Americans for Financial Reform Education Fund

FINANCE FOR A FAIR ECONOMY:

Managing the Financial Cycle

Americans for Financial Reform Education Fund

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INTRODUCTION

The past several decades have seen a long boom in finance. Loans to households and non-financial businesses as a share of the economy have grown by almost 35 percent since the year 2000, reflecting a major increase in the generation of credit by the financial sector. Asset values have grown by even more, with inflation-adjusted stock market valuations up by over 50 percent from the peak of the 1990s dot-com boom and real home prices up by almost as much. Financial sector profits have soared as well -- financial profits as a share of the economy today are about 50 percent higher than profits at the peak of the dot-com boom twenty years ago.

But the ever-increasing centrality of Wall Street has not served most Americans. Since 2000, the real income of the typical U.S. household has increased by a total of just 2 percent, and worker wages by a total of 6 percent. Incredibly given the huge run-up in asset prices, the real wealth of the typical American family is lower today than it was in 1998. Overall homeownership rates today are lower than they were twenty years ago, and African-American homeownership rates are barely higher than they were in 1970. Of course the 2008 financial crisis, a product of Wall Street excesses, produced a devastating economic collapse, the after effects of which continue to echo today. As harmful as these developments have been to the typical family, they have been even more damaging to groups that have started from a position of disadvantage in American life, including African-American and low-income households.

Although growth in lending and speculative activity in the financial sector are frequently justified on the basis of their benefits to the public, those benefits have simply not materialized. The increasing role of finance has instead played a central role in the growth of economic inequality. Periods of economic growth are characterized by slow wage growth and rapid growth in debt and asset prices. Then when the economic cycle turns, debt burdens slow recovery and harm families struggling to meet payment responsibilities and handle economic instability. The cumulative result is increasing inequality in wealth and economic opportunity. As outlined in this paper, that pattern of debt-driven growth is in many ways continuing today.

The paper also examines two approaches to turning the page on finance-driven growth. The first is better management of the financial or leverage cycle. The financial cycle is a concept developed by economists to understand the reasons why finance-driven growth can be self-defeating. Finance-driven increases in lending and asset values can seem growth enhancing in the short run, but if they are excessive and unsustainable they undermine long-run growth and plant the seeds for more damaging economic downturns. There is a strong role for regulation and policy in preventing these financial excesses and channeling resources to drive growth that is based on broad wage increases and sustainable investment.

The second is rebalancing our response to recessions and financial crises to prevent any repetition of the experience of 2008-2009, in which benefits to Wall Street were given priority over assistance to Main Street. These choices contributed significantly to the destructive and lasting effect of the 2008 financial crisis, the recession that followed, and the massive increase in wealth inequality that has occurred over the past decade. The choice to protect financial insiders from the full impact of the crisis also created moral hazard for the future and blocked avenues for reform of the system that led to the crisis.

One might think that these issues would have been addressed over the decade plus that has occurred since the 2008 financial crisis, which illustrated their importance in such a clear and catastrophic way. But this paper documents the ways in which they have not. The buildup of financial excesses today is not as extreme as it was in the years immediately before the financial crisis. But regulators are clearly failing – again – to stem damaging imbalances like the growth in corporate debt. And although the experience of the destructive impact of large-scale Wall Street bailouts combined with fiscal austerity in the response to the 2008 financial crisis likely makes the public less likely to tolerate similar policies in the future, the institutional forces that led to those policy choices are still powerful today.

Part 1: Moderating the Financial Cycle: Financial Regulation against Recession

The Financial Cycle and the 2008 Crisis

The "Great Recession" of 2008 carries critical lessons for the relationship between financial regulation and broader economic stability and growth – lessons that need to be applied to regulating the financial sector today in order to reduce the destructive impact of future recessions.

There is no single consensus definition of the financial cycle. But the term generally refers to the ways in which financial institutions drive asset values and lending, which varies over time according to risk perceptions and other factors. During the expansion phase of the economic cycle, financial insiders directly benefit through speculative practices which drive up the price of financial assets, as well as by providing unsustainable levels of credit that are justified by these inflated asset prices. When asset prices decline and/or levels of credit are shown to be unsustainable, workers and borrowers are harmed by the economic fallout.

Credit availability and levels of borrowing or leverage are generally viewed as the key "outputs" of the financial cycle. Thus it is also referred to as a leverage cycle.[1] Financial or leverage cycles can significantly impact the macro-economy and are predictors of recession.[2] Such cycles are not simply the result of general macroeconomic overheating, but are independently driven by conditions within the financial sector itself.[3]

Not all recessions are associated with financial cycle turning points, nor does every financial sector downturn lead to a full-scale recession. But entering a recession with high levels of leverage and financial vulnerability is clearly associated with a longer, more severe, and more destructive economic downturn.[4]

The reasons why lie in the instability created by borrowing. At the peak of the financial cycle asset values are inflated, and households, financial entities, and companies are often able to incur excessive amounts of debt based on these valuations. When banks and other financial entities become overextended credit is withdrawn, asset values drop, and spending contracts. This acts as a drag on the economy beyond whatever other factors are driving the recession. During the expansion phase of the financial cycle the financial sector is effectively creating money through the poorly controlled extension of credit.[5] When the financial cycle turns, money is effectively destroyed and recessions are made deeper, as households and businesses must repay unsustainable debt burdens and cannot spend or invest.

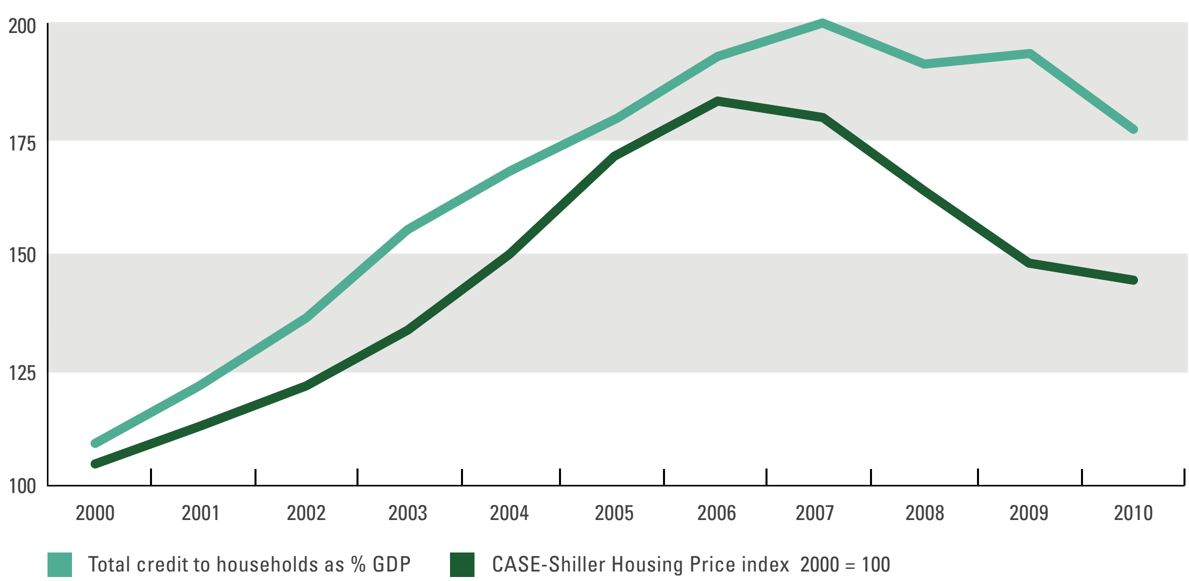
Uncontrolled expansion of the financial sector not only leads to more damaging economic downturns, over the long term it misallocates resources in ways that are harmful to productivity and long-term growth.[6] Although financial markets are often justified by their contribution to efficient capital allocation, they can actually do the opposite and drain resources from the most productive activities.

Theories of the financial cycle go back at least to the Great Depression, although they fell out of favor during the post-WWII decades when the financial sector was restrained by New Deal regulation.[7] The role of the financial cycle in the economy became more evident as New Deal regulation eroded and finance became more globalized. In the U.S. the Savings and Loan crisis of the late 1980s and the dot-com bust of the late 1990s clearly contributed to the relatively mild recessions of 1990 and 2001.[8] By the year 2000 economists tracking these events and the disastrous late 1990s financial crisis in Asia had grown sufficiently concerned to ask whether the "financial crisis problem" was growing more severe and threatening over time.[9]

But it was the 2008 financial crisis which made it undeniable that the management of the financial cycle could no longer be ignored. It demonstrated conclusively how the modern financial system can, when poorly regulated, create catastrophic levels of excessive leverage and asset overvaluation, and the devastating impact on the economy of the collapse of such a bubble. As economists examined the crisis, they analyzed how it was driven by mutually reinforcing cycles of excessive borrowing and leverage in securities markets, banking, and most of all in U.S. mortgage lending, the largest consumer lending market in the world.[10]

Figure 1 shows household sector leverage and housing prices over the 2000-2010 period. It shows how the pre-crisis period was marked by an unprecedented run-up in household borrowing, connected to an equally unprecedented national growth in housing prices.

FIGURE 1: Household Debt to GDP and Housing Prices



The growth of asset prices (in this case housing prices) drove additional willingness to lend and borrow, which in turn created additional debt-driven income to help drive the economy, which boosted asset prices still further.

This cycle of abusive lending and house price inflation was not only driven by consumer demand. As regulators looked the other way, mortgage lenders pushed unsustainable and even fraudulent debt products on the public. Sheila Bair, former FDIC Chair under President Bush, described the process at a recent AFR event:[11]

> "The frustrating thing about this, so much of this [mortgage lending] was push marketed to people with nice safe thirty-year fixed rate mortgages. It wasn't like they were helping people buy a house who couldn't otherwise buy a house. These are refinancings, you know, get out of a thirty-year fix, into these hideous subprime hybrid loans, these 228s and 327s with really steep payment shocks. So, it was going on, a long time, and there were people urging the Fed to use their authority to write mortgage lending standards. They had the authority to do it, they didn't do it."

