
Banking From Financial Crisis to Dodd-Frank: Five Years On, How Much Has Changed?

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1 Introduction

This month marks the fifth year anniversary of the passage of *The Dodd-Frank Wall Street Reform and Consumer Protection Act*, (Dodd-Frank) the main legislative response to the dangerous financial practices that led to the “great financial crisis” of 2007-2008. The anniversary provides a good opportunity to revisit the financial institutions and practices that are now widely understood to have led to the financial calamity of 2007-2008, and to assess the evolution of banking and finance since that time. As is now well known, starting in the 1980’s our financial system began to grow rapidly and its financial practices began to get more complex and risky. This process ramped up with the repeal in 1999 of the Glass-Steagall Act which, since 1933, had separated risky investment banking from less risky retail banking. This repeal marked the acceleration of a process of financial de-regulation in the United States that culminated in the great financial crisis. Over the eight years following its repeal, banks and other financial institutions spread a series of highly toxic securities and practices throughout the financial system in support of a massive housing price bubble, while ignoring many important financial needs of families and businesses. The resulting financial crash of 2007-2008 ushered in a massive economic crisis

that we are still dealing with to this day.¹

The Dodd-Frank Act was passed in 2010 in response to the financial excesses that led to the crisis. The Dodd-Frank Act attempted to reign in risky practices, increase the capital and liquidity buffers banks had to hold, bring derivatives under-regulation, monitor dangerous interconnections among financial institutions, and begin to bring the largest, most complex financial institutions – both bank and non-bank – under scrutiny and some regulatory oversight.² The basic questions we ask on this fifth anniversary of Dodd-Frank are: how much has changed in the financial system? Have the old, dangerous and socially inadequate practices shrunk? Have new, healthier and more socially useful activities taken their place? Are there new, potentially destructive or dangerous financial trends and practices that were modest or barely on the horizon 8 years ago that are now large and significant?³

In this report, we survey the trends of the US banking and financial system prior to and since the financial crisis and the passage of Dodd-Frank. We

*Thanks to Marcus Stanley and Jane D’Arista for essential help and to Americans for Financial Reform (AFR) and The Political Economy Research Institute (PERI) for financial support.

¹Useful discussions of the causes can be found in the comprehensive study of the Financial Crisis Inquiry Commission (FCIC, 2011), the prescient and comprehensive analyses of James Crotty (2009; 2012) and Jarsulic (2010). Also see D’Arista (2009), Crotty and Epstein (2009), Taub (2014) on the housing bubble and the papers in Wolfson and Epstein (2013), among many others.

²See the papers in Wolfson and Epstein (2013) for descriptions of these rules.

³For a very useful recent discussion of these issues, see Konzcal and Stanley (2014).

show that since the passage of Dodd-Frank, the financial system has become safer and more resilient in several important ways. Higher capital and stricter leverage requirements have improved the loss absorbing capacity of the banking system and reduced explicit leverage levels have improved the resiliency of the banking system.

But many trends in the over-all financial system have not changed. The basic business models and practices of the largest banks have not been fundamentally altered. And there are new, worrying trends in financial markets and practices. In particular, the expansion of the “shadow banking system” and its deepening interconnections with asset management and continued interconnections with the banks themselves are raising new stability dangers. In the meantime, many of the basic financial needs of households and businesses are not being adequately met by our financial system: small and medium sized business continue to have inadequate access to credit at a reasonable cost; home owners caught up in the devastating housing boom have not received adequate debt relief or been able to restore their access to credit; and fees and other costs associated with using the basic banking system have, if anything, gone up. In the meantime, bank profits and the incomes of bank executives and financial traders have virtually been restored to pre-crisis levels.

The upshot is that despite trillions of dollars of support by the Federal Reserve, Treasury Department and U.S. taxpayers, the U.S. banking and financial system continues to reward itself handsomely for its activities, while contributing relatively little to the over-all health of the economy, all the while developing new institutions and techniques that make money while fostering new risks for society. Moreover, many of the trends that critiques blame on the Dodd-Frank Act are actually simply a continuation of many of the trends that had developed prior to Dodd-Frank.

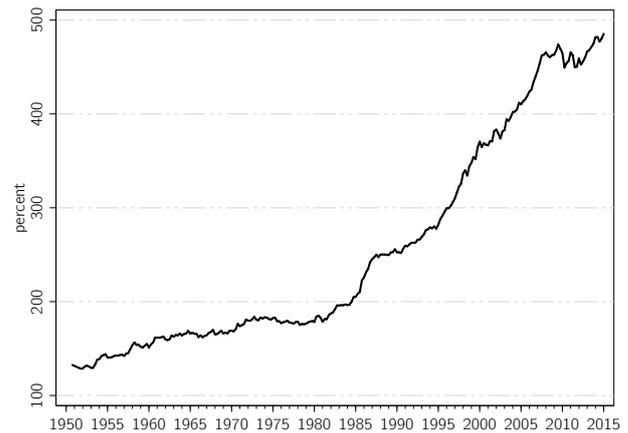
In short, there have been some improvements in the banking and financial system since Dodd-Frank, but at a basic level, the system is still broken.

