2015

The Federal Reserve and A Cascade of Failures: Inequality, Cognitive Narrowness and Financial Network Theory

Emma Coleman Jordan
Georgetown University Law Center, jordan@law.georgetown.edu

This paper can be downloaded free of charge from:
https://scholarship.law.georgetown.edu/facpub/1483
http://ssrn.com/abstract=2605044

This open-access article is brought to you by the Georgetown Law Library. Posted with permission of the author.
Follow this and additional works at: https://scholarship.law.georgetown.edu/facpub

Part of the Banking and Finance Law Commons, Finance Commons, Income Distribution Commons, and the Inequality and Stratification Commons
The Federal Reserve and a Cascade of Failures:
Economic Inequality, Cognitive Narrowsness, and
Financial Network Theory

Essay

By

Emma Coleman Jordan

Georgetown University Law Center

Faculty Research Workshop, April 17, 2014

Introduction

I. Inequality Overview
   A. The Inequality Problem
   B. Wealth Trends
   C. Political Capital
      1. Wealth and Making the Rules
      2. TruPs: A Regulatory Frenzy

II. How did the Fed Contribute to the Inequality Problem
   A. Deregulation
   B. Cognitive Narrowsness
   C. Post Crisis Bailouts and Emergency Lending

III. Interdependent Financial Network Theory

---

* I thank my indefatigable research team Jahlionais Gaston, JD ‘12, LLM Tax Law’13 Georgetown, Karla Vásquez, LLM International Business and Economic Law ‘13, Michael Moretti and Anthony Nash provided creative audiovisual support for my faculty workshop presentation on April 17, 2014, Thanh Nguyen provided superb research support for the Fed Transcript review, my colleagues Stephen Salop who critiqued early drafts and Dan Ernst who talked me through the New Deal period
A. Emerging Literature of Interdependent Networks in Financial Markets

B. Shadow Bank Node

C. Race Node
   1. The Unseen Racial History of Housing Finance Discrimination
   2. Animal Spirits of Racial Exploitation
   4. The Racial Implications of the Originate to Distribute Model
   5. Mortgage Broker Incentives to Profit from Racial Steering
   6. Securitization: A Financial Boomerang

IV. Proposal (in progress)
   A. Fed must monitor household debt levels
   B. Fed Must Monitor historic and newly developing pathways of racial exploitation
   C. Develop a Systemic Risk Model for Inequality and Racial Exploitation dynamics in financial markets

Conclusion
Introduction

I. Inequality Overview

A. The Inequality Problem

The recent financial crisis hollowed out the core of American middle-class financial stability. In the wake of the financial crisis, household net worth in the U.S. fell by 24%, for a loss of $16 trillion. Moreover, retirement accounts, the largest class of financial assets, took a steep drop in value, as did house prices, and these two classes of assets alone represent approximately 43% of all household wealth. The losses during the principal crisis years, 2007–2009, were devastating, “erasing almost two decades of accumulated prosperity,” in the words of a 2013 report. By the Federal Reserve. Beyond these direct household balance-sheet losses, 1 out of every 4 homeowners were underwater by 2009 with mortgages worth less than the value of their homes. If we add the 3.7 to 5 million foreclosures that forced Americans to move from the economic and emotional stability of family homes, we see a portrait of dramatic financial instability in the wake of the financial collapse. And the Federal Reserve’s commitment to low interest rates, so beloved on Wall Street¹, has prevented many families from rebuilding their wealth through interest on savings; these “zero-bound” interest rates are an impediment to middle-class recovery from the losses of the crisis.

By contrast, the financial sector, the cause of the crisis, has prospered from adversity, growing to 9% of GDP by 2010 even as it became less efficient. This is one of the highest shares of GDP in the past half century and represents 29% of all profits in America. The financial sector earns profits by pooling funds to bring net savers together with net borrowers in financial contracts, a process known as intermediation. Economist Thomas Philippon of New York University found that the profits from intermediation grew from less than 2% of GDP in 1870 to nearly 6% before the economic crash of 1929. After World War II, financiers gradually increased their share of the economy to 5% by 1980, close to what it had been before the crash. The focused deregulatory agenda of the Reagan administration and Alan Greenspan’s deregulatory passions at the helm of the Fed from 1987 to 2006 swelled the balance sheets of financial firms to the high point of 9% of GDP by 2010.² Philippon writes:

[Today] trading activities are at least three times larger than at any time in previous history. Trading costs have decreased (Hasbrouck (2009)), but the costs of active fund management are large. French (2008) estimates that investors spend 0.67% of asset value trying (in vain, by definition) to beat the market.

² Phillipon
In the absence of evidence that increased trading led to either better prices or better risk sharing, we would have to conclude that the finance industry’s share of GDP is about 2 percentage points higher than it needs to be and this would represent an annual misallocation of resources of about $280 billions for the U.S. alone [emphasis added].

The return to investors did not match the growth in the financial sector’s share of GDP. So what did investors get for their money? Philippon says it’s impossible to beat the market in part because of high-frequency trading that locks out the ordinary investor through sophisticated high-speed computer transmission of orders with preferential cable and algorithmic access to the trading desks.

B. Wealth Trends: The Federal Reserve, the Financial Crisis, and Wealth Inequality

Emmanuel Saez and Thomas Picketty have created the definitive database for analyzing income inequality and wealth for 20 countries over a period of 100 years.

Picketty introduced his already influential new magnum opus, Capital in the Twenty-First Century, with a blunt recognition: “Although the American Revolution established the republican principle, it allowed slavery to continue for nearly a century and legal racial discrimination for nearly two centuries. The race question still has a disproportionate influence on the social question in the United States today.” For Picketty, “The history of the distribution of wealth has always been deeply political, and it cannot be reduced to purely economic mechanisms. . . . the resurgence of inequality after 1980 is due largely to the political shifts of the past several decades, especially in regard to taxation and finance.”

When we think of inequality, we often think of income inequality, which has increased markedly in the past decades, with the Gini coefficient rising from 38.6 in 1967 to 46.8 in 2009. However, that increase actually understates the extent of the inequality in the US economy. In fact, wealth is far less equally distributed than income. That has always been true, but the disparities have been seriously exacerbated by the recent recession. This is particularly visible when examined along demographic lines.

Between 2006 and 2009, US household net wealth declined by and a median amount [You mean “by a median amount”? Also, is a percentage an “amount”?] of 27.7%, with the median change being $26,894. [I don’t follow. Do you mean “with the median drop being $26,894” or something like that?] However, this overall decline masks serious variations among racial and ethnic groups. While White household median net wealth declined by 16%, Black household median net worth fell by 53%, Asian household median net worth by 54%, and Hispanic household median net worth by 66%.

Within these categories, Whites and Asians started with high net worth, while Blacks and
Hispanics started with low net worth. Accordingly, among the latter two groups, the decline, though small in absolute terms was nonetheless more financially damaging than the corresponding decline in the former two, leaving Blacks and Hispanics with 2009 median net worths of $5,677 and $6,325 respectively.

Most of the decline is attributable to losses sustained on real estate. This is especially true for Hispanic and Asian populations, which tended to be concentrated in areas particularly hard-hit by the decline in the real estate market. 83% of the decline in White median net worth was attributable to real estate, compared with 96% for Hispanics, 90% for Blacks, and 92.5% for Asians. Indeed, looking strictly at median home equity, Hispanics lost 51%, Asians 32%, Blacks 23%, and Whites 18%.

Furthermore, Black and Hispanic populations hold a far higher percentage of net wealth in the form of real estate. Over 80% of Whites and Asians hold financial assets, compared with only 60% of Blacks and Hispanics. A substantial disparity exists across all types of financial holdings as well. Looking at stocks and mutual funds, we see that between 2005 and 2009 Hispanics lost 32%, Blacks an alarmingly high 71%, and Whites 9%. Asians actually gained 19%. In considering these figures, it should be remembered that in 2005, only 8% of Hispanics and 9% of Blacks had stock or mutual fund holdings, compared with 31% of Whites and 29% of Asians. In 2009, the numbers had fallen to 5%, 7%, 27%, and 24% respectively.

To get a sense of both the starting scale of the disparities and the levels to which they have risen, consider the ratios of median net wealth. In 1995, White households were worth approximately 7 times as much as Black households. By 2004, that ratio had risen to 11. By 2009, it was 19, the highest ever recorded. Hispanic households held constant at a ratio of 7 from 1996 through 2004. By 2009, however, the ratio had increased to 15. Asian households were worth 125% of White households in 2005, but fell to 69% in 2009.