The chain of abusive mortgage lending was facilitated by the tight linkage between lending and capital markets, specifically securitization markets. Mortgage lenders capacity to generate loans was greatly enhanced by the ability to repackage and sell mortgages in private label securitizations to investors who were poorly informed or deceived as to the true quality of the loans.[12] Private mortgage-backed securitization volumes tripled in just five years, from $911 billion in 2002 to over $2.7 trillion in 2007.[13]

Even as regulators permitted abusive and dangerous lending and securitization practices, they also permitted Wall Street banks and capital markets to engage in extraordinary amounts of borrowing to finance the rapid increases in lending and issuance of housing-related securities, which fueled further house price increases. By 2007, some of the largest and most complex U.S. financial institutions were borrowing over $40 for every dollar of equity capital they themselves invested in their own business.[14]

Rising house prices drove further lending on an essentially speculative basis, as lenders and borrowers alike assumed continued rapid rises in house prices. When housing prices weakened the process went into reverse. Financial institutions that had based their borrowing on high valuations for housing-related collateral became effectively insolvent and cut back sharply on lending. Households with mortgages more expensive than they could afford were, in the best case, severely limited in their ability to spend, and in the worst lost their homes through foreclosure.

The reduction in spending for households and in credit availability for businesses created spillover effects throughout the economy, driving job losses and contraction even among those who were not initially directly exposed to the financial market collapse.[15] Economists continue to debate the exact balance of the impacts of financial panic and reduced bank lending vs the reduction in the ability of debt-burdened households to spend.[16] But there is broad agreement on their significance and their link to pre-crisis financial excesses in lending and speculation.

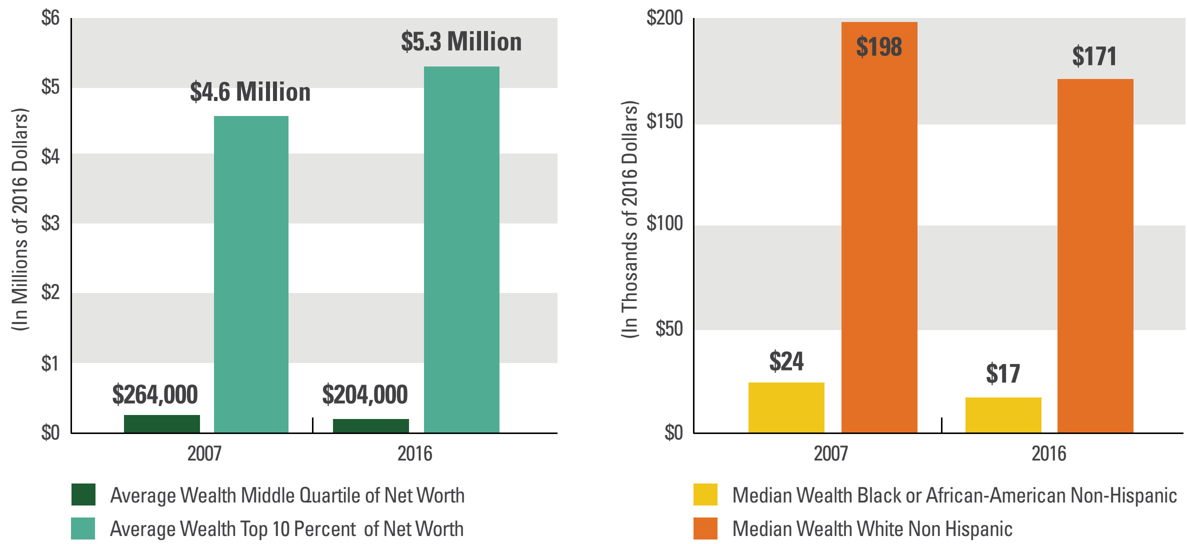
The Financial and Leverage Cycle Today

A key lesson of the financial crisis is the importance of moderating the financial cycle to prevent the buildup of unsustainable leverage and asset price inflation during periods of economic growth. Moderating the financial cycle effectively at the level of the entire financial system – referred to by regulators as "macro-prudential" policy – requires more wide-ranging and well-coordinated approaches than simply enforcing rules that affect individual banks or dealers. How effective are regulators today in moderating the leverage cycle? Are there financial imbalances building up that will cause the next recession to be more damaging? The answer to this question is difficult to summarize easily, but issues are emerging across a range of areas.

A marked characteristic of the current financial cycle has been very rapid growth in asset market prices as compared to worker wages, household income, and other indicators of broader economic well-being. For example, since the beginning of 2010 real hourly wages have grown a total of only 6 percent, while real housing prices have grown by over 20 percent and inflation-adjusted stock market valuations have doubled. Household incomes have grown somewhat faster than wages due to employment growth, and are up 10 percent from 2010 to 2017, but still lag asset price growth. [17] This phenomenon is widespread across asset markets. The Federal Reserve's latest Financial Stability Report finds that asset valuations are elevated compared to historic norms and are growing rapidly across numerous markets, from equities to corporate debt to commercial and residential real estate.[18]

Inflated financial markets compared to lagging incomes are indicative of a recovery that has continued to follow the pre-crisis trend of finance-led economic growth. That has significant consequences for the resilience of the macro-economy and the well-being of ordinary families. For example, the recovery has apparently not reversed the impact of the financial crisis on wealth inequality and the wealth of lower and middle income households. Instead, the post-crisis period saw an enormous rise in wealth inequality, due to a significant degree to the tools used to address the financial crisis and subsequent recession. Indeed, recent research has documented that the decade from 2007 to 2016 saw the largest increase in U.S. wealth inequality on record.[19]

FIGURE 2: Wealth inequality, 2007 and 2016



Middle class, lower income, and minority communities saw substantial declines in wealth of 25% or more from 2007 to 2016, while high-income families experienced a significant increase in wealth. The average wealth of the bottom 99 percent declined by $4,500, mostly due to home equity losses, while the average wealth of the top 1 percent increased by $4.5 million. This wealth decline was particularly intense for minority communities targeted for exploitative mortgages and hardest hit by the foreclosure crisis.[20] Entering the next recession lower and middle income families will have even less wealth to draw on in the event of unemployment or other household income disruption.

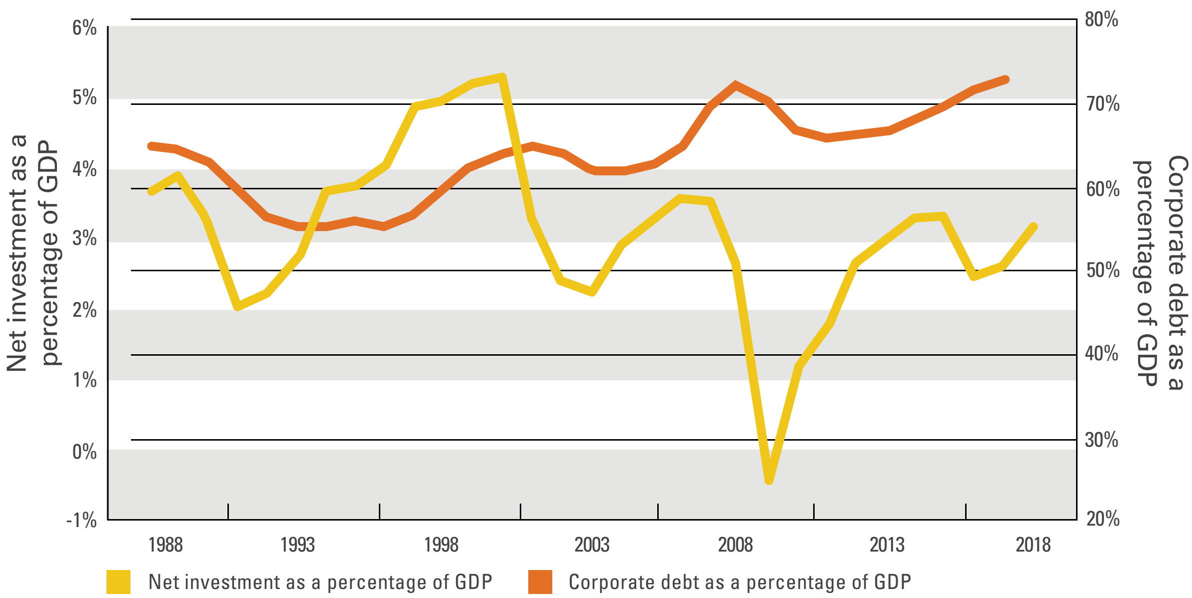
Contributing to this problem is the continuation of past trends of debt-driven as opposed to wage-driven growth in this economic cycle. Wage growth in the current economic recovery has been even lower than wage growth in past economic cycles, marking a continuation of the trend of financialized economic growth over the past several decades.[21] Only in recent months has wage growth started to appear more robust.[22]

At the same time, the current economic situation does not show the rapid and extreme growth in leverage seen prior the 2008 crisis, when financial cycle signals of all kinds were flashing red. Elevated asset prices do present a macroeconomic risk, as a sharp drop in these prices could drive losses for financial institutions and potentially threaten credit supply in some cases. However, historical experience shows that even asset price declines that are greater than any expected today, such as the end of the equity market bubble at the close of the 1990s, do not drive an economic collapse on the scale of the 2008 crisis, although they can certainly contribute to recessions. The key variable appears to be debt and leverage, which is facilitated by increases in asset prices but not identical to it.

The best analogy to the current financial cycle may be the situation in 1990 and 2000, when imbalances in the financial sector contributed to "ordinary" recessions but did not have the devastating impact of the collapse of the housing bubble. Below, we examine potential issues in more detail in three key debt markets – non-financial corporate debt, consumer debt, and financial sector leverage.

Corporate debt: Perhaps the most obvious current macro-prudential issue is the rapid buildup of debt in the corporate sector. The volume of what is known as "leveraged lending" – business loans to corporations that already have high levels of debt – has soared since the crisis and has led to serious fears that the corporate sector as a whole is becoming overleveraged. The U.S. leveraged loan market has grown more rapidly than any other major asset class since the financial crisis, and now stands at over $1 trillion outstanding, with a total of $2 trillion in high-risk corporate debt outstanding when high yield bonds are included.[23] This has led to a record level of corporate indebtedness relative to GDP, as the chart below shows.