2 Financial De-Regulation Fuels Boom, Bust and Tax-Payer Bail-Out

The 1980’s ushered in a massive increase in the size of the US financial system.⁴ This is somewhat paradox-

⁴For useful presentations and analysis or related material, see Levina et al. (2010); Philippon (2015); Copeland (2012);

Figure 1: Financial sector assets as a percent of GDP



Source: Flow of Funds, Board of Governors of the Federal Reserve.

ical since the early 1980’s were a period of significant financial crises, starting with the huge increase in interest rates engineered by Federal Reserve Chair Paul Volcker in 1980 to reduce inflation and then the so-called “Third World Debt Crisis” initiated by Mexico’s repayment difficulties in 1982, a crisis that spread to many other countries in the next several years. Surprisingly, this period of turmoil turned out to usher in a huge increase in the size and profitability of finance for several related reasons. First, the massive increase in real interest rates from the “Volcker shock” made financial activities extremely profitable. And equally important, the US government and the International Monetary Fund (IMF) used tax-payer funds and a great deal of political capital to bail-out US banks that had leant billions of dollars to Mexico and a handful of other developing countries that were now in or threatening default. As a result, large banks and those who lent them money were reinforced in their view that these banks were “too big to fail” and would be bailed out in the event of financial bets gone wrong. And, as the Financial Crisis of 2008 showed, they were right.

Figure 1 shows the huge increase in the size of the US financial system relative to the size of the economy that began around 1980. Between 1980 and 1999, financial sector assets almost doubled relative to the size of the overall economy (measured by GDP). This growth began to accelerate with the erosion and then final repeal of the Glass-Steagall Act and the other de-regulatory provisions of the Gramm-Leach-Bliley Act of 1999. By 2008, total financial assets were nearly five times the size of

Greenwood and Scharfstein (2013); Antill et al. (2014).

Figure 2: Share of corporate profits

Source: National Income and Product Accounts.

the annual production of goods and services in the economy (GDP).⁵

When the crisis hit in 2008-2009, the size of financial assets relative to the size of the economy fell, but subsequently recovered. In the last several years, the growth of financial assets relative to the economy has resumed its upward trajectory. By 2014, the amount of financial assets relative to the size of the economy was more than double what it was in 1980.

As we already mentioned, one important reason for the rapid growth in the size of finance was that bank profits were increasing rapidly after 1980. As Figure 2 shows, financial profits, as a share of total corporate profits started rising around 1980. They took a big dive and then temporarily stagnated relative to the profits of the economy in the middle nineties. But in the late 1990's bank profits took off again with the formal repeal of the Glass-Steagall Act. After 2008, they fell, as one would expect, but by 2014, finance's share had rebounded to the point that it was in 2006.

Banker pay has followed a similar trajectory as profits. In fact, it was the huge incentives from rapidly increasing banker pay that led the CEO's and traders of large financial institutions to engage in the highly risky activities that led to the crash.⁶

In the lead-up to the crisis, the pay of the financial engineers, traders and CEO's who profited from the financial frenzy that led to the crisis soared. As Figure 3(a) shows, financial wages soared relative to other sectors of the economy. These bankers benefited greatly from the high real interest rates, the

perception of government protection of large banks, and the increasing financial de-regulation that was being implemented. Without these incentives, it is highly unlikely that the financial crisis would have occurred.

But, importantly, not all segments of finance benefited equally from this massive explosion of profitable financial activity. As Figure 3(b) shows, the average incomes of investment banks and security brokers/dealers soared in the lead-up to the crisis, compared with commercial banks, with average salaries more than 4 times as high as those in commercial banking. This divergence between the fortunes of standard, retail banks, on the one hand, and the large investment and commercial banks are crucial to understanding the financial practices that led to the crisis, and the continuing financial problems and dangers that remain. By 2013, average incomes had not quite returned to the 2007 peaks, but were almost as high. Since 2010, incomes accruing to Funds, trusts and other sectors have shown tremendous growth.

Part of the growth during this period was focused outside the traditional banking system. This was recognized early on by Jane D'Arista and Tom Schlesinger in their prescient and important work on the "Parallel Banking" system.⁷ Now termed the shadow banking system, these activities spill outside the regulated, retail banking system. They are subject to little or no leverage requirements, capital requirements, transparency or data reporting requirements or even fiduciary requirements. Many of these institutions have been connected to mortgage companies, consumer credit companies, and securities brokers and dealers. They also include hedge funds and private equity funds.⁸

As Figure 4 shows, over the course of the 1980s, there was a slow reduction in the share of traditional retail banking and a gradual increase in the share of the activities of the "Shadow Banking System".

It is important to note that this shift began long before the financial crisis, and certainly long before Dodd-Frank. Still, in the 2000's, however, as financial de-regulation expanded, the nature of shadow banking began to change and it became much more dangerous. In the great financial crash, we found out the hard way that these financial activities are not segregated from the traditional banking system. While many of these activities take place outside of the region of regulatory scrutiny applied to tra-