Not only was the recession not felt equally among demographic groups—it was not felt equally within those groups. Declines in net worth occurred among both the richest and the poorest, but within all groups, the percentage of households with zero or negative net worth increased markedly, rising 36% among Whites, 35% among Hispanics, 21% among Blacks, and 58% among Asians.

By comparison, for wealthier households, although the overall 90th percentile of net worth fell by 7% between 2005 and 2009, their share of national wealth rose from 49% to 56%. Within the demographic groups, Whites saw the smallest increase, with ownership share rising from 46% to 51%, while Asians rose from 44% to 61%, Blacks from 59% to 67%, and Hispanics from 56% to 72%.

C. Political Capital
Existing frameworks fail to acknowledge that various forms of past state-mandated discrimination against racial minorities have shaped the current distribution of wealth and property, which in turn keeps many people of color from participating fully in a privately financed political system. By using the First Amendment to undermine legislative restrictions on political contributions in cases like *Citizens United*, the courts effectively enshrine the existing distribution of wealth as a baseline for political advantage.

While income represents earnings in a particular year, wealth represents in part the accumulation of income over long periods of time. Wealthy people, including people who earn no income but have inherited a great deal of wealth, control significant resources that they may use to participate in the current campaign finance process. Further, wealth affords opportunities that significantly shape one’s future income and the income of one’s offspring. Wealth is a “resource available for improving life chances, providing further opportunities, securing prestige, passing status along to one’s family, and influencing the political process.” As indicated above, racial disparities in wealth and net worth are much broader than racial disparities in income. In 1995, the median net worth for white households ($61,000) was over eight times greater than for African American households ($7400) and over twelve times greater than for Latino households ($5000). In the campaign finance context, net worth is germane because a family with a high net worth presumably has fewer obligations and more disposable resources to spend on politics. In other words, it has political capital.

The existing campaign finance system is a structural device that works to perpetuate racial disparities. Privately financed politics, framed by a history of racially discriminatory laws that have contributed to a present-day disparity in control over resources, reproduce and exacerbate racial disparities in the distribution of resources and political influence. These increasing disparities, combined with numerical minority status, make people of color especially vulnerable in the current political system. Raskin and Bonifaz criticize the existing campaign finance system not only for the inequitable access it provides to potential candidates and voters but also for the structural bias in government decision making that results.

Then there is the matter of the wealth accruing to the financial sector, which creates a synergistic political advantage in obtaining favorable legal rules that aggravate the national inequality problem. We see the growing dominance of the Finance, Insurance and Real Estate (FIRE) sector in its political contributions. FIRE has been the most prolific contributor to campaigns over the past 20 years. Since 1989, national senatorial candidates have received a total of $431 million from the FIRE sector.3

In the 10 years leading up to the current economic crisis, the financial sector spent $5 billion on political influence, according to a report by the Essential Information and Consumer Education Foundation. From 1998 to 2008, investment firms, commercial banks, hedge funds,

---

3 Needs cite.
real estate companies, and insurance companies spent $1.725 billion on political contributions and $3.4 billion on lobbyists.⁴

Much of the implementation of financial reform occurs at the agency level under a *Chevron⁵* deference standard that allows agencies wide latitude to interpret statutes. Two significant Supreme Court campaign finance decisions, *Citizens United⁶* and *McCutcheon⁷*, make the agency implementation process especially vulnerable to the inevitable loophole industry dispensing political contributions to change the rules or eliminate regulation altogether.

Eric Gerding provides a persuasive account of the relationship between boom and bust cycles in financial markets and regulatory arbitrage frenzies.⁸ Gerding argues that as bubbles form there is increasing pressure on regulators to deregulate financial markets, reduce enforcement initiatives, repeal or water down regulations, and refuse to apply legal rules to financial innovations.⁹ Financial market actors seek “regulatory stimulus” to extend the profitable run-up of the boom cycle through the relaxation of government oversight. This cycle, Gerding argues, creates “regulatory instability.”¹⁰ In his account, the effectiveness of government oversight of financial markets decreases notably during a bubble as regulators are besieged by lobbyists and industry advocates. The sophisticated gaming of the rules begins in earnest when the wealth created by the bubble makes it profitable to engage in creative risk taking that skirts the law.

Trust Preferred Securities (TruPs) are one important and highly favored example of a sophisticated game of regulatory arbitrage to dilute the capital of bank holding companies (BHCs) by setting up a special purpose entity (SPE) that holds only a debenture. The SPE then issues TruPs, a hybrid debt instrument, to investors, and the cash thus raised is then borrowed by the BHC, with the debenture in the SPE, a long-term subordinated note, provided in exchange for the cash. The BHC pays interest on the debenture, and these interest payments are deductible as debt payments for tax purposes. The cash borrowed from investors who bought the TruPs is then directed to a bank subsidiary, which in return pays dividends to the parent BHC.

This complex transaction raised a significant issue of the banks’ safety and soundness, because the crucial question was whether the TruPs counted as Tier 1 capital. Tier 1 capital refers to the unrestricted funds that serve as a buffer against future risk. The FDIC concluded that these securities were a liability of the parent BHC and therefore could not count as Tier 1 capital. Beginning in 2003, the Financial Accounting Standards Board, a self-regulatory organization. [Karla please fill in your memo on TruPs here I digressed and need to get back to cognitive

---

⁸ ERIK F. GERDING, LAW, BUBBLES AND FINANCIAL REGULATION, (2014).
⁹ Id., at 276-301.
¹⁰ Id.
narrowness.]

II. How Did the Fed Contribute to the Inequality Problem?

Did the Federal Reserve’s aggressive pre-crisis deregulation of capital requirements, its off-balance-sheet permissions, and its enthusiasm for complexly structured financial instruments have an impact on post-crisis economic inequality trends? Few scholars have asked this basic question. The Fed is the most powerful economic institution in the world. A close examination of its recent policies will shed some light on the question of the connection between Fed policies and the growing problem of economic inequality. This paper seeks to stimulate that necessary conversation.

Fed Governor Sarah Bloom Raskin has been the intellectual leader of the effort to bring inequality analysis to the fore in Fed thinking, through a series of intellectually stimulating speeches and policy papers. Raskin has repeatedly explored the impact of monetary and bank regulatory policy on unemployment, economic marginalization, and financial vulnerability among millions of moderate- and low-income Americans. In an April 2013 speech she addressed “an issue of growing saliency that macroeconomic models used at central banks and by academics have not traditionally emphasized—specifically, how such economic marginalization and financial vulnerability, associated with stagnant wages and rising inequality, contributed to the run-up to the financial crisis and how such marginalization and vulnerability could be relevant in the current recovery.”

By contrast, Janet Yellen, the new Federal Reserve chair, succinctly endorsed conventional macroeconomic wisdom about the role of the Fed in economic inequality. During her November 2013 confirmation testimony, she told the senators:

Economists have spent a lot of time trying to understand what is responsible for

11 I discussed the question of redistribution up in my paper presented to the Lat Crit Conference in 2013. In addition there is a growing chorus of journalistic commentary in the blogs and within the conservative and liberal think tanks that does focus on the Fed as a vehicle of wealth redistribution that fueled inequality. [Get the list from my folder on redistribution on my desk]. An important exception is the work of economist, Gary A Dymski, who argued that the root causes of the subprime crisis were the intertwined “long established patterns of racial exclusion in the US housing markets for housing credit,” the “balance sheet transformation” of banking in the 1980s… and the unique global circumstances of the US macro-economy.” Gary A. Dymski, Racial Exclusion and the Political Economy of the Subprime Crisis, 17 HIST. MATERIALISM 149.

12 Sarah Bloom Raskin was sworn in as the first woman Deputy Secretary of Treasury on March 19, 2014.


widening inequality. Many of the underlying factors are things that are outside the Federal Reserve’s ability to address. . . . There is a lot of research, a lot of debate about exactly what the causes of this problem are, perhaps having to do in part with the nature of technological change, with . . . globalization and the decline of unions. The solutions involve a multitude of things including . . . early childhood education. What can the Fed do? We cannot change all of those trends.15

Yellen shares the liberal economic view that while inequality is bad, the Federal Reserve is not responsible for the primary drivers of this inequality: education, technological innovation, and globalization. In the recently released transcripts and minutes of the 2007-9 meetings of the Federal Open Market Committee (FOMC), Yellen shows her talent as a prescient, often reliable evaluator of the proper balance the Fed should bring to evaluating the conflicting economic signals of inflation and unemployment. Her empathic observations about the human toll of unemployment reveal a genuine personal commitment to the Fed’s statutory mandate to lower unemployment, and especially to address the devastating effects of long-term unemployment. In a paper co-authored with her husband, Nobel Prize–winning economist George Akerlof, they write that “policy makers should be compelled to take action given the serious costs of long-term unemployment when overall unemployment is already high. A week of unemployment is worse when it is experienced as part of a longer spell.”