FIGURE 3: Corporate Indebtedness and Net Investment as a Percentage of GDP



Perhaps even more disturbing than the growth in the volume of leveraged loans is the uses to which such loans are being put. Lending, even lending that creates high levels of leverage, is justified when it funds investment, since investment creates the productive capacity to service leverage. But as the chart shows, investment growth has not surged as a result of corporate borrowing. Indeed, investment growth in the decade since the financial crisis has been the lowest in any decade since WWII.[24]

Instead of being directed toward productive investment, a large share of the increase in corporate debt has been used for financial engineering that enhances the wealth of shareholders. Much of the growth in corporate debt, especially leveraged lending, has been fueled by a boom in private equity. Private equity firms generally finance acquisitions through leveraged buy outs (LBOs), which essentially force target firms to take on large amounts of debt to finance their own takeover. Private equity now holds over $3 trillion in assets, more than double its pre-crisis level. Private equity deals are more leveraged than ever, with debt as a multiple of corporate earnings reaching new heights.[25] Debt incurred for private equity acquisitions makes up a very large share of the growth in risky corporate debt. For example, the IMF recently found that over half of leveraged lending in 2018 was acquisition-related.[26]

Acquisition does not necessarily increase investment. Loading the acquired company with debt to finance its own acquisition instead tends to reduce investment. Evidence shows that such LBO acquisitions reduce investment as funds are diverted to debt payments.[27] This rewards current shareholders bought out in the acquisition. It also rewards the new private equity owners who are not responsible for the debt payments but can still profit from any increase in the value of the company, as well as from payments they are able to induce the company to make to the acquiring fund through their management control of the company.[28]

There are also other ways in which corporate leverage is being used to return funds to shareholders. In the low interest rate environment after the financial crisis, "leveraged buybacks" – the issuance of new corporate debt in order to fund share buybacks – became popular. This practice reduces firm investment and future performance, but enriches shareholders in the short term by boosting equity prices.[29] Thus it generates debt not in order to fund increases in broader economic productivity, but to transfer funds to corporate insiders. In many cases the very executives who decide on the buyback stand to gain enormous amounts by using the buyback to cash out their own equity stakes.[30]

Regulators have been sounding the alarm on excessive levels of corporate debt for years, but have had only limited success in addressing it. Bank regulators first warned of excessive corporate debt growth in 2011.[31] They then attempted to restrict bank lending to companies with excessive levels of debt through a 2013 guidance on leveraged lending.[32] But leveraged loans have continued to grow rapidly. This is partly because political pushback against the leveraged lending guidance has weakened its enforcement. The Trump Administration has signaled that enforcement of these underwriting protections is being reduced, and banks have responded by increasing their level of leveraged lending.[33]

However, it is also due to the fact that a very substantial amount of corporate borrowing is intermediated through the capital markets, not the banking system. Although banks play an important role as arrangers of lending, some ninety percent of the credit risk of leveraged loans to corporations is held by non-banks such as insurance companies, mutual funds, hedge funds, and private equity funds.[34] Just as mortgage credit was repackaged and sold by banks in private mortgage backed securities, banks today package and sell subprime corporate debt into securitized products like Collateralized Loan Obligations (CLOs) or to investment funds holding corporate debt. Capital markets regulators at the Securities and Exchange Commission (SEC) have lead responsibility for regulating these debt markets. But unlike bank regulators, the SEC has not seen financial stability policy or limiting excessive corporate debt as part of their mission. The strong capital markets and securitization linkages in both the 2008 crisis and the recent run-up in corporate debt underline the importance of better integration between banking and securities market regulation.

As long as profits stay high, corporate debt can often be serviced. But as former Federal Reserve chair Janet Yellen recently stated, "if we have a downturn in the economy, there are a lot of firms that will go bankrupt, I think, because of this debt. It would probably worsen a downturn."[35] Robert Kaplan, the President of the Federal Reserve Bank of Dallas, also recently warned of the impact of elevated corporate debt as an "amplifier" of the next recession.[36]

Consumer debt: Concerns about excessive leverage have recently been focused on non-financial corporate debt, and regulators have been more sanguine about consumer debt. Consumer debt has dropped significantly since the extremely elevated levels seen in the pre-crisis period, from 96 percent of GDP to 76 percent of GDP.[37] Much of this deleveraging is due to mortgage write downs and declines in home ownership due to the fallout from the financial crisis. Reforms put in place since the financial crisis also do appear to have limited new originations of exploitative or poorly underwritten mortgage debt. For example, a recent study found that over half of failed mortgages made in the three years prior to the 2008 financial crisis would not have satisfied current ability to repay requirements enforced by the Consumer Financial Protection Bureau.[38]

Thus, overall household debt is down significantly since the financial crisis due to the rapid decline in mortgage debt during the recession. But since 2013 consumer debt has been growing rapidly. Indeed, household debt has grown for 18 consecutive quarters and the absolute level is over 20 percent, or more than $2.4 trillion, greater than the post-recession trough in 2013.[39] In an absolute sense household debt has grown more than wage and salary income over that period, which underlines the key role that consumer debt as opposed to wage growth is still playing in driving the economy.[40]

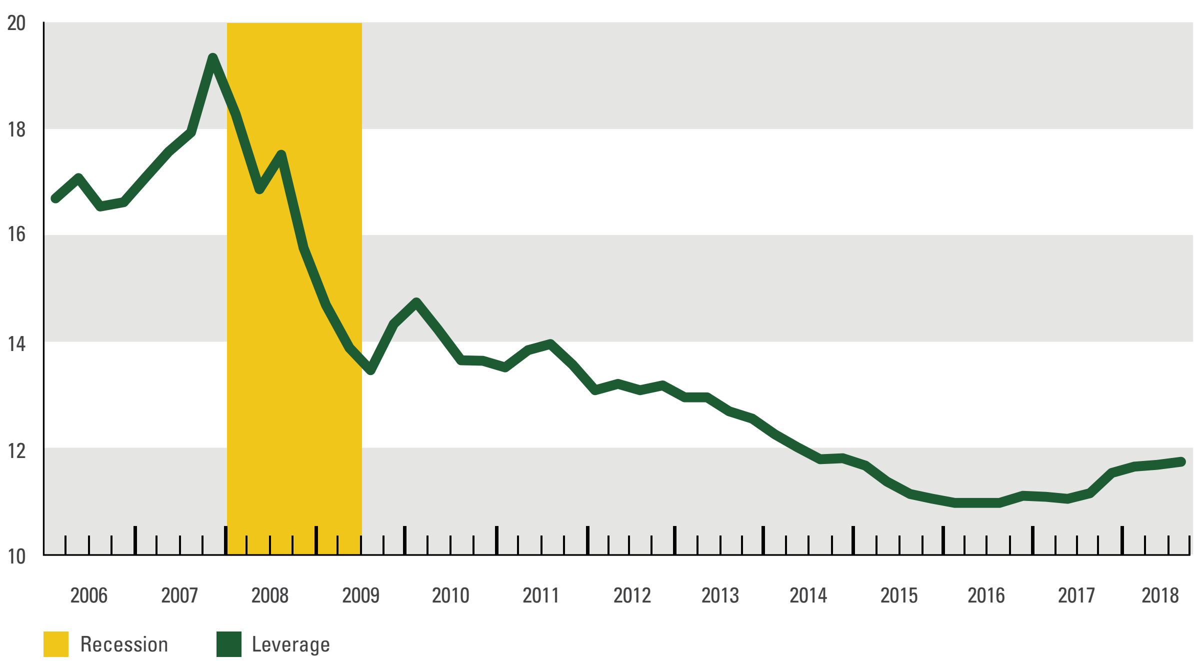
Consumer debt is not necessarily a negative if it is sustainable, well underwritten, and productive for the borrower. However, some of the most rapidly growing categories of consumer debt very likely do not fit that description. Increases in student loans have been particularly striking. This is the category of consumer debt that has increased most rapidly since the financial crisis, growing by 128%, or more than $800 billion over the past decade.[41] A large share of this debt was taken on to finance poor-quality for-profit education with very doubtful income benefits for the student.[42] Such debt is a particularly damaging burden for a subset of older, less affluent, and disproportionately black and brown borrowers who have less family wealth and face discrimination and lower earnings in the labor market. Levels of student debt default are increasing to unprecedented levels, especially among minority borrowers and students of for-profit colleges, and will increase even more if employment and income drop during a recession.[43]

Another troubling area of consumer debt is auto loans, which have grown by 60 percent or almost half a trillion dollars since the financial crisis. Evidence is increasing that many of these loans are "subprime" auto debt which have been poorly underwritten. Delinquent auto loans now exceed seven million, the highest rate of delinquencies since 2012.[44] It is particularly striking that this increase in delinquency is occurring during what is nominally a very strong period for the economy.

Financial sector debt: After the financial crisis, it was a priority for regulators to restore the solvency of the financial sector and prevent a repeat of the credit collapse of 2008. Banking regulators put in place a number of policies, including enhanced capital requirements and stress testing, to try to make sure that banks would be solvent enough to continue to lend through an economic downturn.