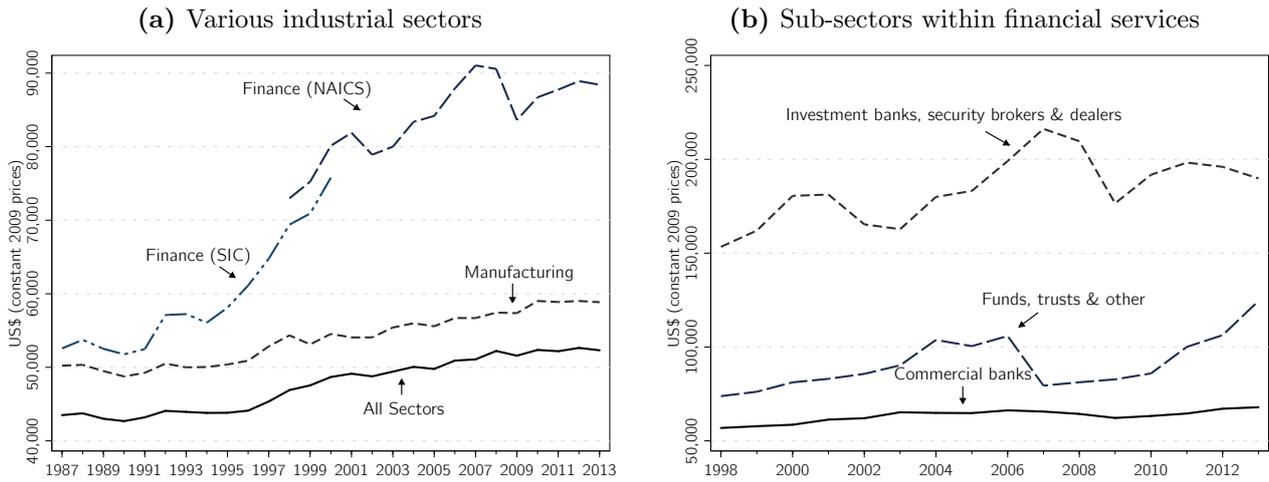
⁵See Levina et al. (2010) for more detail.

⁶See James Crotty's excellent analysis of the role of banker financial incentives as a cause of the financial crisis (Crotty, 2012).

⁷See D'Arista and Schlesinger (1993).

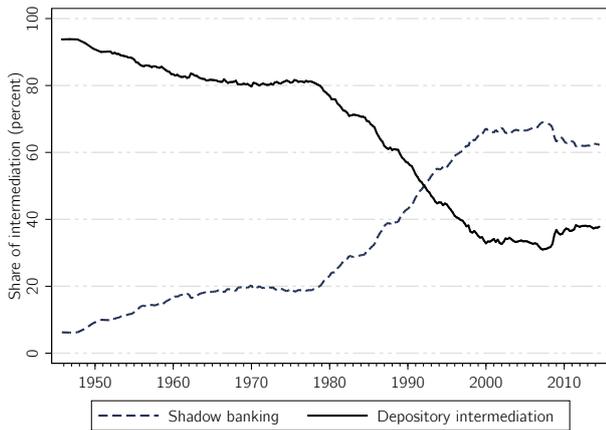
⁸For useful discussions of the "shadow banking system" see Pozsar (2015) and the Tarullo (2013).

Figure 3: Real wages per full-time equivalent employee



Source: National Income and Product Accounts.

Figure 4: Shadow banking and traditional depository intermediation as a share of the total



Source: Authors’ calculations based on the Flow of Funds, Board of Governors of the Federal Reserve.

ditional banking activities, there are many points at which these activities connect closely with large traditional commercial banks and investment banks. So, when Lehman Brothers went bankrupt, significant parts of the shadow banking system melted down, and because of their connections with the core banking system, they almost brought these down as well.

The period after Paul Volcker’s policies of increased interest rates and protecting the banks, along with initial trends toward financial de-regulation, were among the factors that contributed to the rapid growth of the financial sector and of banker pay, particularly among investment banks which had the least regulation and the greatest scope for financial

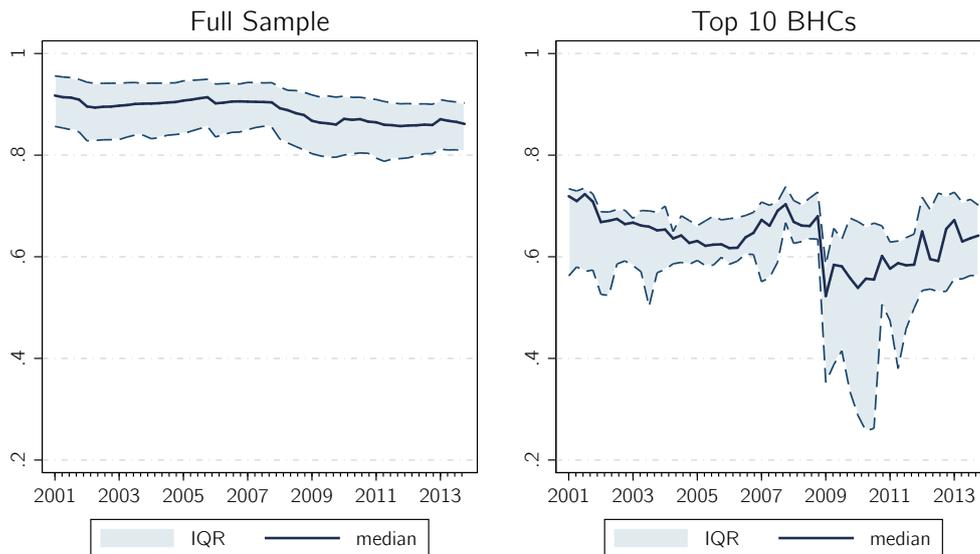
innovation and risky practices. The largest commercial banks such as Citicorp wanted to get in on the action, of course; and after 1999, with the repeal of the Glass-Steagall Act which resulted from the passage of the Gramm-Leach-Bliley Act of 1999 they were able to do so more easily, increasingly behaving more like the risk taking investment banks.⁹ Hence, financial growth and financial risk accelerated and subjected the economy to greater and greater risks.