Yellen’s views are in sharp contrast to Thomas Picketty’s argument that the Fed is in charge of redistribution of wealth: “It is important to realize that central banks do not create wealth as such; they redistribute it. Rapid execution is the principal strength of the monetary authorities. The weakness of central banks is clearly their limited ability to decide who should receive loans in what amount and for what duration.16 The problem is that central banks lack the democratic legitimacy . . . . They can redistribute wealth quickly and massively, but they can also be very wrong in their choice of targets. The problem is not one of technical impossibility but of democratic governance. The Federal Reserve in its role as financial regulator was a major cause of the mortgage securities crisis. Once the financial shadow markets panicked, they unleashed a torrent of loans, guarantees, capital infusions to rescue the failing shadow banking ‘system’ of short term lending repo, commercial paper, and money market funds. The Fed became a creative the global economy from the escalating effects of the financial panic in the mortgage-centered segment of the unregulated shadow banking system.

For all her empathy, Yellen’s stance reveals critical analytic failures. During the period leading up to the financial crisis of 2008–9, the Federal Reserve was a powerful matrix for economic inequality through both action and inaction. My argument here relies upon recognizing a structural continuity between the Fed’s pre-crisis deregulatory agenda and its now legendary

16 Pg. 550 of ____.
post-crisis intervention. The pre-crisis deregulation set the stage for the magnitude of the uncontrolled, unanticipated collapse of the interdependent networks created by that deregulatory agenda. The Federal Reserve decision-making process and output displays a persistent “cognitive narrowness” before, during, and after the crisis. In my view, the dynamic pattern of “interdependent network theory,” developed first in physics and biology, provides a powerful tool for explaining the suddenness of the financial collapse and the amplification of the impact beyond the subprime mortgage market.

Former Chair Ben Bernanke’s testimony to the Financial Crisis Inquiry Commission (FCIC) reveals the devastating impact of cognitive narrowness at the very top of the Fed. Bernanke testified, on one hand, that the Fed could not have anticipated the financial crisis or its severity because the crisis was “a perfect storm,” an unpredictable Act of God. On the other hand, in response to a question about the Fed’s lack of aggressiveness in regulating the mortgage market during the steep ascent of housing prices, Bernanke admitted that the failure to rein in abusive lending practices “was the most severe failure of the Fed in this particular episode.” FCIC xvii.

This paper offers a novel explanation of how the Fed became a matrix of inequality. In my discussion, I rely on the two concepts mentioned above, concepts that have received scant attention in the vast scholarly literature on the financial crisis. First, I explain cognitive narrowness and then explore its impact on Federal Reserve decision making. Second, I introduce interdependent network theory as a useful conceptual tool to explain how Fed policy before the crisis created several interdependent networks that converged beyond its cognitively narrowed perception of the growing risk. The interdependent networks began forming on an indispensable foundation of aggressive deregulation that included both affirmative permissions to shift risk to off-balance-sheet dark zones and inaction in the failure to police the spreading virus of subprime and racial exploitation in mortgage lending. The interdependent network framework is useful in explaining how cognitive narrowness and race were linked in an interdependent set of “nodes”17 that came together during the crisis, because it offers a physical image of the catastrophic, cascading results that produce exponentially large failures exceeding the sum of the individual parts.

In what follows, I identify three major categories of Federal Reserve action that increased economic inequality during the financial crisis of 2008–9.

**Category I. Deregulation**

1. The Federal Reserve undertook a program of systematic deregulation and non-enforcement of legal rules that would have prevented the proliferation of the unsustainable subprime

17 I use the term “nodes” in the context of the 2008 financial crisis to capture the list of interactive relationships of off balance sheet deregulation, interconnection between formal banks and the shadow bank system consisting of maturity transformation through short term financing provided by money market funds and asset backed commercial paper facilities.
mortgages that formed the heart of the crisis

2. The Federal Reserve adopted a series of explicit off-balance-sheet permissions that allowed regulated banks and their holding companies to move the origination and distribution system for home loans off the bank balance sheet into unregulated entities that facilitated the growth of a massive “shadow” banking sector. Hidden from government view, this shadow sector was especially vulnerable to systemic panics and runs because it lacked three indispensable safeguards that stabilized the traditional banking system: regulated capital cushions, transparent transactions, and primary supervisory oversight of the quality of its transactions.18

Category II. Cognitive Narrowness

Cognitive narrowness provides a comprehensive explanation of the Fed’s failure to recognize that the pervasive interconnectedness of the invisible shadow sector and the formal sector posed an imminent threat to the stability of the entire global financial system when housing prices began to decline in 2005. Most scholarly analyses,19 government investigations,20 and post-crisis autopsies21 have concluded, in hindsight, that pervasive interconnection between the formal banking system and the shadow sector led to an exponential increase in the scope of the damage to the financial sector and the overall economy, but I go beyond the consensus structural analysis of the causes of the crisis. I argue that an important component of Federal Reserve leadership22 was its blindness23 to the nation’s history of racial discrimination in housing.24 This lack of historical understanding proved lethal. The crisis- period transcripts of the meetings of the FOMC, show that the Board repeatedly underestimated the near cataclysmic effects of the looming global subprime crisis because of its deeply mistaken belief that if the housing bubble burst, the effect would be an easily contained recession, on the scale of the collapse of the asset

19 [Cite needed for list of most cited scholarship on financial interconnectedness]
20 Levin Senate Permanent Subcommittee on Investigations, WAMU
21 Cite, FCIC report, GAO reports in folder on my desk
22
23
bubble of the Silicon Valley technology start-ups. The dot-com comparison is one significant marker of how far afield the limited cultural and social imagination of the Fed would carry it from recognizing the role of racially discriminatory lending in the American housing market.

As I explore more fully below, there are overlapping definitions and dynamics that qualify as cognitive narrowness. 25

Category III. The Fed’s Post-Crisis Bailouts and Emergency Lending

The Fed’s crisis response “saved” the global economy by distributing $12 trillion in emergency lending to non-banks and nothing directly to homeowners to enable them to restructure flawed mortgage loans and remain in their homes. This decision contributed to the growth of inequality after the crisis by draining wealth in housing from homeowners in foreclosure while distributing wealth to the financial sector.26 According to one estimate, real household wealth declined by $19 trillion between July 2007 and January 2009, and the Fed reported that median family net worth fell 38.8%. By March 2009, retirement savings had lost an estimated $3.4 trillion, 40% of their value. For those nearing retirement, these losses were irretrievable.

III. Cognitive Narrowness: Framing the Narrative of Miscalculation

“Some important lessons emerge from the story [of the Depression] ... One lesson is that ideas are critical.”

Ben Bernanke, Chair Federal Reserve, 2006-2014

“People who belong to a group that makes decisions have a tendency to self-censor and not express ideas that don’t conform to the perceived professional standard. They’re too professional. They are not creative and imaginative in their approach”

Robert Shiller, Nobel Laureate, Economics 2013

Ben’s Promise

Milton Friedman’s ninetieth birthday celebration, on Friday November 8, 2002, was a grand intellectual occasion for the orthodox branch of the economics profession. The University of Chicago invited a distinguished group of economists, including Nobel Laureate, James Heckman and Federal Reserve Board member, Benjamin Bernanke. The fete and conference were held at the architecturally important Max Palevsky Cinema, with elegant red velvet seating on two levels for 375 attendees, in Ida Noyes Hall on the East 59th Street side of campus.

25 See Pgs. __ infra.

26
Ben Bernanke’s speech at 3 p.m. that day was a highly anticipated end of the birthday celebration and conference that welcomed Nobel Prize winner, Friedman for a “rare return to campus” from his home in California. The excitement that afternoon centered around the fact that Bernanke’s 1983 American Economics Review article, “The Non-monetary Effects of the Financial Crisis in the Propagation of the Great Depression” 27 was an important revision that built on Friedman and Schwartz’ monetary theory of the causes of the Depression. 28 As a member of the Board of Governors of the Federal Reserve Bernanke had both ideas and the power to implement his ideas. Bernanke’s scholarly, well-researched speech that afternoon catalogued Friedman’s contributions to macroeconomic thinking 29.

The speech is most remembered, however, for Bernanke’s closing, a promise to Friedman and his longtime collaborator, Anna Schwartz:

*I would like to say to Milton and Anna: Regarding the Great Depression. You’re right, we did it. We’re very sorry. But thanks to you, we won’t do it again.*

By all accounts, Bernanke strove gallantly to keep that promise as the Chair and intellectual leader of the Board during the crisis.