These policies have had some success in the sense that bank leverage today is significantly lower than it was during and prior to the financial crisis. However, regulatory claims that financial sector solvency has been assured should be taken with some skepticism. The figure below shows large bank leverage ratios (the ratio of total assets to the bank's own equity) from 2008 on.[45]

FIGURE 4: Large ($500 billion+) bank leverage 2008-2018
Ratio of On Balance Sheet Assets to Tier 1 Equity



The figure shows a sharp increase and then contraction in bank leverage related to changes in asset values and debt write-offs during the financial crisis, as well as continued declines related to regulatory action. However, leverage remains high in an absolute sense, and both economists and regulators have expressed concern that it remains significantly higher than its optimal level.[46] The International Monetary Fund has estimated that total U.S. banking losses during the 2007-2009 financial crisis were on the order of seven percent of total assets.[47] Depending on the metric of leverage used, this loss level is either close to or greater than the current level of loss-absorbing capital held by large U.S. banks, indicating that even today banks could not absorb financial crisis losses and remained capitalized to lend.[48]

What is even more disturbing is that large bank leverage ceased its decline in 2016 and has grown noticeably over the past two years. This is particularly concerning because there are currently a large number of deregulatory proposals that have not yet been finalized which will lead to still more growth in bank leverage. For example, regulators have proposed to cut minimum overall leverage requirements for the largest Wall Street banks from the current level of five to six percent of total assets – already lower than financial crisis losses – to a level that for some large banks would be less than four percent of assets.[49]

Regulators have also proposed to weaken stress testing. In stress tests regulators do their own, independent assessment of the potential losses to bank portfolios that would occur during a future economic downturn. When they are well done, stress tests can be a powerful counter-cyclical tool which forces banks to look ahead and examine whether their lending and trading practices are sustainable through the entire economic cycle. But when they are not done well stress tests can easily become a paperwork exercise which are not effective in encouraging sustainable lending. An example of this was the stress testing of government-sponsored mortgage lenders prior to the 2008 crisis, in which assumptions for loan losses were not regularly updated and accumulating risks in the mortgage space were not reflected in stress testing models.[50]

The Federal Reserve put in place a new stress testing regime for large banks after the financial crisis, designed to ensure that banks held adequate capital going into the next downturn. But this post-crisis regime is currently being weakened. Regulators have proposed to eliminate key standards such as requirements that banks maintain a minimum standard of overall leverage under stressed conditions. In addition, the Federal Reserve has recently emphasized that stress testing results should not be excessively "volatile" or surprising to bank management – an approach that is at odds with effective countercyclical stress testing.[51]

These are not the only areas in which regulators are loosening rules. For example, the Federal Reserve has recently proposed across-the-board weakening of a range of regulatory standards for large banks that are just below the size of the largest

Wall Street megabanks – a category encompassing several dozen banks with an aggregate of over $3 trillion in assets.[52]

The increases in bank borrowing facilitated by these regulatory changes directly financially benefit bank shareholders and top executives (who are often paid in stock). By reducing owners' equity stakes relative to the bank risks taken, increased borrowing boosts return on equity. For this reason, large banks lobby hard to weaken rules on bank leverage.

But weakening these rules harms the public. Bank leverage is a crucial factor during economic downturns, because banks with strong and durable equity are able to continue lending even during recessions. It is particularly important to address the buildup of bank leverage during the growth phase of the economic cycle, since leverage tends to be pro-cyclical – banks increase returns on equity during periods of economic growth by building up their assets faster than their equity.[53] When the economy weakens and assets drop in value, banks may not have a sufficient equity base to continue lending and loan growth drops even more than it otherwise would.[54]

Regulators can counteract this cycle by ensuring that banks maintain enough equity to continue lending through the entire cycle. The current growth in financial sector leverage is occurring at a time when the economy is healthy and bank revenues are at record levels. This is the best possible time for regulators to require banks to build up capital, which can be done simply by requiring banks to retain earnings. But instead regulators seem to be doing the opposite.

Taking Control of the Financial Cycle

The inability of regulators to stem financial excesses even in areas where they are clearly aware such excesses were occurring, such as corporate lending, points to fundamental weaknesses in economic management. There are many contributors to such weakness, including the lobbying power of industry, structural weaknesses in the financial regulatory system, and an ideological belief that regulators must defer to the "free market" distribution of resources that results from an uncontrolled financial sector, despite the demonstrated failure of finance to fuel inclusive economic growth over the past several decades.

Regulators already have tools that would allow more aggressive management of the financial cycle. In theory such tools could be used to channel resources away from less productive Wall Street-driven priorities to support more sustainable, higher-wage jobs and investment. But there is ideological resistance to the use of such tools to make conscious decisions about capital allocation. In fact, bank capital regulations impact capital allocations regardless of regulatory intent, and the substantial Federal backstop for banking and finance means that there is in fact a large public subsidy to the financial system.

An example of such a tool are stress tests, which permits regulators to assess and act on the sustainability of bank investments over the entire economic cycle. By shifting capital requirements as the economic cycle changes, regulators could discourage unproductive asset bubbles driven by financial engineering and prioritize other areas. Yet regulators have rejected identifying counter-cyclical economic planning as a priority goal of detailed stress testing, and as discussed above are moving to weaken stress testing in order to accommodate bank priorities.[55] Stress testing is just one example of the host of safety and soundness requirements, including capital, liquidity, and underwriting supervision that could be used to channel investment and moderate financial excesses. But in general regulators have not used these rules aggressively, and today are making already moderate rules weaker.

In some areas, such as the guidance on leveraged lending, bank regulators did try to act, but did not succeed in addressing the problem. This is in part because of structural challenges to the capacity of the regulatory system as currently configured to regulate finance at the intersection between banking and capital markets. The role of investment funds and securitization vehicles such as CLOs in facilitating corporate lending has been crucial in maintaining the market for acquisition-related debt. There are certain similarities to the ways that poorly underwritten mortgage debt was repackaged into securitizations prior to the 2008 financial crisis and distributed to capital market investors.[56] In that period too, inadequate understanding and control of the ways in which capital markets activities contribute to financial system risk played a major role in regulatory failures.

The Securities and Exchange Commission (SEC) could take a number of specific steps to improve oversight of corporate loans in particular, including enhancing liquidity requirements for investment funds and restoring risk retention requirements designed to ensure that CLOs are subject to proper underwriting incentives.[57]

But the broader issue is that the SEC does not have a strong mandate to regulate overall financial system or macro-prudential risk, and typically has not been effective in playing this role. This fact combined with the difficulty that banking regulators have in fully addressing capital markets developments leads to significant weaknesses in overall macro-prudential regulation. Even as banking regulation was strengthened after the financial crisis, oversight of areas of the capital markets that were central to the 2008 financial crisis, such as oversight of asset securitization markets and regulation of large credit rating agencies like Moodys, was not adequately addressed. Capital markets regulation and the role of the SEC needs significant reform as part of an integrated agenda to address management of the financial sector.

The regulation of consumer debt also needs to remain a priority area. Despite some real improvements in regulation of mortgage debt, the enormous increase in the burden of student debt calls for much more forceful policy action, especially for the most vulnerable populations and those who attended exploitative for-profit schools.

Gaps in the regulatory system affect areas like auto lending, where problematic lending has been a major issue over the past decade. And slow wage growth continues to contribute to low-income consumer vulnerability to exploitative and usurious lending by payday and car title lenders.

Finally, the public cannot expect government to be effective in responsibly managing the financial cycle unless concentrations of power at large dealer banks are addressed and broken up. The end of the Glass-Steagall division between capital markets and publicly insured utility banking led to the emergence of giant "too big to fail" universal banks that span the boundaries between capital markets, payments, and deposits and lending.[58]

These banks wield enormous political power, helping them undermine regulatory efforts to rein them in. They can use their ability to operate seamlessly across the lines of capital markets and commercial banking to circumvent a regulatory system that is still silo-ed along traditional Glass-Steagall divisions between capital markets, banks, and insurance. The sheer size of these universal banks also allows them to manipulate markets and suppress competition.

A program to address the market and political power of large banks is a key component in enabling government regulators to actively manage and set bounds on the financial system. Such an agenda should include greater functional limits on bank activities and limits on bank size and political influence.

Part 2: The Response to Financial Crisis and Recession

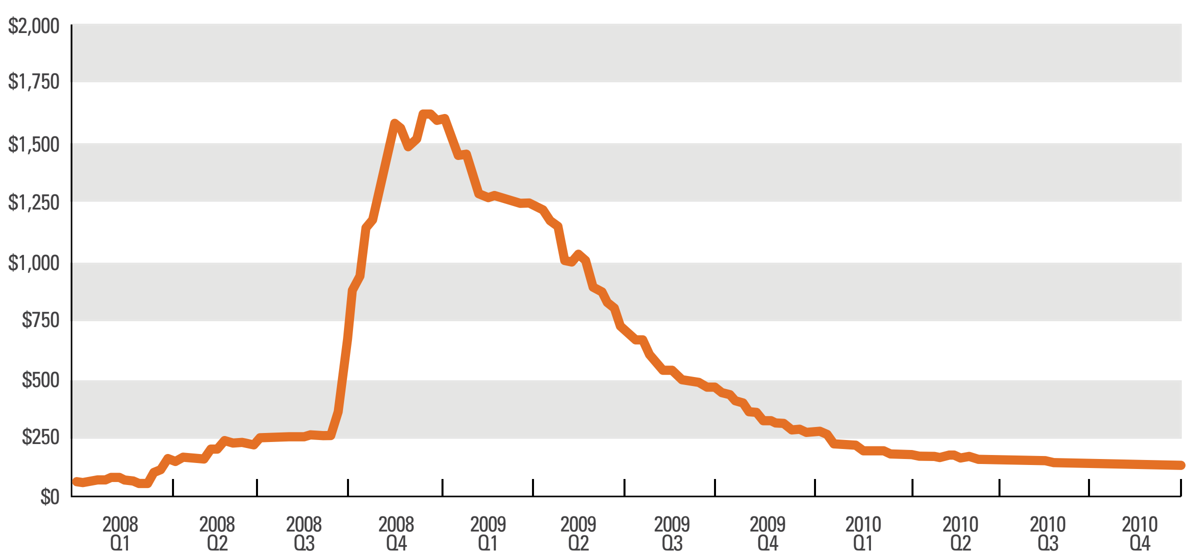
The previous section addressed financial regulatory policies during "ordinary" times and how they can limit financial excesses in ways that make recessions less harmful. But another crucial element of policy, which was particularly significant in the 2008 recession, is how government manages crisis and recession when it occurs. These choices have major effects on economic outcomes, and also on incentives as market actors look ahead to the possibility of recession.

During the 2008 crisis, government consistently prioritized restoring financial institutions and markets to health over providing assistance to Main Street borrowers, workers, and communities impacted by the crisis. This choice was reflected in an imbalance between the scope and generosity of "bailout" assistance to banks and markets as compared to spending on other priorities. This had a profound impact on the severity of the recession and the nature of the recovery, and contributed directly to the spectacular increase in wealth inequality that has occurred since 2007. Today, even after post-crisis reforms, institutional arrangements suggest that if another crisis happens many of the same choices would be repeated today.

