back.⁵²⁵ One reason concerns the line of business: no one makes highly levered investments in CDOs anymore. Nonbank mortgage lenders still need warehouse financing, but today they get it from the banks rather than from captive SPEs.⁵²⁶ The other reason is regulatory. The regulatory arbitrage

515. *Id.* at 839.

516. *Id.*

517. *Id.*

518. Kim et al., *supra* note 292, at 18.

519. See Sanjiv Das & Seoyoung Kim, *The Design and Risk Management of Structured Finance Vehicle*, J. FIN. RISK MGT., (2016), 1 (explaining how SIV's held an estimated \$400 billion in assets before the financial crisis).

520. See Bratton & Levitin, *supra* note 2, at 843; see, e.g., *Abu Dhabi Commercial Bank v. Morgan Stanley & Co. Inc.*, 888 F. Supp. 2d 431 (S.D.N.Y. 2012), *aff'd in part* Pa. Pub. Sch. Emps. Ret. Sys. v. *Morgan Stanley & Co., Inc.*, 772 F.3d 111 (2d Cir. 2014); *King County, Wash. v. IKB Deutsche Industriebank AG*, 2012 WL 11896326 (S.D.N.Y.) (demonstrating large quantity of ex post litigation over this issue).

521. See Tabe, *supra* note 2, at 27; see also Bratton & Levitin, *supra* note 2, at 842.

522. Das & Kim, *supra* note 519, at 19, 26.

523. Tabe, *supra* note 2, at 14, 27.

524. Bratton & Levitin, *supra* note 2, at 842–43.

525. They are spoken of in the past tense and there is no mention of them other than in the past sense on anything posted on the internet. See generally Tabe, *supra* note 2, at 17 (speaking of SIVs in the past tense). To make doubly sure of this, we checked the 2017 10-Ks of the largest four banks (JP Morgan, Bank of America, Wells Fargo and Citi). See Citigroup, Inc., Annual Report (Form 10-K) (Dec. 31, 2017). No SIVs were noted. *Id.* The VIEs with the closest resemblance are the banks' asset backed commercial paper conduits, which involve active management, credit enhancement, and liquidity support commitments but no retention of junior debt. *Id.* Even so, Citibank opts for balance sheet treatment. *Id.*

526. Kim et al., *supra* note 292, at 10.

that originally motivated the banks to sponsor SIVs is no longer available.⁵²⁷ A SIV, arranged as described above, is the core example of a variable interest entity required to be consolidated under GAAP.⁵²⁸ The bank sponsor controls the assets, retains the riskiest tranche in the all-debt capital structure, and also takes an upside in the form of a performance fee, resulting in a clear case for consolidation.⁵²⁹ Today, to keep such an entity off-balance sheet, a bank would have to turn the management over to a third-party or keep its hands clean of significant financial stakes in the assets.⁵³⁰ Because these choices are unattractive, SIVs no longer exist.

V. EVALUATION

Our review of post-crisis regulation and market innovation in mortgage and structured finance markets is a tale of two markets. The centerpiece of post-crisis mortgage market regulation is an absolute prohibition against making mortgages without regard for the borrower's ability to repay. It is a standards-based approach with substantial flexibility, but it is a prohibition nonetheless. In contrast, no absolute prohibitions exist in post-crisis regulation of structured finance markets. This contrasting approach is notable because the focus on government intervention during the crisis itself was in the capital markets, not the consumer markets.

We suggest that the difference in the post-crisis regulatory treatment reflects the distinct political economy of financial regulation: there is likely to be more intense political pressure for aggressive regulation in consumer markets than in capital markets because of the salience of consumer market regulation to voters, who are themselves consumers. The presence of more intense political pressure for reform in the consumer markets means that Congress and regulators are more likely to focus their efforts on consumer markets than on capital markets.

The post-crisis regulatory responses also exhibit some of the features that Professor Roberta Romano suggests as an "Iron Law" of financial regulation. Specifically, she argues that new financial regulation (1) responds to crises, (2) is undertaken on inadequate informational basis, (3) employs poorly-tailored off-the-rack regulatory solutions that inevitably fail to account for the dynamism of

527. See TAFE, *supra* note 2, at 24.

528. *Id.* at 844.

529. See BASEL COMMITTEE ON BANKING SUPERVISION, *supra* note 30, at 79–80.

530. Here is Bank of America's pertinent statement of accounting policy:

The Corporation consolidates a customer or other investment vehicle if it has control over the initial design of the vehicle or manages the assets in the vehicle and also absorbs potentially significant gains or losses through an investment in the vehicle, derivative contracts or other arrangements. The Corporation does not consolidate an investment vehicle if a single investor controlled the initial design of the vehicle or manages the assets in the vehicles or if the Corporation does not have a variable interest that could potentially be significant to the vehicle.