Bernanke’s reference to “we did it” in the now famous “promise” refers to two schools of thought within the Hoover Administration after the stock market crash and the subsequent dramatic loss of productivity and banking stability.

In one school of thought the passive liquidationists, lead by Secretary of the Treasury Andrew Mellon and the Fed, argued that the government should not intervene in a banking panic because the disruption and purging of the economy, no matter how painful to innocent citizens, were necessary to restore the balance within the capitalist economic system. Hoover’s memoirs assign this infamous phrase to Mellon.

‘Liquidate labor, liquidate stocks, liquidate the farmers, liquidate real estate.’ 30

For liquidationists, panics and recessions were a good thing to purge the excess credit spilling out after an imprudent credit binge, like the stock market speculation that preceded the Crash of 1929. Hoover aligns himself with the second school of the opposing forces that lost the

---

27 Bernanke, “The Non-monetary Effects of the Financial Crisis in the Propagation of the Great Depression”, American Economics Review, 28 Remarks by Governor Ben S. Bernanke, At the Conference to Honor Milton Friedman, University of Chicago, Chicago, Illinois, November 8, 2002. “On Milton Friedman’s Ninetieth Birthday”. Bernanke was careful to make clear in the birthday speech that his own work on the Depression did not reject Friedman and Schwartz’ basic monetary thesis that “the contraction is in fact a tragic testimonial to the importance of monetary forces .” as I have always tried to make clear, my argument for nonmonetary influences of bank failures is simply an embellishment of the Friedman-Schwartz story; it in no way contradicts the basic logic of their analysis. 29 30 Herbert Hoover Memoirs, at ___
liquidationist battle at the Fed. Hoover says that he favored “cushioning” the impacts of the collapse by government action, such as the creating the Reconstruction Finance Corporation, designed to save the railroads, and to provide liquidity to banks to cushion the disruption of depositor panics. Hoover also says that he favored protecting the unemployed, farmers and other small business bankruptcies.\textsuperscript{31}

Hoover’s attribution of the hardline liquidationist Mellon quote above has recently been challenged by banking scholar, Larry White, who counts Hoover’s memoirs as revisionist history, designed to polish Hoover’s irreparably damaged Presidential legacy by assigning the most heartless version of the now widely discredited liquidationist theory of monetary policy to his Secretary of the Treasury Andrew Mellon \textsuperscript{32}

Instead of the liquidationist theory that captivated both the Depression Fed and Mellon, Hoover’s Treasury Secretary\textsuperscript{33}; the Greenspan-Bernanke Fed was committed to the largely discredited ideas of radical financial deregulation, self-correcting markets, and moral hazard as a basis for intervention in systemic panics.

Today, the 1928 Fed’s decision to begin a series of interest rate increases based on their belief in “liquidationist theory”, which held that after a credit-fueled bubble the central bank should mop up the excess credit in the economy by raising interest rates. This approach is widely mocked as a foolish policy choice that damaged the U.S. economy, leading to 25% unemployment, the collapse of the U.S. banking system and a prolonged disruption of the economic security of the nation.\textsuperscript{34}

In the Friedman birthday speech, Ben Bernanke laments the series of Fed decisions from 1928 to 1932 to contract the money supply, thus raising interest rates and to failing to supply emergency lending to banks suffering depositor runs to restore the confidence in the safety of deposits in the system of the time, before deposit insurance.

Indeed, a central element of the Federal Reserve’s original mission had been to provide just this type of assistance (lender of last resort lending to stem depositor runs) to the banking
system. The Fed’s failure to fulfill its mission was, again, largely the result of the economic theories held by the Federal Reserve leadership…the infamous “liquidationist” thesis of Treasury Secretary Andrew Mellon, who argued that weeding out “weak” banks was a harsh but necessary prerequisite to the recovery of the banking system. 35

The sad irony of the brilliance of Ben Bernanke, is that just like the depression -era Fed that became unwisely attached to a bad idea(s) of the “liquidationist” theory of monetary policy(raise interest rates after a credit fueled collapse to drain the excess credit from the economy). In the 2008 financial crisis, the bad ideas that Bernanke-Greenspan became attached were the laissez faire belief in self-correcting markets leading to radical financial deregulation, creating a regulation free zone consisting of an opaque shadow banking system devoid of capital cushions, creating balance sheet fusion with the formal banks, lack of regulatory oversight and finally blind reliance on macroeconomic tools (interest rates up or down to get out of a recession) just as the second greatest global financial and economic crisis came to a head.

As I discuss more fully below, the interconnected nodes created by Fed action and inaction before the crisis converged between 2004-2008 beyond the cognitive perception of a collection of the best and the brightest macroeconomists in the world.

The result was a cognitive narrowness that reflects a continuity from pre-crisis belief in self-correcting markets for home loans without government rules to prevent exploitation of vulnerable populations to the post-crisis effort to adhere, incompletely, to a diffuse concept of moral hazard precepts for public policy choices in a global credit crisis.

Both liquidationist theory and laissez fair belief in self-correcting markets, historically plagued with racial exploitation were economic phrenology. They were pseudo-scientific understandings of how the world works, even as it was changing.

The 2008 financial crisis was the result of a profound economic miscalculation by the Federal Reserve. The just-released transcripts 36of the Federal Reserve meetings from the most intense period of the financial crisis, 2007-2009, provide, for the first time, a comprehensive factual basis for evaluating the dynamics of these highly confidential deliberations. This essay offers a novel framework of “cognitive narrowness”37 to answer two crucial questions about the Fed’s failure to see the residential mortgage train headed straight for the global economy.

What factors within the Board’s decision making process obscured its view of the potential for panic in the unregulated shadow banking system, and cause its attention to be drawn instead

35 Bernanke, Money, Gold, and the Great Depression.
36 Transcripts of Federal Open Market Committee Meetings 2007-2009, charts, graphs, and other supporting documents were released on Friday, February 21, 2014.
37 I have adopted the label cognitive narrowness to describe four separate, but related phenomena that are observable in the Federal Reserve policy actions before and after the Financial Crisis.
to the wrong problem, inflation. This misdirection meant that this global central bank was forced to resort to ad hoc solutions. Fortunately they mostly worked. But, we are still left with the lingering question that the Fed’s pre-It did not have a previously agreed upon plan of action for the real crisis: a panic in the unregulated shadow banking market that funded residential mortgages of money market funds, asset backed commercial paper. The crisis that emerged in 2008 was within its responsibility as a financial regulator. Financial regulation was an orphan among the Fed’s many economic leadership roles.

This section combines four different, but related, features of group dynamics to offer a novel framework to analyze the new Fed transcripts. These four dynamics fit within my concept of “cognitive narrowness”. This framework provides a useful way of starting to figure out the reason for the most profound economic miscalculation since the Great Depression. The four features are: first the Board’s ideological commitment to free markets in financial regulation. Second, the narrow band of professional training in macroeconomics within the Board of Governors constrained awareness of how the pre-crisis deregulation had unleashed unbridled risk that was hidden from view. Third, the composition of the board and rotating membership in the Fed Open markets committee, lacked of a diverse set of perceptual tools and experience. Decisional economist Scott Page was able to establish through models for difficult problems that diversity of perspectives, heuristics, and personal experience trumped: individual ability; and homogeneity. Page found that his models showed that “a randomly selected collection of individual problem solvers outperforms a collection of the best individual problem solver”.38 Fourth, the Fed displayed many of the characteristics of GroupThink first catalogued by Yale social psychologist, Irving Janis in his classic study of failures in high level government decision making groups.

These four attributes of cognitive narrowness combined to produce a treacherous perceptual blindness. If you don’t see the components of the crisis as problems, then it is hard to prepare for solutions. The growing subprime lending and reliance on financing from unregulated financial product innovation were never seen as problems by the Greenspan led Fed. Chairman Bernanke, shared these free market pre-commitments. Once the crisis emerged, however, he quickly abandoned his reluctance to use government power to shape a rescue.

The discipline of macroeconomics itself played an important role in narrowing the vision of Fed leadership. I begin with the many post-crisis observations of Seventh Circuit judge and Chicago Richard Posner, the father of law and economics delivers this broadside against macroeconomics in his 2009 post crisis review, A Failure of Capitalism: The Crisis of ‘08 and the Descent into Depression.