The Response to the 2008 Crisis

The government response to the 2008 crisis involved massive transfers to the financial sector. These took the form of both an unprecedented level of emergency credit assistance to financial institutions from the Federal Reserve, and large-scale fiscal transfers to failing banks.

Figure 5: Federal Reserve Credit Assistance to Wall Street 2007-2010
Billions of Dollars of Outstanding Government Credit to Financial Institutions



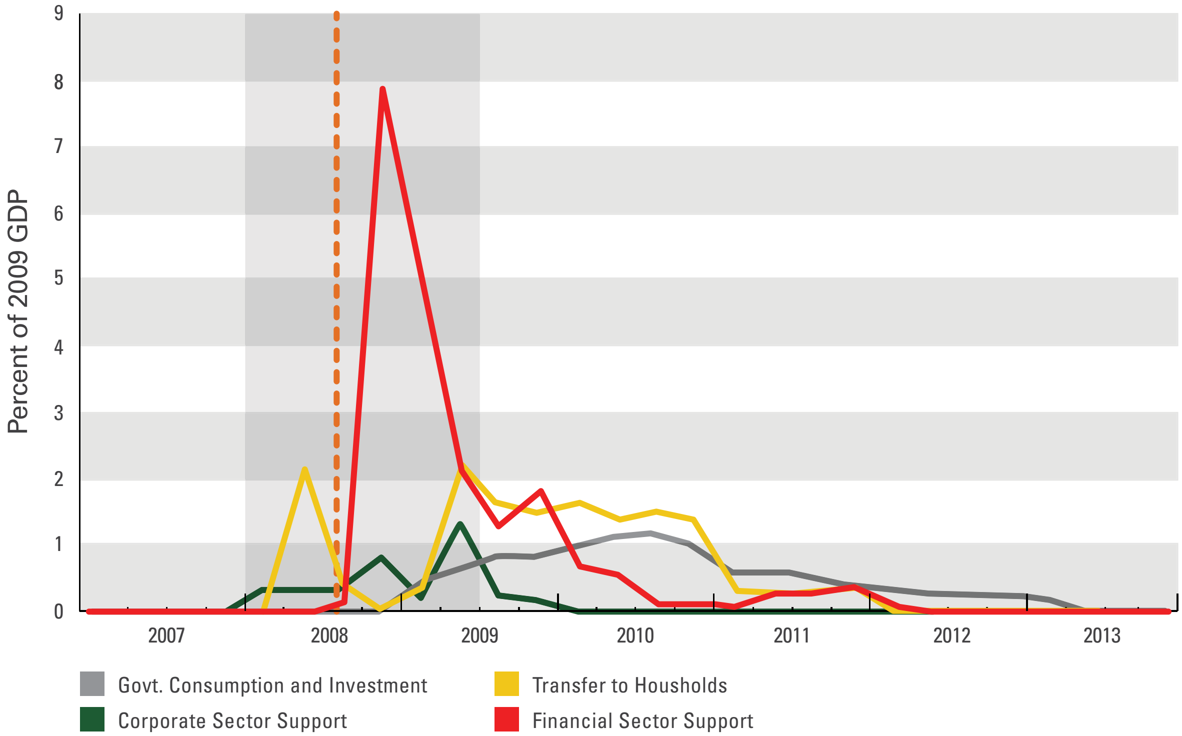
This chart shows that the Federal Reserve had $200 billion or more in emergency assistance outstanding to Wall Street every single day for a period of almost two continuous years, from mid-May 2008 to mid-February 2010. For eight months – every working day from mid-October 2008 to late May 2009 – there was over $1 trillion in emergency assistance continuously cycling through the financial system, peaking at $1.6 trillion during the final weeks of 2008.

These emergency programs were justified as short-term assistance to maintain liquidity for the financial system. However, as the chart above shows, they were hardly short-term. Further, this level of credit assistance was absolutely unprecedented, giving the lie to efforts to portray such liquidity assistance as a traditional lender of last resort intervention. The previously obscure Section 13(3) that the Federal Reserve relied on to authorize the bulk of its lending had last been used in 1936, and in its entire history had been used to make 123 loans for just $1.5 million in total.[59] Now it was being used to cycle tens of trillions in total credit through the financial system. Arguably some of the Federal Reserve's actions were not even legal under its 13(3) authority.[60] In a conceptual sense, the length of time for which assistance was provided, the likely insolvency of the borrowers, the very low interest rates charged, and the quality of collateral involved blurred the line between loans for liquidity assistance and outright financial subsidies to the financial sector.[61]

In sum, this was an unprecedented use of the Federal Reserve's money creation powers and balance sheet to provide a liquidity lifeline and an implicit subsidy to large financial institutions. This commitment to long-term funding of these institutions and markets had an obvious impact on their ability to attract and maintain private investors, and was intended to do so.

When large-scale credit assistance failed to stem the tide of financial crisis, the Federal Reserve joined forces with Congress and the rest of the Federal government to initiate a massive program of direct fiscal assistance to the financial sector. This involved both TARP capital injections and a wide range of credit guarantees against losses that created direct fiscal exposure to the Treasury. An analysis by the Federal Reserve Bank of Kansas City shows that over the late 2008 and early 2009 period that marked the peak of the financial crisis, fiscal assistance to financial institutions dwarfed transfers to ordinary households by a factor of at least five to one. Over five million jobs were lost during this period.

Figure 6: Fiscal assistance during the financial crisis



Crucially, none of the unprecedented credit or fiscal assistance to the financial sector was made conditional on mortgage modifications or other reductions in the crushing burden of consumer debt assumed by ordinary households in the years leading up to the financial crisis. Nor were any other restrictions on bank activities incorporated, such as for instance limits on bank lobbying during a time when government influence over banks was at an unprecedented level. Programs specifically designed to address mortgage modifications, such as the HAMP program, did not leverage the power created by the dependence of the financial sector on government assistance, and relied on a basically voluntary approach that severely limited their benefits for borrowers.[62]

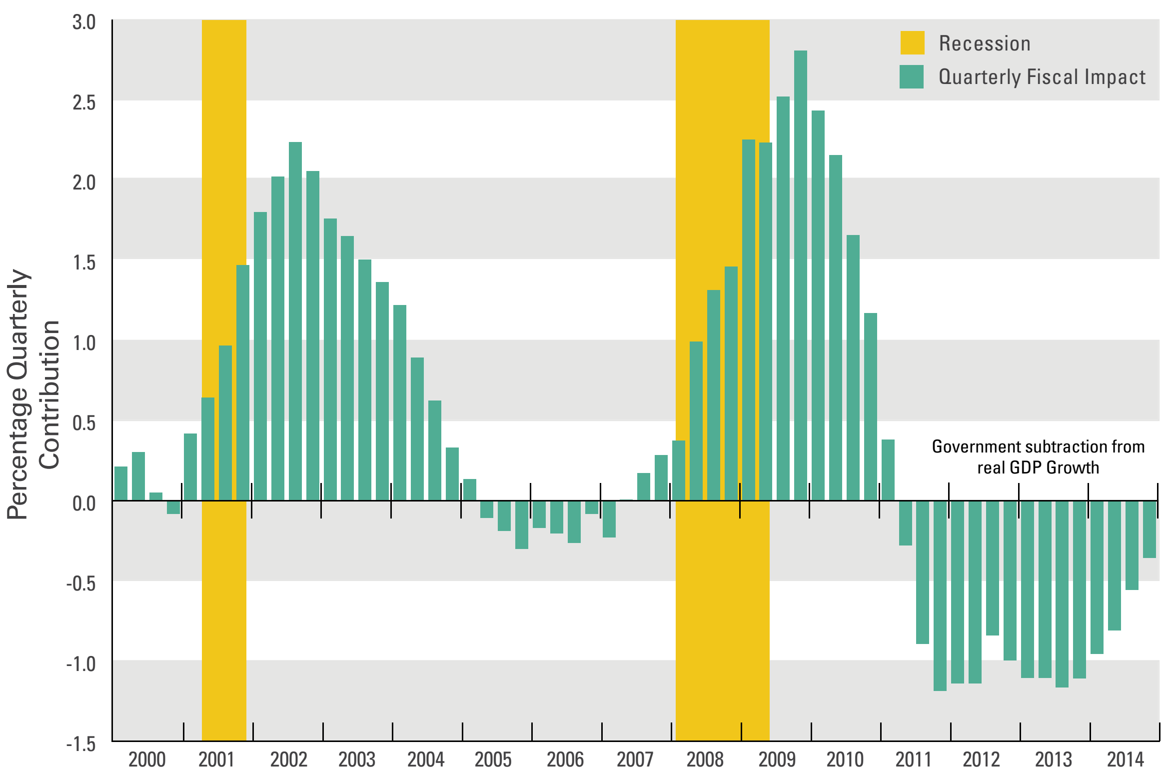
Analyses of the post-crisis recession by leading economists have found that the continued burden of this debt had a major negative impact on the economy and contributed to the years of continued job losses and economic weaknesses that followed the financial crisis.[63] The continued burden of housing debt not only depressed spending, but led to a wave of millions of foreclosures that had a devastating effect on families and communities.[64]

Some of the interventions to assist failing banks may actually have made matters worse, by keeping so-called "zombie banks" in business. Effectively insolvent banks receiving credit and liquidity assistance may be incentivized to "wait out" a crisis, effectively ceasing productive lending.[65] One estimate of the effects of bad lending and regulatory forbearance on bank solvency found that most large U.S. banks were effectively insolvent by the end of 2008.[66] Research by economists on the impact of credit facilities during the financial crisis documents that such assistance worked to keep zombie banks alive and gave them incentives to avoid clearing their balance sheet of bad assets.[67]

Of course, assistance to the banks was not the only government intervention that took place. Help for the broader public was provided through a stimulus bill that was passed by Congress in early 2009. But unlike assistance to Wall Street, this assistance was not aligned with the scale of the crisis. At less than $800 billion in total spending, some of which was tax cuts unlikely to benefit those hardest hit by the recession, the 2009 fiscal stimulus was less than half the level called for by the President's own economic advisors.[68] The stimulus program – intended to protect ordinary families from the greatest economic crisis since the Great Depression – was only about half the size of the Trump Administration tax cuts passed in 2017, during a strong economic recovery.[69]

Furthermore, once the initial 2009 stimulus package was spent, it was succeeded by a period of relative government austerity. Much of the period of elevated unemployment and slow growth following the financial crisis was also marked by low levels of Federal government assistance to the economy. The Brookings Institution produces data showing the impact of Federal spending on the economy over time. The metric shows that the impact of stimulus was fading by mid-2010 and the effect of government spending turned negative by 2011.