3 The Repeal of Glass-Steagall and the Super-Charging of Finance

Many of these trends accelerated and qualitatively changed after the repeal of Glass-Steagall in 1999. The Gramm-Leach-Bliley Act of 1999, and the opposition to serious financial regulation by Federal Reserve Chair Alan Greenspan and the key economic advisors in the Bill Clinton Administration, allowed many financial institutions, including large commercial banks, to start engaging in riskier and riskier financial practices.¹⁰ The woefully inadequate financial regulatory system was highly fragmented among a series of federal and state institutions, which invited regulatory arbitrage. It was also subject to key legal and administrative changes that amounted to massive de-regulation of the financial system. Moreover, the financial regulatory system was populated with regulators that refused to enforce laws that were actually on the books – for either ideological reasons

⁹See Johnson and Kwak (2011) for a lively and informative discussion. Also, see Jarsulic (2010).

¹⁰In addition to the references cited above, see the excellent book by Pollin (2005).

Figure 5: BHC Traditional income share

Source: Authors' calculations on FRY-9C regulatory data.

or because of conflicts of interest or both – that could have limited some of the key problems that led to the crisis. This massive regulatory failure, along with dynamic technological changes in financial markets that regulation failed to keep up with, led to a number of specific financial practices and institutions that were extremely dangerous. Many of these institutions and practices were tied to and facilitated the massive housing asset bubble associated with the sub-prime lending bubble, but were inherently dangerous and destructive in their own right as well.

At the base of many of these trends was a new business model developed by the large banks. To understand this new banking model, we “follow the money”: we look at the sources of bank incomes from different activities. In the 1950’s and 1960’s, commercial banks received most of their income from simple retail banking: interest and fees from retail lending to households and businesses. As the new financial products and practices associated with the financial crisis developed – securitization, derivatives trading, proprietary trading, all of which are financed by very short term borrowing - the largest banks started receiving a higher and higher share of their incomes from these activities. Smaller and medium size banks continued to earn most of their income from traditional activities. But even these evolved over time so that the originate and distribute model associated with securitization began to dominate more and more lines of banking business, including mortgage and business lending.

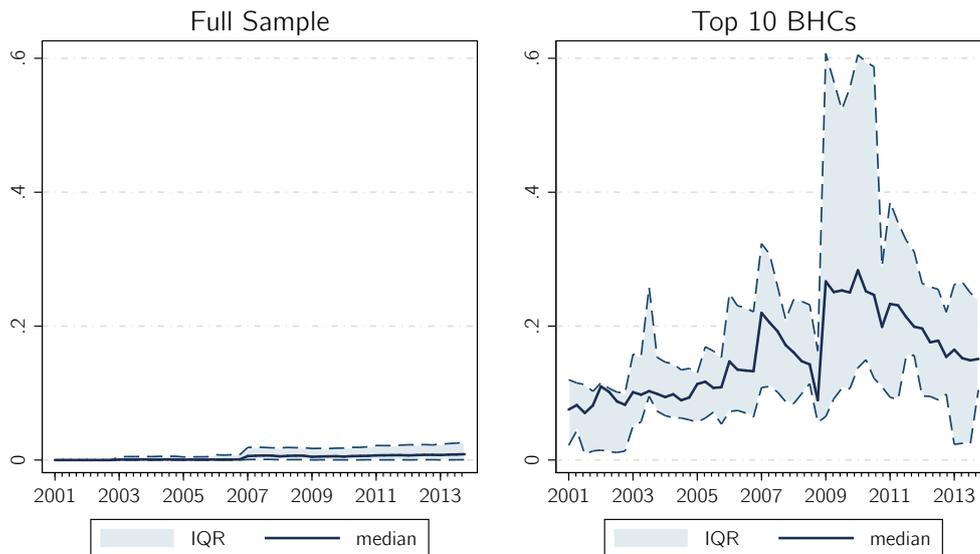
The next several figures illustrate these points.

Following the definitions from Copeland (2012), we break up total income for the entire population of Bank Holding Companies (BHC), as well as the largest 10 BHCs, between traditional and nontraditional activities. “Traditional” income consists of mostly revenue from interest and fees on loans, dividends on securities (excluding Mortgage-backed Securities), as well as capital gains. “Nontraditional” consists of trading revenue, investment banking, brokerage, underwriting, and venture capital activities. Figure 5 shows that from 2001 – 2013, the majority of Bank Holding Companies (BHC) received a fairly high and steady share of their income from traditional banking activities. This contrasts, however with the ten largest Bank Holding Companies. These large banks received only about 75 percent from traditional activities prior to the crisis, and an even smaller share afterwards, a bit more than 60 percent.

As Figure 6 shows, bank holding companies as a group get almost no income from non-traditional activities; but the 10 largest bank holding companies get a significant share, with typical bank getting 15 to 20 percent just before the crisis and continuing to get that amount afterwards. But as the figure shows, some of the banks have been getting more than 70 percent of their incomes from such activities.

This business model based on short term financing, invested in complex and opaque securities, as we will see below, made more complex with extensive use of derivatives, often led to banks becoming bigger and bigger and taking over larger and larger shares

Figure 6: BHC Nontraditional income



Source: Authors' calculations on FRY-9C regulatory data.

of the banking business.