Macroeconomics and financial economics are highly prestigious fields of economics, and the leading macroeconomists and finance theorists are brilliant people. Yet although the housing

---

bubble started to leak air in 2005 and burst in 2006 and the economy was in recession from the end of 2007 at the latest and the drumbeat of signals warning of an impending crash became deafening by the spring of 2008, not enough economists, whether in academia, the government, or business, sounded the alarm in time to have a significant impact on the government or the banking industry. Securitization of mortgages and other debts was taken at face value as protecting us against the kind of housing-credit bubbles that had ravished East Asian countries in the 1990s. In May 2006, Federal Reserve chairman Bernanke said that the housing market was “cooling,” but that this cooling was “orderly and moderate” and that the market appeared to be “headed for a safe landing.” His predecessor, Alan Greenspan, who in July 2005 had expressed mild concern about housing prices, said in October 2006 that the “worst may well be over”.

One preeminent macroeconomist was caught without an economic compass when he refused to say that a recession was underway, yet a mere 30 days later stated that the evidence that the nation was in a recession was conclusive. Posner offers this more general critique of macroeconomics:

> Even now, the profession seems adrift in uncertainty and irresolution, as if it cannot believe what had happened. No consensus has emerged with regard to how best to respond to the depression. Most economists seem willing to try virtually anything in an effort to dig the economy out of the hole into which it’s fallen.

Shared faith in neoclassically-derived models of macroeconomics is the necessary starting point for evaluating the two interconnected roles of the Fed as banking regulator and its role as guarantor of our national economic stability and freedom from the damaging shocks of banking panics. As financial regulator, the Fed is the lead government conceptualist with responsibility for articulating the rationale for government regulation of our system of private financial institutions. It is, of course, also responsible for implementing a system of rules, at once practical and logical. These must be rules that succeed in monitoring and controlling the risk-taking propensities of private financial institutions. Theory and reality must align.

My review of the just released Fed Transcripts, minutes, and other materials from the FOMC crisis deliberations supports my agreement with U.C. Berkeley Sociologists Fligstein, Brundage and Schultz who argue that “FOMC failed to see the depth of the problem because of its overreliance on macroeconomics as a framework for making sense of the economy. As a result of this framework, Committee members failed to see the deeper connections between the housing

---

39 Posner, *A Failure of Capitalism* at 253
40 Id at 255
41 Id.
42 My List of the transcripts and materials and Board minutes I have reviewed from 2005-2009.
market and the financial sector via the securitization of mortgages and the use of financial instruments. Thus, they significantly underestimated the degree to which the economy was in danger of collapse.”

Posner sees the ideological division among macroeconomists as a sign of weakness of the discipline itself. He concludes that the warring factions on the left, featuring Krugman, Stiglitz, Akerlof, Shiller, and the right featuring, Friedman, Heckman and Bernanke contest basic propositions of the field. In addition, the divisions between the Keynesians, neo-Keynesians, Austrian schools. For Posner, these disciplinary ground wars are “a clue that the field is weak, however brilliant its practitioners.”

The lack of consensus allows ideology and political commitments to dominate arguments. Posner leveled this charge as well. “The divisions within the economics profession over fundamental issues of policy gave political preferences free rein to shape economic policy.”

Fligstein, Brundage and Schultz (hereafter Fligstein, et al) consider the role of macroeconomic commitments as the major source of the limited vision revealed in the 2007-9 transcripts. Fligstein, a U.C. Berkeley sociologist, who studies the sociology of markets, with special focus on financial markets. Fligstein, et al, ask why the Fed was so sanguine about the prospects of a limited impact of the contraction in the housing market, despite substantial concerns about the problems developing in financial markets.

Fligstein et al, rely on the theory of “sensemaking” in sociology. The theory of sensemaking, introduced by Weick in 1995 conclude that:

[the Federal Open Market Committee], FOMC failed to see the depth of the problem because of its overreliance on macroeconomics as a framework for making sense of the economy. As a result of this framework, Committee members failed to see the deeper connections between the housing market and the financial sector via the securitization of mortgages and the use of financial instruments. Thus they significantly underestimated the degree to which the economy was in danger of collapse.

Beyond macroeconomics, the hybrid ideology of law and economics allows us to consider the impact of relaxed legal rules. I classify law and economics driven legal rules in three groups:

---

44 Posner, A Failure of Capitalism, at 265.
45 Id at 273
46 Fligstein, supra at
47 Id at ___
48
first, non-enforcement of prohibitions against unfair lending practices in home mortgage origination. The FCIC concluded that the Fed’s

These rules required banks to hold equity capital to cushion against the risk of payment defaults and other unforeseen economic events. Three legal scholars explain that this regulatory arbitrage that to produce the market dynamic of off balance sheet mortgage backed securitizations. Fidelity to the tenets of law and economics was perhaps the single the most deadly feature of myopia during the crisis. The reinforcing legal component of law and economics with its strong preference for private markets over legal rules led to the Board’s first big failure in the subsequent cascade. The FCIC and the disciplinary and cognitive diversity.

Macroeconomics has virtually nothing to say about racial discrimination. It was the overriding belief in self-correcting markets that led Greenspan and other board members simply dismiss “as anecdotal” the mounting evidence of pervasive racial discrimination in unregulated originations flooding minority communities. The legal arguments of Richard Posner, derived from Coase, had prevailed in government policy circles in the 1970s through the economic collapse in 2008.

But, curiously, the just released transcripts when combined with the authoritative Financial Crisis Commission autopsy, reveal that Bernanke had an incomplete commitment to government rescues of failing financial firms. As, I discuss below, the new Transcripts provide for the first time persuasive evidence of the basis for the still incoherent distinction between the rescue of Bear Stearns, -Lehman Brothers- AIG flip flops on the moral hazard of government bailouts. The transcripts show that the Fed wanted to send a signal that it would let some, but not all firms fail. The internal discussion of Lehman Brothers in the summer and early fall of 2008 supports my “mixed signals”, “incomplete commitment. Told to free markets interpretation.

Paul Krugman, the progressive Nobel Laureate and Richard Posner, the conservative founder of the law and economics movement, two public intellectuals who rarely agree on anything, separately criticize the Fed’s failure to predict this once in three generation financial crisis.

The second question could be answered more easily. In an emergency, the adrenalin is flowing and the chaotic human reactions take over. In the last speech before he ended his term, Ben Bernanke, expressed his own disorientation when the crisis erupted in September 2008. “If you’re in a car wreck or something, you’re mostly involved in trying to avoid going off the bridge. And then, later on, you say, ‘Oh my God!’” This reflects one component of the miscalculation. Yet, it doesn’t provide any insight into the reasons why there was a crash.

---

49 A welcome exception to my claim that macroeconomics is silent on racial discrimination is Akerlof and Shiller, Animal Spirits.

50 Greenspan to his credit did admit, with qualifications this flaw in his thinking when questioned by Congressman Waxman.
Krugman’s diagnosis was delivered early and often, from his column in the NY Times. One early example, occurred in August 2007, one month before the full blown crisis erupted, Krugman’s assessment of the Fed was blunt. He concluded that when KKR Financial, an investment firm, not regulated by the Fed or covered by deposit insurance, but providing funding for mortgage loans like depositors in the old-fashioned depository bank, announced that it couldn’t meet $5 billion of its obligations. Krugman concluded that “in economic terms what’s been happening amounts to a burgeoning banking panic…On Friday, the Federal Reserve tried to quell this panic by announcing a surprise cut in the discount rate, the rate at which it lends money to banks. Fed’s move is largely symbolic. It makes more funds available to depository institutions, aka old-fashioned banks — but old-fashioned banks aren’t where the crisis is centered. And the Fed doesn’t have any clear way to deal with bank runs on institutions that aren’t called banks.”[1] Krugman’s later evaluation of the Fed included:

Posner’s evaluation was no less harsh, [edit down the best quotes from Posner, A Failure of Capitalism, (2009) at 252-257]

Across ideological lines, a stable consensus has formed. The financial crisis was the result of a profound economic miscalculation. The Federal Reserve did not anticipate the financial crisis until it was too late. Paul Krugman, the progressive Nobel Laureate, and Richard Posner, the conservative founder of the law and economics movement, two intellectuals very unlikely to agree on anything, agreed about the role of the Fed in this economic disaster.

Krugman’s diagnosis was delivered early and often, from his column in the New York Times. In August 2007, one month before the full-blown crisis erupted, his assessment of the Fed was blunt. When KKR Financial, an investment firm that was not regulated by the Fed or covered by deposit insurance and yet provided funding for mortgage loans like a traditional depository bank, announced that it couldn’t meet $5 billion of its obligations, Krugman concluded that “in economic terms what’s been happening amounts to a burgeoning banking panic…On Friday, the Federal Reserve tried to quell this panic by announcing a surprise cut in the discount rate, the rate at which it lends money to banks. Fed’s move is largely symbolic. It makes more funds available to depository institutions, aka old-fashioned banks—but old-fashioned banks aren’t where the crisis is centered [emphasis added]. And the Fed doesn’t have any clear way to deal with bank runs on institutions that aren’t called banks.”