Figure 7: The impact of government spending on the economy, 2001-present



The limited levels of stimulus provided had a profound impact on economic recovery. To take just one example, in the absence of adequate fiscal assistance from the Federal government, state and local governments were forced to lay off workers. State and local employment as a percentage of the total U.S. population dropped from 5.5 percent in 2007 to 5.1 percent in 2014, even though the recession if anything would have created a greater call for public services.[70] While this drop may not seem large, if the level of public sector employment as a percentage of total population had been maintained at its 2007 level, one million good jobs would have been saved – over ten percent of total recession job losses. This is just one example of the difference that could have been made by adequate fiscal policy.

Although in recent years the economy has finally recovered and returned to robust job growth, the lasting impact of the choices made to combat the crisis remain. The tolerance of extended periods of high long-term unemployment created lasting losses in skills, labor force attachment, and income.[71] Overall, the choice to provide more generous assistance to the financial sector than the broader economy re-inflated the value of financial assets through assistance to the financial sector, while permitting substantial losses in housing wealth through foreclosures and in wages through job losses. Since housing wealth and wages are the main source of middle-class wealth, the last decade has seen an unprecedented transfer of wealth and increase in wealth inequality.[72]

The Situation Today

It is crucial that the poor choices made in response to the 2008 crisis are not repeated in the event of a new recession. Yet despite the tremendous political backlash to the financial sector bailouts in 2008-2009, the institutional factors that drove those choices are in many ways still in place. It is still much easier for the Federal government to provide large-scale assistance to the financial sector than to provide targeted assistance to those most impacted by a recession.

As discussed above, use of Federal Reserve emergency lending authority during the crisis was unprecedented. In the Dodd-Frank Act, this authority was modified in several ways. The specific modifications include the following additional requirements:

- Lending must be available to all participants in a "broad based program" providing liquidity to the financial system. It cannot be designed to prevent the failure of an individual firm.
- The Federal Reserve must establish procedures to ensure a borrower is solvent.
- The Secretary of the Treasury must approve a lending program and the Federal Reserve must report regularly to Congress on the details of a program.

However, there are still no limits on the size of a lending program or the total length of time such a program may be in operation without a Congressional vote. By not acting to limit Federal Reserve lending powers more strongly after such an unprecedented use of them, the Dodd-Frank Act can in some ways be seen as ratifying the kind of large scale intervention seen in 2008.

Further, the Federal Reserve's rulemakings in connection with emergency lending indicate that they will be reluctant to strongly enforce the statutory limitations. The Federal Reserve's initial proposed rule satisfied the "broad based program" and "solvent borrower" requirements only in the most minimal sense, and would have permitted any program which loaned to two or more firms not currently in bankruptcy to meet those requirements.[73] Under political pressure from both the right and left, the Federal Reserve strengthened the final rule somewhat to require that a "broad based" program must have five or more borrowers and could only lend to institutions that had paid all undisputed obligations within the last ninety days.[74] However, these protections would still seem to permit very large scale lending along the lines of the 2008 programs. Once again, they do not require any conditionality in terms of actions by those receiving the funds.

There were several other elements of the Dodd-Frank Act that affect emergency assistance. For example, the large-scale FDIC loan guarantees of bank debt that were carried out during the financial crisis would now require Congressional approval. And new resolution powers in Title II of the Dodd-Frank Act create a new source of government financing in the event of a financial crisis – the U.S. Treasury can now create an Orderly Liquidation Fund that pays out to buffer the economic impact of a failing bank. This fund could potentially advance several hundred billion dollars to buffer financial impacts of the failure of the largest megabanks.[75]

Overall, the Federal government retains very significant emergency financing powers that could be used without Congressional approval. The views and recent statements of regulatory insiders indicate that many would be entirely prepared to do large-scale financial assistance to Wall Street again, perhaps even on the scale of 2008-2010. For example, a recent report on "Managing the Next Financial Crisis" by the Group of 30, a body made up of key former and current regulators and heads of large banks, concluded that current emergency funding powers held by central banks were too limited.[76] The report concludes that emergency assistance powers in the U.S. have been excessively weakened, implying that if another financial crisis occurs anything short of the 2008-2009 emergency lending actions would be a dangerously weak response.

This impression is strengthened by the multiple statements from regulatory insiders on the tenth anniversary of the financial crisis that depict the response to the 2008 crisis as an almost unqualified success, despite the years of economic pain that followed. They have characterized the response as "successful" although "politically unpopular", as "necessary to stem the crisis", and, despite the fact that it involved a historically unprecedented level of assistance to Wall Street, as simply the use of routine "firefighting tools" by regulators.[77]

It thus seems both possible and likely that absent a change in course the Federal government could deliver very large-scale assistance to Wall Street in the event of another financial crisis or recession. In contrast, the fiscal situation today is much worse today. At the close of 2008 Federal debt held by the public was only 44 percent of GDP. Today it is 78 percent of GDP and projected to rise significantly in the coming years.[78] This means that pressure for austerity in the face of an economic downturn may be even greater next time. The door seems open to a repetition of crisis response that puts Wall Street ahead of Main Street.

Improving our Response to the Next Recession

A fundamental rethinking of crisis response is needed, as well as measures to ensure that the Federal government will not repeat austerity measures due to lack of fiscal capacity.

Although a detailed discussion of tax policy is beyond the scope of this paper, one obvious step is to rebuild the Federal government's fiscal position through an ambitious program of progressive taxation. In connection with this, we note that the ways in which government action has significantly increased wealth inequality over the past decade suggests that a progressive wealth tax is a particularly justified as a way in which to address the legacy of the financial crisis and expand fiscal capacity.[79] Other forms of taxation that are responsive to recent changes in the financial sector include a financial transaction tax (FTT), which would both be highly progressive and help discourage socially wasteful high speed trading.[80] Taxes on large bank leverage would both raise funds and create incentives for the financial sector to improve solvency and be more prepared to continue lending in the face of an economic downturn.

Regulatory crisis response measures must be reconsidered. As in the case of financial regulation more broadly, there is strong ideological resistance to the idea that crisis response mechanisms such as "lender of last resort" interventions and bank resolution are political decisions that involve substantive distributional choices. Even a surface examination of the 2008 interventions shows that they were not simply a technocratic provision of liquidity in the face of temporary market dysfunction. Instead, they were a choice to put the full money creation powers of the Federal government behind the preservation and continued functioning of legacy financial markets, while interventions specifically targeted to help broader public constituencies directly injured by the financial crisis were given a lower priority.

Two key areas for reconsideration are policies to resolve failing financial institutions, and the provision of direct credit assistance to the financial system or the real economy through government money creation, rather than through fiscal policy under direct democratic control (i.e. Congress). In the 2008 case, famously, the claim made by regulators was that there was not a clear legal pathway to resolving large financial holding companies, and that either possible failure of many large financial institutions necessitated large-scale ad hoc interventions.

Reforms made in the Dodd-Frank Act mean that this claim is obsolete. Title II of the Dodd-Frank Act grants broad powers for the resolution and liquidation of failed financial institutions. It also creates a potentially large resolution fund in the U.S. Treasury to buffer the economic impact of a bank failure. Now that these powers are available, there is no longer any excuse for the regulatory forbearance and extended financial assistance to insolvent institutions that occurred during the financial crisis bank bailouts.

However, when a financial institution fails and must be resolved, or requires assistance of any kind, government should ensure that the needs of ordinary borrowers and the general public are prioritized over those of financial insiders. Current FDIC plans for bank resolution call for banks to be returned to the private sector as rapidly as possible by wiping out long-term debt, and for payment priorities to replicate those in an ordinary bankruptcy. Instead, regulators should be prepared to keep a bank in receivership – effectively temporary nationalization – for as long a period as is necessary to restructure the institution in a manner that best serves the public and fully addresses the issues that led to its failure. Rather than a sole focus on replicating priorities in a private bankruptcy, mechanisms should be considered to prioritize the economic interests of the broader public in such a resolution. As discussed above, the failure to aggressively engage in loan modifications created a heavy economic price in the last recession, and significantly increased the economic damage done by the recession to communities and to lower and middle income homeowners.

In line with the stated intent of the Dodd-Frank Act, policymakers should act more forcefully to prevent any use of the current Federal Reserve emergency lending powers to support insolvent financial institutions. Such institutions can and should be liquidated and resolved instead.

It is also worth considering ways in which the Federal Reserve's money creation powers could provide broader and better targeted assistance during a severe downturn, and provide funding beyond the relatively narrow range of financial institutions targeted in the 2008 crisis.

One way to do this would be to expand the Federal Reserve's ability to support credit assistance to state and local governments. Currently, according to the traditional statutory interpretation by Federal Reserve lawyers, the Federal Reserve actually has broader powers to support the borrowing of foreign governments and foreign banks than it does U.S. state and local governments.[81] That should be changed.

The Federal Reserve also has the power to purchase any financial instrument guaranteed by the U.S. government, a power that was used to support mortgage markets during the crisis by purchasing mortgage securities guaranteed by the GSEs through quantitative easing. These powers could be coordinated with the design of credit programs by Congress in order to ensure that markets for public investment and small business lending continue to be supported during economic downturns.

Another change worth considering would be develop new tools to directly support a strong fiscal response by Congress to an economic emergency, and thus prevent a repetition of the experience of austerity in a severe economic downturn. For example, former Federal Reserve Chair Ben Bernanke has suggested creating a new money creation tool that the Fed could use to enhance Congressional ability to engage in emergency fiscal spending.[82] Under the proposal, the Federal Reserve would enable a set amount of government spending to take place without increasing the national debt, but Congress would democratically determine whether the spending took place and how it would be allocated.