Figure 7 shows that banking assets are highly concentrated among the largest banks. By the time of the crisis in 2008, the top 3 banks held almost 40 percent of bank assets while the top 10 held almost 70 percent. These figures are more than double the shares that were held by the top banks in 1994. Figure 8 shows, moreover, that the great financial crisis barely put a dent in the top shares.¹¹

of banks as they developed increasingly complex products and created more and more complex ways of hiding risk by helping to create and interact with the shadow banking system, accelerated in the 2000's with mind-boggling speed.

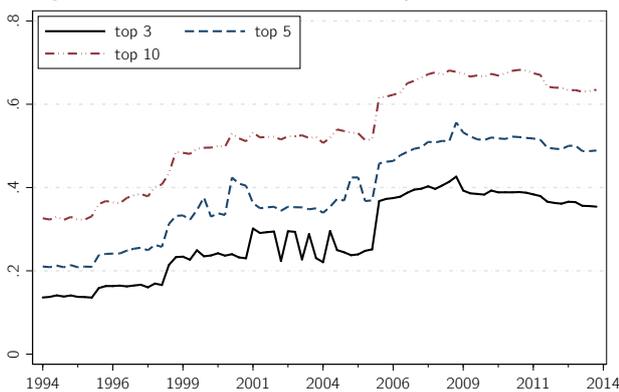
4 Financial Speculation and Risk Accelerate after 1999

This new business model delivered high profits, and increasing concentration and market power to the largest banks while delivering huge incomes and bonuses to powerful members of these firms. But all this came at the cost of neglecting important needs of families and businesses and by significantly raising risks in the economy.

Large banks and investment banks borrowed trillions of dollars of *short-term funding on a wholesale basis* to support the creation, buying and selling of complex, illiquid and highly opaque securities, much of them tied to a massive asset bubble in real-estate. This *originate and distribute model* relied on the bundling of traditional loans into big packages of securities, that is, *securitization*. This resulted in an enormous amount of *leverage* that was unsupported by sufficient *capital cushions* of the banks. Indeed, that was the intention: to avoid *capital requirements* by investing in assets that they did not have to hold capital against. Often, these assets were held *off balance sheet*, in the *shadow banking system*.

Altogether, these new policies by the largest com-

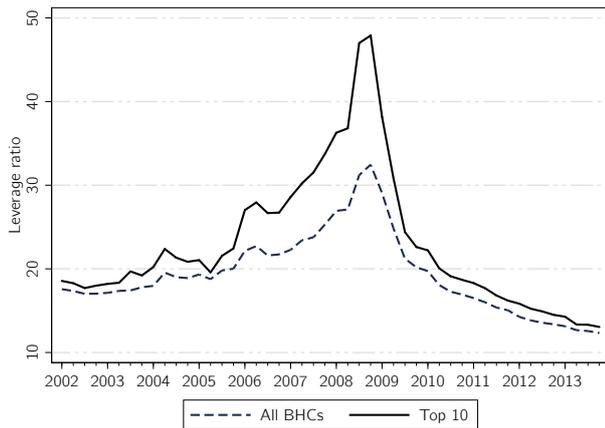
Figure 7: Share of assets held by the top BHCs



Source: Authors' calculations on FRY-9C regulatory data.

These developments in the new business models

¹¹An IMF report recently placed these data in international perspective (Luven et al., 2014). The trends in increasing size, concentration and risk since the early 2000's have taken place a broad group of wealthy countries, and not just in the US. And while concentration has increased in the US, including during the period since the crisis began, concentration is nonetheless lower than in Europe.

Figure 8: Aggregate tangible leverage ratio (tangible assets / tangible equity)

Source: Authors' calculations on FRY-9C regulatory data.

mercial and investment banks reflected a new business model of banking.¹² This model was very lucrative, but, as we came to discover, extremely dangerous.¹³

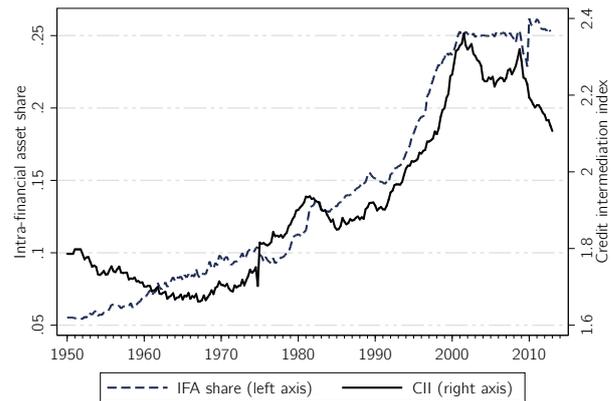
Figure 8 shows the staggering increase in leverage that resulted from these practices. In the run-up to the financial crisis, the largest bank holding companies increased their leverage from 20 to 1 in 2001 to over 45 to 1 in 2009. Bank holding companies overall went up on average to 35 to 1. This striking increase in leverage helps to explain the massive disruption in the financial system that resulted from the financial bust. Since 2009, bank leverage has come way down. While this has made banks safer, the *process of de-leveraging* has meant that banks have failed to provide sufficient credit to help propel the economic recovery.¹⁴

Leverage was further increased by taking positions in *derivatives* that multiplied both the possible returns and risks in these assets, again without offsetting these risks with greater capital cushions. This coincided with the originate and distribute model of credit allocation, where-by banks would package together mortgages and other assets, structure them with derivatives and other tools, and then sell them

¹²This new business model has been described by some economists at the OECD as a “hedge fund model of banking”. See Blundell-Wignall et al. (2013); Blundell-Wignall (2015).