Posner evaluated the Fed’s performance in the crisis in equally harsh terms. His similarly narrow critique of the Fed is perhaps even more problematic than Krugman’s because his work in the early 1970s adopting economics Nobel Laureate Gary Becker’s view of the market dynamics of racial discrimination provided the foundation for the deregulatory approach to racial discrimination in markets, an approach that certainly influenced Fed Chair Alan Greenspan’s thinking about whether to enforce the Home Ownership and Equity Protection Act (HOEPA) of

This section of the paper introduces a framework that tries to make sense of the Fed’s otherwise inexplicable miscalculation. I address two questions. First, why didn’t the Fed see the crisis coming, and second, when the crisis was just days away, why did the Fed resort to ad hoc solutions without a well-developed plan of action?

The second question can be answered more easily than the first. In an emergency, the adrenaline flows and chaotic human reactions take over. In his last speech before he ended his term as Fed chair, Ben Bernanke expressed his own disorientation when the crisis erupted in September 2008. “If you’re in a car wreck or something, you’re mostly involved in trying to avoid going off the bridge. And then, later on, you say, ‘Oh my God!’” Bernanke’s car wreck metaphor certainly does capture the frenzied reaction to the crisis and the inconsistent initial response, but it doesn’t offer any insight as to why there was a crash.

Cognitive narrowness provides a useful way of answering both questions. I identify four sometimes overlapping characteristics of cognitive narrowness: (1) an ideological commitment to free markets; (2) the narrow band of macroeconomic professional training and expertise within the Fed’s Board of Governors; (3) the problem of cognitive homogeneity as modeled by decisional economist Scott Page, who shows that a lack of diverse perspectives, diverse heuristics, and diverse cognitive tools combines to produce an unwitting perceptual blindness; and (4) the “GroupThink” syndrome, first identified by Yale social psychologist Irving Janis, who catalogued patterns of self-censorship and narrow consultation with outside experts in high-level government policy groups, patterns yielding a consensus that results in “fiascoes.”

If cognitive narrowness prevents you from seeing the components of a crisis as problems, then it is hard to envision solutions. The growth of subprime lending and the reliance on unregulated financial instruments were never seen as problems by the Greenspan-led Fed. Chairman Bernanke shared his predecessor’s free-market commitments, but once the crisis emerged, he quickly abandoned his reluctance to use government power to shape a rescue. Curiously, the newly released transcripts of closed meetings of the Federal Reserve Open Market Committee (FOMC) during the most intense phase of the global financial crisis in 2007–8, along with the authoritative FCIC autopsy, reveal that Bernanke’s commitment to government rescue of failing financial firms was incomplete. As I discuss below, the new transcripts provide one persuasive explanation for the still incoherent decision to rescue Bear Stearns but not Lehman Brothers, just five months later, followed by the massive bailout for AIG. The Fed wanted to send a signal that it would let some but not all firms fail. The Fed was still in thrall to law and economics and the moral hazard critique of market-based incentives to curtail excessive risk taking. The FOMC discussion of Lehman Brothers’ problems during the summer of 2008 after the Bear Stearns rescue supports this interpretation.

The newly released FOMC transcripts contain no complete surprises, but they breathe life
into the consequences of human failures of cognition and perception, and they provide confirmation of my argument that three crucial factors led to the Federal Reserve’s failure to anticipate the sudden near-collapse of the global financial system.

First, adherence to incomplete or erroneous macroeconomic and ideological frameworks about how financial markets work led the Fed to focus on inflation just as the risks of incoherent financial deregulation reached their peak. One source of this narrowness was the homogeneous disciplinary training of board members in macroeconomic theory.

Second, the Fed was unaware of the networked danger of rapidly accumulating risks and the corresponding growth of the completely unregulated financial networks created by its decision not to rein in racially targeted subprime lending. By 2000 these networks exceeded the size of the formal banking system; by 2007 the formal banking system had a value of $10.5 trillion, and the shadow sector had a value of $13 trillion.51 There is persuasive evidence that the Fed did not see how its program of aggressive deregulation created opaque transactions about which even it lacked information concerning the identity of counterparties or the size and composition of various short-term financing entities.

Without this basic balance sheet information the Fed lacked indispensable tools to assess the quantity and quality of these unseen risks. Moreover, without capital requirements, this burgeoning no-regulation zone grew without a safety net. The Fed’s aggressive deregulatory approach before the crisis severely compromised its ability to monitor and control the escalating risk in the shadow market. It could not regulate or plan for the impact of an exploding bubble whose growth it had blindly stimulated through deregulation. The Fed is the only monetary, economic, and financial regulator in the world with the independent power to backstop the global financial system by creating $12.8 trillion based solely on a vote of 14 members of the FOMC, headed by the chairman of the Federal Reserve. The paradox of the Fed’s unique power is that despite its unrivalled global economic and monetary status, and because of its cognitive narrowness, it simply could not connect its decade of deregulation to the emergence of the shadow banking system and its contribution to the growing problem of economic inequality.

For a long time, the American-led transformation of the global financial system and the emergence of a deeply interconnected network of interdependent financial nodes sparked pride in a stable, prosperous US financial system. A story of American economic and financial exceptionalism prevailed until just days after it all fell down in September 2008.

IV. Interdependent Financial Network Theory

Banks and other financial intermediaries have a long tradition of sharing risk and excess capital through direct interbank lending and loan syndications. The traditional forms of

51 Id.
connection and sharing of assets and liabilities across broad categories of financial intermediaries were largely benign. However, the financial crisis revealed new, more sinister implications of a relatively recent phenomenon, the global interconnections between regulated, fully capitalized formal commercial banks and the largely unregulated shadow banks without capital cushions to protect against adverse events, panics, and runs.

Five years after the crisis, Fed Chair Janet Yellen gave an important presentation to the American Economics Association assessing the systemic risk concerns that arose during the crisis. Yellen noted that these concerns, along with much recent academic research, suggest that interconnections among financial intermediaries are not an unalloyed good. Complex interactions among market actors may serve to amplify existing market frictions, information asymmetries, or other externalities. The difficult task before market participants, policymakers, and regulators with systemic risk responsibilities such as the Federal Reserve is to find ways to preserve the benefits of interconnectedness in financial markets while managing the potentially harmful side effects.52

In the wake of the Great Recession there has been increasing attention within the scholarly literature to the search for explanatory models addressing the relationship between systemic risk and interconnectedness.53 In her talk, Yellen described a few models that illustrate the complexity and density of linkages between institutions.54 While recognizing the advantages of interconnectedness in the financial system, such as risk sharing and diversification, she also

---


53 Yellen mentions more than 600 publications since 2007. Id., at 5.

54 Five models are discussed by Yellen: 1) Allen and Gale model that sustains that systemic risk arises through liquidity shocks and has a domino effect in the system. Systems that have diversified funding (complete networks) are more resilient to shocks than system where funding is not diversified (incomplete networks); 2) Douglas, Diamons and Phillip Dybvig model, that shows how stress or uncertainty can cause coordination failures in check-clearing systems where credit extensions among banks results in institutions “too interconnected to fail”; 3) Hyun Song Shin model that explains the complexity of the links between financial institutions where interbank claims, that grow and contract far more quickly than economic fundamentals, affect the leverage of the institutions involved. During a boom institutions tend to increase leverage by borrowing and lending more intensively to each other causing the “intertwining claims to extend further and further”, during shocks institutions look for deleverage in the short term by withdrawing credit form each other consequently affecting the liability side of other institution’s balance sheet and ultimately forcing them to liquidate assets at fire prices; 4) Ricardo Caballero and Alp Simsek model illustrates that a lack of information of the participant’s counterparties can create systemic risk in financial networks. The “maximim principle” is that “each seeks to maximize profits under the assumption that the network is configured in the worst possible manner form its own perspective”, therefore an adverse liquidity shock would lead to withdrawn funding from their counterparties, magnifying the effects of the initial shock; 5) Gai, Haldane and Kapadia model focus on the range of activities and different size and position of the market participants, some banks are larger than other, more interconnected than others and some of them are weaker than others. Failure in this concentrated networks will cause a more serious contagion, thus, understanding these relationships helps prevent systemic risk. Id. at 5-10.
warned of the potential systemic risk these connections pose.55

As I have said, I believe that the study of networks as developed in various areas of science offers a template for research into financial networks. In their article “Ecology for Bankers,” May,56 Levin, and Sugihara explore the similarities between ecosystems and financial systems. Both are complex, dynamic, interlinked systems whose stability is threatened by conditions that are not always easy to identify except from the perspective of the system as a whole—the perspective, I argue, that must be adopted by regulators like the Fed.