The long-term trend toward finance-driven and debt-driven growth has exacted a heavy price on most Americans. Although the danger of a financial crisis today is not as grave as it was in 2008, financial imbalances and excesses continue to pose a threat to limit growth today, make the next recession worse than it could be, and deepen the problem of economic inequality and insecurity still further.

To find our way out of this pattern, policymakers must turn away from belief that the expansion of Wall Street and the uncontrolled growth of lending and speculative increases in asset values are actually beneficial to the economy. The evidence against this claim is by now overwhelming. However, regulators willingness to actively and forcefully intervene to limit the growth of Wall Street is not yet commensurate with the threat that financial excesses poses to the economy. Driven both by ideology and by the power of the industry lobby, policymakers are continuing excessive accommodation of destructive financial practices in many areas. They have also not done enough to ensure that future financial and economic disruptions will be met by a response that prioritizes the needs and interests of the broader public.

ENDNOTES

1 - Mathias Drehmann and Claudio Borio and Kostas Tsatsaronis, Characterising The Financial Cycle: Don't Lose Sight Of The Medium Term!, (Bank for International Settlements, June 2012), http://bit.ly/2FthZeo;

Oscar Jorda, Moritz Schularick and Alan Taylor, When Credit Bites Back: Leverage, Business Cycles, And Crises, (Federal Reserve Bank Of San Francisco, October 2012), http://bit.ly/2FlYXoU;

Moritz Schularick and Alan Taylor, Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008, (American Economic Review, April 2012) http://bit.ly/2Fmzawy

2 - Borio, Dreahmann and Dora Xia, eds., The Financial Cycle And Recession Risk, (Bank for International Settlements, December 2018) http://bit.ly/2CwhQEK

3 - Elena Afanasyeva, et al., The Relationship Between Macroeconomic Overheating And Financial Vulnerability: A Narrative Investigation, (Board of Governors of the Federal Reserve System, October 12, 2018) http://bit.ly/2ujYDld

4 - Oscar Jorda, Moritz Schularick and Alan Taylor, When Credit Bites Back: Leverage, Business Cycles, And Crises, (Federal Reserve Bank Of San Francisco, October 2012), http://bit.ly/2FlYXoU; Michael Bordo and Joseph Haubrich, Credit Crises, Money, And Contractions: A Historical View, (Federal Reserve Bank of Cleveland Policy Discussion Paper No. 09-08, September 15, 2009) http://bit.ly/2HLYKhs; Prakash Kannan, Credit Conditions And Recoveries From Recessions Associated With Financial Crises, (International Monetary Fund Working Paper No. 10/83, March 2010) http://bit.ly/2WgUmeh

5 - McLeay, et al., Money Creation In The Modern Economy, (Bank of England, Q1 2014) 14-27 http://bit.ly/2utSDGZ

6 - Stephen Cecchetti and Enisse Kharroubi, Reassessing the Impact of Finance on Growth, (Bank for International Settlements, July 2012) http://bit.ly/2TnXOSF;

Stephen Cecchetti and Enisse Kharroubi, Why Does Financial Sector Growth Crowd Out Real Economic Growth?, (Bank For International Settlements, February 2015) http://bit.ly/2HAfoS5

7 - Bhattacharya, et al., Minsky's Financial Instability Hypothesis And The Leverage Cycle, (London School Of Economics FMG Special Paper, September 2011) http://bit.ly/2JyiCXY

8 - Afanasyeva, et al., The Relationship Between Macroeconomic Overheating And Financial Vulnerability: A Narrative Investigation, (Board of Governors of the Federal Reserve System, October 12, 2018) http://bit.ly/2ujYDld

9 - Bordo, et al., Is The Crisis Problem Growing More Severe? (World Bank, December 2000) http://bit.ly/2Wge21Q

10 - John Geanakoplos, Solving The Present Crisis And Managing The Leverage Cycle, (Federal Reserve of New York, August 2010) https://nyfed.org/2UPCRlc

11 - "Regulating Wall Street – Ten Years Later, Where Do We Stand?", Public Lecture, Americans For Financial Reform, Washington DC, July 24, 2018 http://bit.ly/2YhYWe7

12 - Kathleen C. Engel and Patricia A. McCoy, The Subprime Virus: Reckless Credit, Regulatory Failure, And Next Steps, (Oxford University Press, 2011) https://amzn.to/2UN6T9d

13 - Data from SIFMA available at https://www.sifma.org/resources/archive/research/statistics/

14 - King, et al., Financial Stability Report, (Bank of England, June 2012) http://bit.ly/2FjE6Cw

15 - Mark Gertman and Simon Gilchrist, What Happened: Financial Factors In The Great Recession, (Journal of Economic Perspectives, June 2018) http://bit.ly/2FkFgh4;

Gabriel Chodorow-Reich, The Employment Effects Of Credit Market Disruptions: Firm-Level Evidence From The 2008-09 Financial Crisis, (Quarterly Journal of Economics, 2014) http://bit.ly/2uq7TEp;

Atif Mian and Amir Sufi, What Explains The 2007-2009 Drop In Employment?, (Econometrica, 2014) http://bit.ly/2OkeFom

16 - Ben Bernanke, "The Housing Bubble, The Credit Crunch, And The Great Recession: A Response To Paul Krugman," Brookings Institution Blog (Blog), Brookings Institution, September 21, 2018 https://brook.gs/2FmDKee

17 - Data from the FRED economic database at the Federal Reserve Bank of St. Louis. Series used are hourly earnings of all employees (series CES0500000003), the Dow Jones Industrial Average (Series DJIA), the Case-Shiller Housing Price Index (series CSUSHPINSA), and real median household income (Series MEHOINUSA672N) Wages and income adjusted using the CPI, other series adjusted using GDP deflator. https://fred.stlouisfed.org

18 - Federal Reserve Board of Governors, Financial Stability Report, November 2018. https://bit.ly/2P7I0kG

19 - Moritz Schularick, "When The Middle Class Lost Its Wealth", Perspectives (blog), Institute For New Economic Thinking, November 15, 2018 http://bit.ly/2TUL3n5

20 - Ryan Cooper and Matt Bruenig, Foreclosed: Destruction of Black Wealth During the Obama Presidency, Peoples Policy Project, December, 2017. https://bit.ly/2JBLdM9

21 - Has Wage Growth Been Slower than Normal in the Current Business Cycle?, The FRED Blog, Federal Reserve Bank of St. Louis, August 13, 2018. https://bit.ly/2upsRn2

22 - Justin Ho, Are Wages Finally Starting to Pick Up?, Marketplace, February 1, 2019. https://bit.ly/2HSjlkr

23 - Federal Reserve Board of Governors, Financial Stability Report, November 2018. https://bit.ly/2P7I0kG

24 - U.S. Library of Congress, Congressional Research Service, Business Investment Spending Slowdown, by Marc Labonte, (April 9, 2018) http://bit.ly/2TOk0uh

25 - Gelfer, et al., “Pitchbook 2018 Private Equity Outlook”, Pitchbook, 2018 http://bit.ly/2Fi8Sf6

26 - Tobias Adrian and Fabio Natalucci and Thomas Piontek, “Sounding The Alarm On Leveraged Lending”, International Monetary Fund Blog (Blog), International Monetary Fund, November 15, 2018 http://bit.ly/2Jv6h6K

27 - Brian Ayash, The Origin, Ownership and Use of Cash Flows In Leveraged Buyouts, (California State Polytechnic University, September 6, 2018) http://bit.ly/2HKnyGB

28 - Eileen Appelbaum and Rosemary Batt, Private Equity At Work: When Wall Street Manages Main Street, (Russell Sage Foundation, 2014) https://amzn.to/2Cym7aO

29 - Zicheng Lei and Chendi Zhang, Leveraged Buybacks (Journal of Corporate Finance, April 19, 2016) http://bit.ly/2Cw2AYG; William Lazonick, William, Profits Without Prosperity, (Harvard Business Review. September, 2014). https://hbr. org/2014/09/profits-without-prosperity

Heitor Almeida and Vyacheslav Fos and Mathias Kronlund, The Real Effects Of Share Repurchases, (University of Illinois at Urbana-Champlaign, October 22, 2014) http://bit.ly/2Hx78Cd

30 - Commissioner Robert J. Jackson Jr., “Stock Buybacks And Corporate Cashouts,” Securities and Exchanges Commission, June 11, 2018 http://bit.ly/2Fl7V5P

31 - Janet Yellen, “Assessing Potential Financial Imbalances In An Era Of Accommodative Monetary Policy”, Board of Governors of the Federal Reserve System, June 1, 2011 http://bit.ly/2HyyqrP

32 - Board of Governors of the Federal Reserve System, “Agencies Issue Updated Leveraged Lending Guidance,” News release, March 21, 2013 http://bit.ly/2U4TRqn

33 - Sally Bakewell and Lisa Lee, “Wall Street Bankers Pile Leverage Onto Riskiest U.S. Buyouts,” Bloomberg, Bloomberg, June 15, 2018 https://bloom.bg/2YcwvhQ

34 - Ghose, Ronit, et. al, “Leveraged Lending Risks”, Citi Research Equities, November 2, 2018.