¹³For recent analyses of this new model see Blundell-Wignall (2015); Antill et al. (2014); Copeland (2012); Bailey et al. (2015).

¹⁴Historically, this debt-overhang and de-leveraging process is a damaging, but typical result of the excessive and risky lending that occurred in the bubble. See, for example, Reinhart and Rogoff (2010).

Figure 9: Interconnectedness – Intra-financial assets share and credit intermediation index

Source: Montecino et al. (2015) and Greenwood and Scharfstein (2013).

off to banks, pension funds and other investors who often knew little of the true nature of these securities. Some of the ways in which these securities were marketed have been shown to be fraudulent. The large banks themselves made investments and trades for their own accounts, engaging in significant amounts of *proprietary trading*.

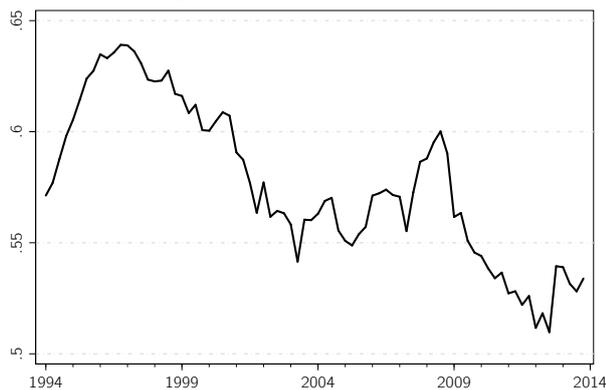
One of the key problems associated with this increased complexity of the financial system was a huge increase in interconnectedness of the financial system.¹⁵ This interconnectedness is difficult to measure with currently available data, but one useful measure is the share of assets held by the financial institutions that they lend to each other, rather than to final household or business borrowers. Figure 9 shows the rapid rise in so-called “intra-financial sector” assets as a share of total assets in the run up to the financial crisis. This share made a brief dip after the crisis hit, but is now back to pre-crisis levels.

5 Banking Model Fails to Deliver to Families and Businesses

By many measures, our banking system that has been dominated by relatively large banks following this speculative and risky banking model, led to a system that poorly provided for the key functions a well-functioning financial system should supply: credit allocation to productive investment; providing safe and lucrative savings vehicles for households; provide insurance and other risk sharing mechanisms; provide an efficient stable payments mechanism; provide

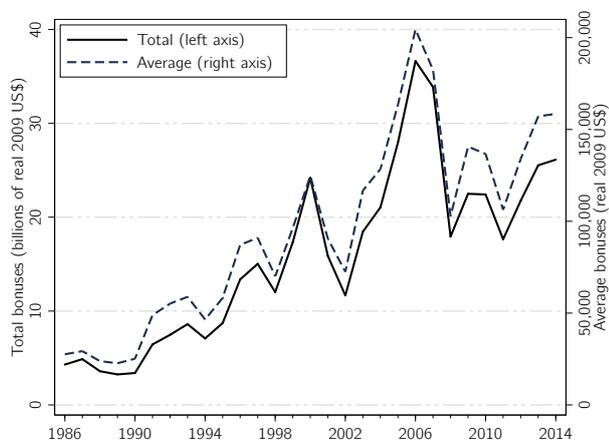
¹⁵See Yellen (2013); D’Arista and Epstein (2011); Jarsulic (2010, 2015); Montecino et al. (2015).

Figure 10: Average loans to assets ratio for top 50 BHCs



Source: Authors’ calculations on FRY-9C regulatory data.

Figure 11: Wall Street bonuses



Source: New York State Comptroller.

useful financial innovations that make all of these functions cheaper and better over time. Instead, these institutions and practices created a financial system that was bloated, risky and served as an engine of inequality.

Figure 10 shows that overall bank lending as a share of total assets has been falling since 1994.

Despite the extraordinary amount of resources the government invested in keeping the banks afloat, their contributions to households and businesses have been highly limited. Yet, the bankers themselves continue to get extraordinary incomes.

Figure 11 shows the ups and downs of banker bonuses. While the average bonuses have not climbed back to their peak levels just before the crisis, they are still much higher than in the periods prior to the repeal of Glass-Steagal.

One eye popping statistic comes from Sarah Anderson of the Institute for Policy Studies. “Wall Street banks handed out \$28.5 billion in bonuses to their

167,800 employees last year, up 3 percent over 2013, according to new figures from the New York State Comptroller. These annual bonuses are an extra reward on top of base salaries in the securities industry, which averaged \$190,970 in 2013.” To put these numbers in perspective, Anderson found that “The \$28.5 billion in bonuses doled out to Wall Street employees is double the annual pay for all 1,007,000 Americans who work full-time at the current federal minimum wage of \$7.25 per hour. Wall Street bonuses rose 3 percent last year, despite a 4.5 percent decline in industry profits. The size of the bonus pool was 27 percent higher than in 2009, the last time Congress increased the minimum wage.”¹⁶

These extraordinary levels of pay for Wall Street bankers continues to contribute significantly to overall- income inequality.¹⁷

In sum, the period prior to financial crisis witnessed major growth in size and complexity of the financial system without corresponding real economy benefits. This absence of benefits became abundantly clear when the financial system nearly melted down entirely in September of 2008.