A. The Shadow Bank Node

“The nation’s financial system has become vulnerable and interconnected in ways that were not understood by either the captains of finance or the system’s public stewards.”

–FCIC Report57

One of the most notable transformations in the financial system in the last twenty years was the growth of “shadow banking.”58 The term, usually attributed to Paul McCulley, who first used it at a meeting of central bankers attending the annual Jackson Hole retreat in 2007, refers to a system of credit intermediation involving entities and activities outside the regular banking system.59

Before the Great Recession, the shadow banking system was believed to be no more than a competitor of traditional commercial banking. For example, in the 1970s investment banks like Merrill Lynch, Fidelity and Vanguard lured deposit customers away from traditional banks by offering high interest rates on transaction accounts that functioned exactly like checking accounts, with one important exception: the new “cash management accounts” were not covered

55 Diversification reduces risk and improves stability. While the idea is compelling, both economic research and the events of the financial crisis suggest that it is incomplete.” Id. at 6.
57 FIN. CRISIS INQUIRY COMM’N, THE FINANCIAL CRISIS INQUIRY REPORT: FINAL REPORT OF THE NATIONAL COMMISSION ON THE CAUSES OF THE FINANCIAL AND ECONOMIC CRISIS IN THE UNITED STATES, 6 (2011), [hereinafter FCIC]. One financial industry witness before the FCIC said: All this financial creativity was like ‘cheap sangria’, a lot of cheap ingredients packaged to sell at a premium, it might taste good for a while, but then you get headaches later.” Transcript of Panel at 114, First Public Hearing of the Fin. Crisis Inquiry Comm’n., day 1, panel 2: Financial Market Participants, Jan. 13, 2010 (statement of Michael Mayo).
Early Draft

E.C. Jordan

Fed and A Cascade of Failures

Do not cite, or quote without permission

by deposit insurance.60

At the time, the Fed believed that in the event of problems, the well-run, well-capitalized, and well-regulated large commercial banks could provide vital support for the entire economy, thus rendering the shadow sector unimportant as a source of risk to the overall economy.61 This minimizing approach to the shadow sector (consisting of commercial paper, asset-backed commercial paper, repo, and money market mutual funds) became untenable as the value of the shadow banking sector surpassed the value of the formal banking sector by 2006.62 In addition to the growing value of the shadow sector, the pervasive links between the two systems would later render the traditional banking system so deeply obligated for off-balance-sheet activities transferred to the shadow sector that the formal sector would become impotent to provide adequate liquidity without extraordinary emergency support from the Fed. Thus, the cascading effects of the runs on Bear Stearns and Lehman Brothers precipitated a general panic and eventually the crash.

The Federal Reserve was startled to discover during the financial crisis that the formal banking system and the shadow banking system had become inseparable.63 Selected failures within the shadow system had sparked a panic because of the system’s lack of transparency, and this opacity in turn triggered a rolling sequence of panic in both other shadow participants and the deeply interconnected conventional commercial banks, which were then called on to back up their shadow partners. Unfortunately, the commercial banking sector lacked sufficient total liquidity to stabilize both systems, which in turn threatened the failure of the entire global financial system.

Macroeconomist Gary Gordon describes this new form of panic in the shadow banking sector as follows.

Economists view the world as being the outcome of the “invisible hand,” that is, a world where private decisions are unknowingly guided by prices to allocate resources efficiently.

The credit crisis raises the question of how it is that we could get slapped in the face by the invisible hand. What happened? Many private decisions were made, over a long time, which created the shadow banking system. That system was vulnerable to a banking panic. The U.S. had a banking panic starting in August 2007, one that continues today. But banking panics, you say, like the one in the movie “It’s a Wonderful Life,” don’t happen anymore.

60 FCIC, supra note 39, at 29.
61 FCIC, supra note 39, at 28.
62 FCIC, supra note 39, at 32, Figure 2.1.
63 NO TEXT FOR THIS FN.
Indeed, until these recent events, most people did not think of banking panics as something to be concerned about. After all, the panics of the Great Depression are a dim memory. Since 1934 when deposit insurance was adopted, until the current panic—a span of almost 75 years—there had been no banking panics.64

A review of regulatory decisions since as early as 1995 and more intensively during the early 2000s makes it clear that US regulators were blind to the elephant in the room—the deep and complex interconnections that had emerged between the shadow banks and the commercial banking system. As late as September 2008, after the failure of Lehman Brothers, the Fed did not recognize that the interdependent networks of racialized subprime lending, securitization, structured products, off-balance-sheet accounting, and the embedded risks of unregulated short-term funding markets were inseparably linked to the heavily regulated commercial banking system and the investment banks. The deadly synergy of free-market ideology and GroupThink homogeneity made the Fed Board of Governors ideally suited to overlook the factors triggering a deadly cascade of failures that overwhelmed the Board and required it to do “whatever it takes” to avoid a global financial calamity.

B. The Race Node

The post-crisis literature has failed to engage racial discrimination as a source of systemic risk.65 Fed Governor Sarah Bloom Raskin’s remarkable leadership has begun a conversation about the role of racially discriminatory lending in the financial crisis (see also Animal Spirits, Shiller and Akerlof). My essay is intended to extend that important conversation. It is crucial to elevate the consideration of the persistent problem of racial discrimination in economically important markets such as housing. The Federal Reserve is the most robust econometric organization in the world, yet there is not a single reference to race or racial discrimination to be found in 1,800 pages of recently released Board transcripts and speeches from 2007–8.66

In my view, this cognitive omission of racial discrimination from the framework of factors that matter in setting capital levels, leverage ratios, and enforcement policies for both the formal and shadow systems will be a continuing vulnerability of the global banking system as long as the interconnectedness among a large variety of regulated and unregulated entities remains unrecognized. My approach in this paper incorporates race and economic inequality as factors that belong on any map of interdependent financial networks.

As I discuss more fully below, the network theory approach to systemic risk is promising

---


65 There is a robust literature discussing racial discrimination in home mortgage origination, however, none to date takes up the systemic role that racial discrimination played in the Crisis.

66 On Race search of transcripts.
because it proceeds on the assumption that as in electrical and other physically interdependent systems, a failure in a small node of an interdependent financial network can trigger a cascade of failure in the entire system.

This essay does not attempt to provide an economic data-driven model of race and inequality as integrated components of systemic risk. I am a banking legal scholar and do not pretend to have the quantitative tools so abundant among Fed leadership and staff. My task here is to provide one approach to answering the difficult question of why the Fed failed to perceive the interlinkage among network nodes of systemic risk. Through the lens of interdependent financial network theory, I show that one of these nodes, racial discrimination in home mortgage origination, contributed to the cascade of failures leading to the crisis.

The Fed can’t be expected to solve problems that are invisible to it. My aim is to encourage the Fed to do what it does best, create quantitative measurements of economic inequality and racial discrimination to make visible what it did not see as a source of systemic risk during the mortgage debt bubble. If the way to the Fed’s heart and mind is through quantitative language, then normative inequality scholarship such as mine must provide a bridge from the status quo to a new understanding that transcends the macroeconomic, data-driven culture of the Fed.

In order to perceive the coming collapse, the Fed would have had to observe and interpret signals from many disparate but interdependent networks, signals that taken together posed massive systemic risk. In what follows I discuss a problem that particularly highlights the interdependent network risks that surprised the Fed and are central to the story of the failures of 2008: racially discriminatory subprime loans.

C. The Unseen Racial History of the Subprime Mortgage Node

As I said, a search of 1,800 pages of newly released Fed transcripts unearths not one single mention of race. The current financial crisis is a sad and tangled morass of human and economic failures that span the depth and breadth of the market for home mortgages, a market crucially influenced by race. In this section, I look first at the active role of pre-existing racial, economic, and social inequality in setting the conditions for the first subprime mortgage products. These loan products contained many undesirable features, including higher interest rates, points, and fees; prepayment penalties; and variable rate payment schedules, often packaged as “pay option” loans with negative amortization balloons. John Martin argues that the high-risk cocktail of subprime loan features, combined with the rise of the originate-to-distribute model of lending, in

---

67 Id.
69 US Census Bureau, U.S. Department of Commerce, Household Income by Race and Hispanic Origin (2000). The data indicates that in 1999, the median income of Blacks was $29,423, compared to $45,367 for whites.
70 NO FOOTNOTE TEXT
which banks were able to move loans off their balance sheets by securitizing them and selling them to investors, precipitated the global financial panic and economic collapse.\textsuperscript{71} Second, I explore how neoclassical economic theories about the dynamics of racial discrimination in markets served to inhibit the regulatory response to widespread consumer rights violations in the markets for subprime loans, even in the face of accumulating evidence.\textsuperscript{72}

Homeownership is the single most important means by which Americans accumulate assets. It is the centerpiece of middle-class family balance sheets. The wealth gap between African Americans (as well as other racial minorities) and Whites is largely attributable to the nation’s history of racial discrimination in both the public and private sectors, the latter including racially restrictive housing markets.