Bank of America Corporation Form 10-K, *supra* note 204, at 111.

financial markets, and (4) remains on the books longer than is useful because the U.S. political system favors maintenance of the status quo.⁵³¹

To counter the workings of this Iron Law, Professor Romano would build a deregulatory bias into the system. The costs of sticky and ill-tailored regulatory responses to crises, she argues, should be checked by (1) mandatory sunset provisions in legislation, and (2) a structure that is hospitable to regulatory experimentation.⁵³²

Our retrospective review of post-crisis regulation suggests that Professor Romano's "Iron Law" is correct in some notable respects. The post-2008 regulation of mortgage and structured finance markets was emphatically crisis driven, and a number of the responses were incomplete and off-the-rack, just as Professor Romano predicts.⁵³³ Indeed, we have shown that regulators and enforcers focused heavily on the pieces of the causal puzzle most susceptible to off-the-rack treatment. Our review also confirms Professor Romano's prediction that dynamic financial markets will undermine some of the drafters' objectives—they already have begun to do so with the remarkable reappearance of largely unregulated nonbank mortgage lenders.⁵³⁴

In the end, however, our review provides no support for a shift to a sunset-based regime. We first question whether Romano's prediction of a status quo bias has been borne out by events. We go on to highlight this Article's showing that post-crisis regulation succeeds at its intended and beneficent purpose at a number of critical junctures. Given such success, mandatory sunsets would be precipitous and destructive.

First, post-crisis regulations are not proving to be sticky. The banks retain a great deal of influence. We have, for example, seen in this study a number of junctures at which the banks pushed back successfully against the regulators and enforcers, such as the creation of the "balance sheet" patch for QM status and the FHFA's retreat on originator putback vulnerability. Banks and other financials have also successfully gone to court to get relief from burdensome reform initiatives, as we saw with the successful litigation challenges by the financial services industry to the application of the skin-in-the-game rule to CLOs.⁵³⁵ Courts

531. See Romano, *Further Assessment of the Iron Law of Financial Regulation*, *supra* note 18, at 1; see also Romano, *Regulating in the Dark*, *supra* note 18, at 1.

532. See Romano, *Further Assessment of the Iron Law of Financial Regulation*, *supra* note 18, at 37; Coffee, *supra* note 17, at 1022–25 (arguing that Romano's policy proposals are more likely to ensure regulation that favors the financial services industry than well-tailored regulation). *But see* Romano, *Regulating in the Dark*, in REGULATORY BREAKDOWN: THE CRISIS OF CONFIDENCE IN U.S. REGULATION, *supra* note 18, at 96–99 (responding to Coffee's critiques).

533. Romano, *supra* note 18, at 2.

534. *Id.* at 1.

535. *Loan Syndications & Trading Ass'n v. SEC*, 882 F.3d 220, 222 (D.C. Cir. 2018).

have gutted other post crisis regulatory innovations as well.⁵³⁶ Still other regulations have been successfully ignored by the regulated parties.⁵³⁷ Finally, Congress and various regulators have rolled back a number of post-crisis regulations. Increased capital requirements for large banks have been repealed.⁵³⁸ The FSOC has repealed all SIFI designations.⁵³⁹ Other significant post-crisis regulations have been amended and repealed as well.⁵⁴⁰ So, even as most of the Dodd-Frank edifice remains intact, we think that Professor Romano's diagnosis of stickiness is premature.

We part company with Professor Romano in a second key respect. Even as this Article's review of post-crisis regulation and markets confirms some of Professor Romano's predictions, its nuanced picture supports a more positive normative evaluation of the post-crisis regulatory edifice. The new regime constraining risky mortgage lending is working as intended. And it is not off-the-rack: the ability-to-repay requirement incorporates a novel approach to on-the-ground safety-and-soundness regulation. Subprime mortgages will not be coming back, even as nonprime has gained a toehold. No doubt that this new risk-constraining regime will prove in time to be deeply embedded. But we foresee no salient perverse effects, for the regulations plug a hole that ought to stay plugged. Sometimes mandated financial conservatism just makes sense. Ability-to-repay has traditionally been a cornerstone of prudent lending practice under the rubric of borrower "capacity."⁵⁴¹ The market's disregard of that long-standing wisdom had disastrous consequences. We see nothing to regret about this mandated return to traditional standards.

Of course, the ability-to-repay mandate's utility as a preventer of future crises remains to be tested. The new nonprime market has not yet tapped (and may never manage to tap) into a source of demand for yield that causes it to push against the ability-to-repay standards. We view the new mortgage servicing regulations similarly. They apply new solutions in new territory and could do a lot

536. *Consumer Fin. Prot. Bureau v. Seila Law LLC*, 923 F.3d 680, 682 (9th Cir. 2019), cert. granted sub nom. *Seila Law LLC v. Consumer Fin. Prot. Bureau*, No. 19-7, 2019 WL 5281290 (U.S. Oct. 18, 2019); *Collins v. Mnuchin*, 938 F.3d 553, 562 (5th Cir. 2019) (holding FHFA to be unconstitutional).