6 Financial Meltdown and the Government Response: Bail-Out and Dodd-Frank

By 2007, the financial system was on the edge. Finally, in the fall of 2008, this whole pyramid of assets came tumbling down. The US government and the Federal Reserve were under enormous pressure to provide liquidity to the financial system to prevent it from melting down and decided to bail-out the banks at enormous cost.¹⁸ There was enormous pressure on the Federal Reserve and Treasury to invest trillions of dollars in bailing out the banks and the bankers. At the same time, the push for regulatory reform intensified.

The cost of the crisis has been extensive, even while it has been difficult to estimate precisely. The Americans for Financial Reform summarized a number of

¹⁶See Anderson (2015).

¹⁷These extraordinary levels of pay for Wall Street bankers continues to contribute significantly to overall- income inequality. (Bivens and Mischel, 2013)

¹⁸There is no agreement as to the total cost of the bail-outs by the Federal Reserve and Treasury. The numbers range from the Federal Reserve’s own claim of \$1.2 trillion to Bloomberg’s estimate of \$7.7 trillion (for the biggest banks) and the Government Accountability Office’s estimate of \$16 trillion. The Levy Institute puts the number as high as \$22 trillion dollars. See Wray (2011).

studies which have tried to document the multitude and extensive costs to the public from the crisis.¹⁹

The crisis resulted in a huge recession from which, now seven years later, we have not fully recovered. The Dallas Federal Reserve estimated in 2013 that the total U.S. economic output loss from the financial crisis and its aftermath *will eventually be \$6 trillion to \$14 trillion, or \$50,000 to \$120,000 for every U.S. household*. This number could go even higher if the US economy takes longer than normal to resume its pre-crisis growth path. There are significant additional losses that are not borne equally across the society. The long-term unemployment rate remains stubbornly high; young people's unemployment and underemployment rates are at extraordinary levels and have come down only slowly since the crisis hit. From when the financial crisis began in September 2008 through March 2014, approximately 4.9 million families lost their homes to foreclosure. Between 2010 and 2013, another 1.3 million families lost their homes to short sales. Meanwhile, many families, especially minorities, lost a significant portion of their wealth because of the housing bust.²⁰

As described in the introduction, Dodd-Frank attempted to address these financial failures by implementing increases in capital requirements, reducing risky proprietary trading, designating systemically important financial institutions – bank or non-bank – as being subject to increased regulation and scrutiny, bringing derivatives under regulatory purview, and pushing risky proprietary trading out of the core banking system. The problem is that the Dodd-Frank legislation left open the writing of rules and specifying the precise regulations to a long regulatory process, which the banks and other financial institutions have been able to thwart and manage and delay. As a result, many of the rules and regulations have been weakened or delayed.

One of the tactics used by the banks in their fight against Dodd-Frank has been to point out problems in the financial system, such as the rise of the shadow banking system, and blame Dodd-Frank for the problems. But as we have shown, many of these trends, such as the expansion of shadow banking, long preceded Dodd-Frank. So their increase are simply an extension of long-standing trends. These post 1990's trends in complexity and risk continue to expand. One set of concerns are the continued growth of the shadow banking system and its interaction with

other financial activities, notably asset management services.

Most worrisome are the increased size and complexity of the shadow banking system and its interaction with key other financial institutions: the banks themselves and asset managers who manage the savings of businesses and households.²¹

While there is not one, universally agreed upon definition of the “shadow banking system” a common view is that it incorporates activities both within and outside the core banking system that involve a heavy dose of securitization, derivatives, wholesale funding activities, and collateral use and trading, rather than the traditional lending and deposit based borrowing. The “shadow banking system” is also characterized by activities that are relatively un-regulated, and are associated with long chains of transactions and counter-parties. Indeed, these were many of the characteristics associated with the activities discussed earlier that led to the great financial crisis.

A number of analysts have expressed concerns that this growth of shadow banking activities and the shadow banking system overall has significantly raised risk levels in the financial system, especially since many of these activities are outside the purview of regulation. These activities have reproduced some of the highly dangerous activities connected to the run up of the great financial crisis, including higher leverage ratios, large counterparty risk connected to the use of derivatives, high levels of interconnectedness associated with inter-bank lending and counterparty risks, and the lack of transparency in all of these connections.²²

But as we can see, these trends are primarily continuations of trends that have been building up for decades, and that accelerated after the implementation of widespread financial de-regulation around 1999. These can hardly be blamed on the implementation of the Dodd-Frank law. If anything, they reflect the failure to sufficiently implement and enforce that law.

7 Conclusion

The last decade has been a traumatic period of financial instability and crisis. The financial sector evolved a set of risky practices and institutions that were facilitated by acts of commission and omission by the regulatory authorities, and that made

¹⁹See Americans for Financial Reform (2014).

²⁰See Americans for Financial Reform (2014) for an excellent summary of these and other costs.

²¹See Tarullo (2013).

²²For useful discussions see Pozsar (2015), Luven et al. (2014) and Tarullo (2013).

financial CEO’s and traders fabulously wealthy while wreaking a vast path of destruction for American families.

The Dodd-Frank financial act attempted to reform these practices and make the financial system safer and more efficient.

We have shown that there are several key ways in which the financial system has become safer and more stable since the crisis. It has become more loss absorbent and has reduced some important risks associated with leverage. But in fundamental ways, the financial system remains fragile, and interconnected as it develops new institutions and practices. Meanwhile it is still failing to serve the real financial needs of American families.