35 - Brian Cheung, “Leveraged Loan Growth Sparks Concerns About The Next Financial Crisis” Yahoo Finance, Yahoo, October 30, 2018 https://yhoo.it/2Fiuw2W

36 - Robert Kaplan, Corporate Debt As A Potential Amplifier In A Slowdown (Federal Reserve Bank of Dallas, March 5, 2019) http://bit.ly/2FtBvqZ

37 - Credit To The Non-Financial Sector, (February 27, 2019) Distributed by the Bank of International Settlements, http://bit. ly/2HN3aVt

38 - Bureau of Consumer Financial Protection, “Ability-To-Repay And Qualified Mortgage Rule Assistance Report,” January 2019 http://bit.ly/2FsyXcA

39 - Household Debt And Credit Report, (Q4, 2018) Distributed by the Federal Reserve Bank of New York, https://nyfed. org/2Yd41EM

40 - $2.4 trillion vs $1.8 trillion in NIPA wage and salary growth since mid-2013;

U.S. Bureau of Economic Analysis, Gross domestic income: Compensation of employees, paid: Wages and salaries [A4102C1Q027SBEA], (February 29, 2019) retrieved from FRED, Federal Reserve Bank of St. Louis, March 22, 2019. http:// bit.ly/2FuVF44

41 - Household Debt And Credit Report, (Q4, 2018) Distributed by the Federal Reserve Bank of New York, https://nyfed. org/2Yd41EM

Patricia Buckley, “The Return Of Consumer Debt: Increasing Interests Rates May Reveal Some Cracks In The System”, Deloitte Insights (blog), Deloitte, March 26, 2018 http://bit.ly/2TZg8pD

42 - Stephanie Riegg Cellini and Nicholas Turner, Gainfully Employed? Assessing The Employment And Earnings Of For-Profit College Students Using Administrative Data, (Journal of Human Resources, January 30, 2018) http://bit.ly/2UOJjc3

43 - Judith Scott-Clayton, The Looming Stuident Debt Crisis is Even Worse than We Thought, Brookings Evidence Speaks Reports, Brookings Institution, January 10, 2018. https://brook.gs/2EanLBr

44 - Gabrielle Coppola, “Auto Loan Delinquencies Are The Highest Since 2012” Bloomberg, February 12, 2019 https://bloom. bg/2FuEsYt

45 - Federal Reserve Bank of New York, “Quarterly Trends For Consolidated US Banking Organizations, Third Quarter 2018”, Research and Statistics Group, 2018 https://nyfed.org/2FrYrH1

46 - Views range from a call for moderately stronger limitations on leverage to calls for far higher capital requirements. See William Cline, The Right Balance For Banks: Theory And Evidence On Optimal Capital Requirements, (Peterson Institute For International Economics, June 2017) http://bit.ly/2OkTwe2;

Morris Goldstein, Banking’s Final Exam: Stress-Testing And Bank-Capital Reform (Peterson Institute for International Economics, May 2017) http://bit.ly/2FrAWxY;

Anat Admati and Martin Hellwig, The Banker’s New Clothes: What’s Wrong With Banking And What To Do About It, (Princeton University Press, 2013) http://bit.ly/2Frh1iq

47 - International Monetary Fund, “Meeting New Challenges To Stability And Building A Safer System”, Global Financial Stability Report, April 2010 http://bit.ly/2HzGhFQ

48 - For example, the most expansive measure of leverage, the Basel Supplementary Leverage Ratio, which includes off balance sheet leverage, indicates that the largest banks are currently holding capital equal to about six percent of total assets.

49 - Office of the Comptroller of Currency, Treasury and the Board of Governors of the Federal Reserve System, Proposed Rule,"Regulatory Capital Rules: Regulatory Capital, Enhanced Supplementary Leverage Ratio Standards for U.S. Global Systemically Important Bank Holding Companies and Certain of Their Subsidiary Insured Depository Institutions; Total Loss-Absorbing Capacity Requirements for U.S. Global Systemically Important Bank Holding Companies," Federal Register, (March 19, 2018): 17317-17327, http://bit.ly/2FkMMZk

50 - W. Scott Frame and Kristopher Gerardi and Paul Wilen, The Failure of Supervisory Stress Testing: Fannie Mae, Freddie Mac, and OFHEO (Federal Reserve of Boston Working Paper No. 15-4, March 1, 2015) http://bit.ly/2HzYRNI

51 - Randal Quarles, "A New Chapter In Stress Testing", Federal Reserve Board of Governors, November 9 2018 http://bit.ly/2Tnr247

52 - Vice Chairman for Supervision Quarles to Board of Governors, October 24, 2018, http://bit.ly/2HyjDxh

53 - Galo Nuño and Carlos Thomas, Bank Leverage Cycles, (Vox CEPR, March 12, 2013) http://bit.ly/2WeNmia

54 - Leonardo Gambacorta and Hyun Song Shin, Why Bank Capital Matters For Monetary Policy, (Bank for International Settlements, April 2016) http://bit.ly/2ulQxJ2

55 - Americans for Financial Reform to Ann Misback, February 2, 2018, Americans for Financial Reform, http://bit.ly/2FjeAxp;

Board of Governors of the Federal Reserve System, Final Rule, "Stress Testing Policy Statement", Federal Register 84 No. 40, (February 28, 2019) 7100-AF38 http://bit.ly/2FqIGjv

56 - William Cohan, "Wall Street's Latest Love Affair With Risky Repackaged Debt", New York Times, March 18, 2019 https://nyti.ms/2U0GpUj

57 - Kristin Haunss, "CLO Risk Retention Now Just A Memory As Final Appeal Deadline Passes", Reuters, May 11, 2018 https://reut.rs/2JuvzlK

58 - Charles Whitehead, Size Matters: Commercial Banks And The Capital Markets, (Ohio State Law Journal, November 4, 2015) http://bit.ly/2umoNnq; Arthur Wilmarth, The Road To Repeal Of The Glass-Steagall Act, (GWU Law School Public Law Research Paper No.2017-61, July 2017) http://bit.ly/2U86mBm

59 - David Fettig, The History of a Powerful Paragraph, Region Magazine, Federal Reserve of Minneapolis, June, 2008. https://bit.ly/2Wm1jek

60 Alexander Mehra, Legal Authority in Unusual and Exigent Circumstances: The Federal Reserve and the Financial Crisis, University of Pennsylvania Journal of Business Law, Fall, 2010. https://bit.ly/2HORp0C

61 - Nicola Matthews, How The Fed Reanimated Wall Street: The Low And Extended Lending Rates That Revived The Big Banks, (Levy Economics Institute of Bard College, March 2013) http://bit.ly/2JtZfzb;

Levy Economics Institute of Bard College, "Improving Governance Of The Government Safety Net In Financial Crisis," April 2012 http://bit.ly/2HAwleU

62 - Marcus Stanley, Designed to Fail, American Prospect Magazine, May 17, 2011. https://bit.ly/2Wmiuwd

63 - Atif Mian and Amir Sufi, House Of Debt: How They (And You) Caused The Great Recession, And How We Can Keep It From Happening Again, (University of Chicago Press, 2014) http://bit.ly/2ui34x8

64 - Americans for Financial Reform, "Cost Of The Crisis: The Cumulative Economic Damage Caused By The Financial Crisis And Great Recession", July 2015 http://bit.ly/1tYjqT5

65 - Timotej Homar and Sweder van Wijnbergen, On Zombie Banks And Recessions After Systemic Banking Crises, (CEPR Discussion Paper, November 2015) http://bit.ly/2Yf6NsU

66 - Harry Huizenga and Luc Laeven, "Bank valuation and accounting discretion during a financial crisis", Journal of Financial Economics, Elsevier, vol. 106(3), 2012. https://bit.ly/2HA8qfP

67 - Viral V. Acharya and Bruce Tuckman, Unintended Consequences Of LOLR Facilities: The Case Of Illiquid Coverage, (CEPR Discussion Paper, December 2013) http://bit.ly/2Yf5Xwg

68 - John Hudson, "Could A Memo By Christina Romer Have Saved The Economy?", The Atlantic, February 22, 2012 http://bit.ly/2U506dN

69 - Douglas W. Elmendorf to Nancy Pelosi, February 13 2009, Congressional Budget Office, http://bit.ly/2HMyALq; Keith Hall to Kevin Brady, December 15 2017, Congressional Budget Office, http://bit.ly/2HIC41C

70 - Based on data from the Annual Surveys of Public Employment and on U.S. population data for 2007 through 2014. Annual Survey Of Public Employment And Payroll (ASPEP), 2016, Distributed by U.S. Census Bureau, http://bit.ly/2FkJm99

71 - Danny Yagan, Employment Hysterisis From The Great Recession, (NBER Working Paper No. 23844, August 2018) http://bit.ly/2FiPT41

72 - Moritz Schularick, "When The Middle Class Lost Its Wealth", Perspectives (blog), Institute For New Economic Thinking, November 15, 2018 http://bit.ly/2TUL3n5

73 - Americans for Financial Reform, Letter Commenting on Federal Reserve Proposed Rule Regarding Extensions of Credit by Federal Reserve Banks, March 10, 2014. https://bit.ly/2TVq4RQ

74 - Peter Eavis, New Fed Rule Limits Emergency Lending Power, New York Times Dealbook, November 30, 2015. https://nyti.ms/2OpScXm

75 - Any losses on the Orderly Liquidation Fund are to be reimbursed by a general tax on large banks, but need not be paid back for five or more years after they are incurred. See Section 210(n)(9) and 210(o) of the Dodd-Frank Act.

76 - Group of 30, Managing the Next Financial Crisis: An Assessment of Emergency Arrangements in the Major Economies, September, 2018. https://bit.ly/2FmFJiR

77 - Ben Bernanke, Timothy Geithner, and Hank Paulson, What We Need to Fight the Next Financial Crisis, New York Times Opinion, September 7, 2018. https://nyti.ms/2Nwx1EU ; Ten Years After the Financial Crisis, Reflections by Bernanke, Geithner, and Paulson, Brookings Institution Up Front Blog, September 19, 2018. https://brook.gs/2HKZMuh

78 - FRED, Federal Debt Held By the Public, https://bit.ly/2FvmGEh ; Congressional Budget Office, Budget and Economic Projections, January 2019, https://bit.ly/2EPWOiR

79 - Emanuel Saez and Gabriel Zucman, How Would A Progressive Wealth Tax Work? Evidence From The Economics Literature, (University of California at Berkeley, February 5, 2019) http://bit.ly/2uko46j

80 - Burman, et al., Financial Transaction Taxes In Theory And Practice, (Urban Institute and Brookings Institution Tax Policy Center, June 2015) https://brook.gs/2YaChAp

81 - David H. Small and James A. Clouse, The Scope Of Monetary Policy Actions Authorized Under The Federal Reserve Act, (Board of Governors of the Federal Reserve, July 19, 2004) http://bit.ly/2Yf9Tx2

82 - Ben Bernanke, "What Tools Does The Fed Have Left?" Brookings Institution Blog (Blog), Brookings Institution, April 11, 2016 https://brook.gs/2U0wLRS

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