537. Andrew Berlin, *Regulated Banks Soften Stance on Leveraged Lending Guidance*, REUTERS (Apr. 19, 2018, 3:03 PM), <https://www.reuters.com/article/us-lev-regulation/regulated-banks-soften-stance-on-leveraged-lending-guidance-idUSKBN1HQ2XV>.

538. See, e.g., Economic Growth, Regulatory Reform, and Consumer Protection Act of 2018, P.L. 115-174, May 24, 2018, 132 Stat. 12-5 (rolling back capital standards for large banks and various consumer protections in the mortgage market).

539. Notice and Explanation of the Basis for the Financial Stability Oversight Council's Rescission of Its Determination Regarding Prudential Financial, Inc. (Prudential), U.S. DEP'T TREASURY, <https://home.treasury.gov/system/files/261/Prudential-Financial-Inc-Rescission.pdf> (last visited Dec. 3, 2019) (FSOC also repealed the designation of American International Group, Inc., General Electric Capital Corporation, Inc., and MetLife Inc. as nonbank SIFIs).

540. S.J. Res. 57, 115th Cong. 2d Sess., Apr. 18, 2018 (voiding the Consumer Financial Protection Bureau's 2013 Indirect Auto Lending Guidance); 82 Fed. Reg. 4252, Feb. 14, 2019, (proposing repeal of part of the Consumer Financial Protection Bureau's Payday Rule); 84 Fed. Reg. 2790, June 17, 2019 (delaying compliance date of the Consumer Financial Protection Bureau's Payday Rule).

541. 15 U.S.C. §§ 1639c(a) (2018).

of good in the next recession, subject to the caveat that more intensive regulation probably will follow as the regime is tested in practice.

We turn now to the pattern of securitization regulation. This certainly has an “off-the-rack” aspect: the constraints follow from extensions of existing regimes of securities regulation and bank capitalization. Even so, the contrast with the new regime of consumer-oriented regulations could not be more telling. Where the consumer regulations flatly prohibit risk-taking, the securitization regulations leave the business of trading off risk and return to actors in the marketplace. Serious constraints emerge only for the banks, where the interface of the risk retention requirement, the new capital rules, and the new accounting treatments transform securitization origination from a sharply favored to a sharply disfavored business practice. For nonbank securitizers, the picture is radically different, for they operate free of capital mandates. Reg AB II makes public offerings of securitized debt more expensive for all entities. But a huge private placement loophole remains in place.

Overall then, the regulators have left open a door for a revived market in private label structured products. As to residential mortgages, the markets have not yet accepted the invitation. But as to other asset classes, private label securitization has revived and innovation proceeds apace. The market has even expanded in the case of CLOs. And synthetic securitization, the most potentially toxic of all variations, survives and thrives. As to balance sheet synthetic structures, no regulation stands in the way so long as a bank is not involved, despite the structure’s poor track record. Their use has even been encouraged by a federal regulator as a method of de-risking Fannie Mae and Freddie Mac. As to naked structures, the banks are as ready as ever to meet customer demand.

We note in addition that there are salient cases of innovation in the new regulations governing structured products. This is not all off-the-rack. The accounting standard setters achieved a ground up reconceptualization of the consolidation rules, importing substantive integrity to the law of structured products for the first time. The accounting rules, joined by the ability-to-repay rules and the bank capital rules on securitization, also move away from rules-based to principles-based regulation that may be politically more palatable because of the flexibility it maintains in the regulatory system to deal with financial market innovation. (The securitization disclosure rules move in the opposite direction, but only after a notably unsuccessful experiment with a principles-based disclosure regime.)

An even more notable regulatory innovation came in the form of post-crisis enforcement initiatives of unprecedented scope and magnitude. These too had an off-the-rack aspect, targeting familiar matters of fraud and consumer abuse and avoiding the problematic enforcement terrain presented by the ill-conceived risk-taking in sophisticated financial markets and resulting externalities. Their ongoing deterrent power, moreover, is questionable. But they entail no stickiness and may have done some good.

VI. CONCLUSION

Post-crisis regulation is less than perfect. But to interpolate perfection as the evaluative standard for regulation is to build in an automatic preference for deregulation based on a Nirvana fallacy. We thus think that a collection of less-than-perfect reforms still can be endorsed. The particular collection reviewed here pulls off a neat trick, for it largely succeeds at tamping down on the products at the epicenter of the financial crisis—subprime mortgage loans and the private-label securitization that financed those loans—without choking off innovation in financial markets more broadly. Whether it will prevent the next crisis, we cannot say, for it may be fire next time. In that event, the trio of nonbank centers of risk accumulation identified here—in residential mortgage lending, corporate lending, and swap creation—could occasion regrets and recriminations. Even so, from the perspective of a decade after the crisis, we can comfortably give two cheers for the regulatory response. What it covers it covers well. The problem is that it does not cover enough.