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References

Sarah Anderson. Off the deep-end. Technical report, Institute for Policy Studies, Washington, DC, 2015.

Samuel Antill, David Hou, and Asanie Sarkar. Components of u.s. financial-sector growth, 1950-2013. *Economic Policy Review*, 20(2), December 2014.

Martin Neil Bailey, William Bekker, and Sarah E. Holmes. The big four banks: the evolution of the financial sector, part i. Technical report, Brookings Institution, Washington, DC, 2015.

Josh Bivens and Lawrence E. Mischel. The pay of corporate executives and financial professionals as evidence of rents in top 1 percent incomes. Technical report, Economic Policy Institute, Washington, DC, 2013.

Adrian Blundell-Wignall. *OECD Economic Outlook*, chapter Shifting risks and the search for yield in financial markets policies. Organization of Economic Cooperation and Development, June 2015.

Adrian Blundell-Wignall, Paul Atkinson, and Caroline Roulet. Bank business models and the basel system: complexity and interconnectedness. *OECD Journal: Financial Market Trends*, 2013 (2), 2013.

Adam Copeland. Evolution and heterogeneity among larger bank holding companies: 1994 to 2010. *Economic Policy Review*, July 2012.

James Crotty. Structural causes of the global financial crisis: a critical assessment of the ‘new financial architecture’. *Cambridge Journal of Economics*, 33, 2009.

James Crotty. How bonus-driven ‘rainmaker’ financial firms enrich top employees, destroy shareholder value and create systemic financial instability. In Barry Z. Cynamon, Steven M. Fazzari, and Mark Setterfield, editors, *After the great recession: Keynesian perspectives on prospects for recovery and growth*. Cambridge University Press, 2012.

James Crotty and Gerald Epstein. Avoiding another meltdown. *Challenge Magazine*, January/February 2009.

Jane D’Arista. Rebuilding the framework for financial regulation. Briefing paper, Economic Policy Institute, May 2009.

Jane D’Arista and Gerald Epstein. Dodd-frank and the regulation of dangerous financial interconnections. In Mike Konzcal, editor, *Dodd-Frank: Will it work? How will we know?* Roosevelt Institute, New York, 2011.

Jane D’Arista and Tom Schlesinger. The parallel banking system. In Gary A Dymski, Gerald Epstein, and Robert Pollin, editors, *Transforming the US financial system: equity and efficiency for the 21st century*. M.E. Sharpe, Armonk, NY, 1993.

FCIC. Final report. Technical report, Government Printing Office, Washington, DC, 2011.

- Americans for Financial Reform. The cost of the crisis. Technical report, Americans for Financial Reform, Washington, DC, 2014.
- Robin Greenwood and David Scharfstein. The growth of finance. *Journal of Economic Perspectives*, 27 (2):3–28, 2013.
- Marc Jarsulic. *Anatomy of a financial crisis*. Palgrave MacMillan, New York, 2010.
- Marc Jarsulic. The origins of the u.s. financial crisis of 2007: how a house price bubble, a credit bubble, and regulatory failure caused the greatest economic disaster since the great depression. In Martin Wolfson and Gerald Epstein, editors, *The Handbook of the Political Economy of Financial Crises*. Oxford University Press, Oxford, 2015.
- Simon Johnson and James Kwak. *13 Bankers: the Wall Street takeover and the next financial meltdown*. Vintage Press, New York, 2011.
- Mike Konzcal and Marcus Stanley. An unfinished mission: making wall street work for us. Technical report, American for Financial Reform and The Roosevelt Institute, New York, 2014.
- Iren Levina, James Crotty, and Gerald Epstein. Ending too big to fail: facts and figures on size and concentration of u.s. commercial and investment banks. SAFER Policy Brief 22, PERI/SAFER, 2010.
- Luc Luven, Rev Latnovski, and Hui Tong. Bank size and systemic risk. Imf staff discussion note, International Monetary Fund, Washington, DC, 2014.
- Juan Antonio Montecino, Gerald Epstein, and Iren Levina. Long-term trends in intra-financial lending in the united states (1950-2012). *Eastern Economic Journal*, online, 2015.
- Thomas Philippon. Has the us finance industry become less efficient? on the theory and measurement of financial intermediation. *American Economic Review*, 105(4):1408–38, April 2015.
- Robert Pollin. *Contours of descent: U.S. economic fractures and the landscape of global austerity*. Verso Press, New York, 2005.
- Zoltan Pozsar. A macro view of shadow banking: levered betas and wholesale funding in the context of secular stagnation. conference paper, January 2015.
- Carmen Reinhart and Kenneth Rogoff. *This time is different*. Princeton University Press, Princeton, 2010.
- Donald Tarullo. Shadow banking and systemic risk regulation. Technical report, Board of Governors of the Federal Reserve, Washington, DC, 2013.
- Jennifer Taub. *Other people's houses: how decades of bailouts, captive regulators, and toxic bankers made home mortgages a thrilling business*. Yale Press, New Haven, 2014.
- Martin Wolfson and Gerald Epstein. *The Handbook of the Political Economy of Financial Crises*. Oxford University Press, Oxford, 2013.
- Randall L. Wray. \$29 trillion: a detailed look at the fed's bail-out of the financial system. Levy institute report, Levy Institute, 2011.
- Janet L. Yellen. Interconnectedness and systemic risk: lessons from the financial crisis and policy implications. Speech, Board of Governors of the Federal Reserve, 2013.