The housing industry was crushed by the financial exigencies of the Great Depression, which forced the US government to abandon its traditionally passive role in the residential housing market. The Roosevelt administration responded to this housing crisis by creating several agencies intended to provide government support for FDR’s “forgotten man” at the bottom of the economic pyramid. These government agencies would go on to implement and institutionalize racially discriminatory practices that excluded African Americans from homeownership. From 1930 to 1960, “fewer than one percent of all mortgages in the nation were issued to African Americans.”\textsuperscript{73}

One such agency, the Home Owners Loan Corporation (HOLC), assessed the eligibility of properties for assistance through a formal written appraisal system based on predominant “notions of ethnic and racial worth” that advanced the interests of Whites over those of minority communities, favored segregation, and implicitly sanctioned racially discriminatory lending policies. The HOLC rating system was used to create color-coded residential security maps for the use of real estate appraisers,\textsuperscript{74} and would later influence the “underwriting practices of the Federal Housing Administration (FHA) and the Veteran’s Administration (VA).”

The FHA and VA provided government insurance against losses for qualifying mortgage instruments. These institutions encouraged individuals to borrow by extending the repayment period of insured loans to twenty-five or thirty years, which decreased monthly payment obligations, but their criteria for providing insurance operated on the premise that racial

\textsuperscript{71} Id. at 10.

\textsuperscript{72} See Gary Becker, The Economics of Racial Discrimination 41 (1955); Edward M. Gramlich, Subprime Mortgages: America’s Latest Boom and Bust 24 (2007) (concluding that “racial minorities were basically shut out of the first American housing boom at the close of World War II. Currently, housing and mortgage markets have become so complicated that discrimination seems to take place in many subtle ways.”)

\textsuperscript{73} Clement Lowell Harriss, Nat’l Bureau of Economic Research, History and Policies of the Home Owners’ Loan Corporation 73 (1951) at 185 (citing DANIEL KIRP ET AL., OUR TOWN: RACE, HOUSING AND THE SOUL OF SUBURBIA 7 (1995)).

\textsuperscript{74} In Detroit, every African American neighborhood was rated “D” or “hazardous” by federal appraisers. Thomas J. Sugrue, The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit 44 (1996).
segregation was necessary to ensure the maintenance of property values, which furthered the exclusion of African Americans from the housing market.

Into this void of government support for housing in urban Black neighborhoods, predatory practices flowed. Federal housing policy was instrumental in ensuring that “African Americans were denied the opportunities to buy a home in developing suburban neighborhoods and to build the wealth that became the mainstay of the American white middle class.” This history helps explain the wealth and income gap between Blacks and Whites and the concentrated pockets of poverty that make African Americans and other minorities easy targets for predatory lending. Since African Americans were unable to obtain credit from the formal market, they were either precluded from property acquisition or forced to turn to other sources of credit such as the subprime mortgage system.75 76

Subprime lending has been disproportionately concentrated among African Americans and in African American neighborhoods. In 1993, subprime refinancing loans accounted for just 8% of home loans in African American neighborhoods and 1% in White neighborhoods. By 1998, the number of subprime refinancing loans had dramatically increased to 51% of the total loans in African American neighborhoods, compared to only 9% in White neighborhoods. By 2005, 52% of the total mortgage loans to African Americans were subprime loans, in contrast to 19% for Whites.

Subprime lending has been disproportionately concentrated among African Americans and in African American neighborhoods. In 1993, subprime refinancing loans accounted for just 8% of home loans in African American neighborhoods and 1% in White neighborhoods. By 1998, the number of subprime refinancing loans had dramatically increased to 51% of the total loans in African American neighborhoods, compared to only 9% in White neighborhoods. By 2005, 52% of the total mortgage loans to African Americans were subprime loans, in contrast to 19% for Whites.

The key distinction between the prime and subprime borrower during the period of rapid growth of homeownership between 1994 and 200577 is that subprime borrowers had lower family

75 Nier, supra note 70; see also Spencer Overton, Voices from the Past: Race, Privilege, and Campaign Finance, 79 N. C. L. REV. 1541 (2001). The racial disparity in wealth realized through home ownership and home value originally caused by federal housing policies has since been compounded by seemingly neutral public and private decisions. Because people of color are less likely to own homes, they are less likely to take advantage of tax provisions allowing for the deduction of a large percentage of their housing costs (all property taxes and mortgage interest). Further, the home values appreciated dramatically during the period between 1934 and the 1970s, and this increase benefited whites more than people of color. Even people of color who were able to purchase homes were less likely than whites to benefit from increasing home values because of the slower rate of appreciation of property in nonwhite areas.


77 Gramlich supra note 68, at 3. Gramlich discusses the dramatic expansion of homeownership in the period immediately following World War II. “The overall homeownership rate/percentage of home owners rose from 45% to 65% in the ten years following after the war. See also, Adam Gordon, The Creation of Homeownership, supra note 23; Shapiro & Oliver, Subprime as a Black Catastrophe supra note 83. Gordon describes a racially discriminatory pattern of access to home mortgage finance based on the underwriting criteria for the FHA mortgage program that provided for the first timed 30 year fixed rate mortgages with down payments as low as 20%. The FHA criteria were based upon the view that stable neighborhoods were racially homogeneous and white. The geographic boundaries of the neighborhoods in which FHA was willing to guarantee home mortgages excluded all black neighborhoods, and previously white neighborhoods that were in transition from white to integrated.. Shapiro and Oliver argue “African Americans, along with other minorities and low-income populations, have been the targets of the sub-prime mortgage system.”
incomes with no surplus for a down payment. In addition, these families did not have the benefit of wealth accumulated from previous homeownership. These new entrants to homeownership could only aspire to move from renting to buying homes when the new subprime mortgage products allowed them to substitute borrowing over a thirty-year period for accumulated home equity from previous homes, or for savings out of current income to make the standard 10-20% down payment. Moreover, interest rates on subprime loans were much higher than in the prime market to compensate lenders for the risk of default inherent in lending to buyers with no equity in the mortgage origination.

As Thomas Shapiro and Melvin Oliver have established, the down-payment deficit of lower-income borrowers is a direct result of intergenerational wealth differences between Blacks and Whites that are attributable to the legacy of slavery and Jim Crow employment and residential segregation. Racial disparities in housing finance posed systemic financial risks because these disparities led to the growth of virtually irresistible pools of mortgage transactions with scant government oversight. The failure to control exploitative mortgage products combined with social attitudes and racially discriminatory housing preferences to create a perfect storm that devastated the global financial community.

LCFIs (large and complex financial institutions, as opposed to traditional mortgage-originating banks) increasingly offered subprime mortgages with low payments based on introductory “teaser” rates for two or three years, followed by a rapid escalation of interest rates and payments. As a practical matter, borrowers who accepted such loans were forced to refinance before their teaser periods expired, and they could do so only as long as home prices kept rising. By 2006, LCFIs had turned the U.S. housing market into a system of “Ponzi finance” in which nonprime borrowers had to keep taking out new loans to pay off their old ones. When home prices stopped rising in 2006 and collapsed in 2007, nonprime borrowers could not refinance, defaults skyrocketed, and the subprime financial crisis began.

Many scholars have attributed the systemic failure of the US housing market to the inability

---

78 See Thomas M. Shapiro, The Hidden Cost of Being African American: How Wealth Perpetuates Inequality 119 (2004). Shapiro highlights the crucial role that “private wealth plays in perpetuating inequality from one generation to the next.” Historical differences in the private wealth of whites and African Americans have lead to the two groups having distinct experiences in homeownership. White families are more likely than African American families to “receive parental financial assistance for down payment and closing costs.” Therefore, “white families typically bring more assets to the table, use them to lower the amount of the loan or to pay up-front points on the loan, and they consequently receive a lower interest rate on their mortgage.” “These families also pointed to equity taken out of previous homes as key to buying bigger homes in better communities.” Without access to similar assets as whites, “African Americans pay higher interest rates and have less favorable loan terms than their white counterparts.”

79 See Melvin L. Oliver & Thomas M. Shapiro, Black Wealth, White Wealth: A New Perspective on Racial Inequality (1997). “Blocked from low-interest government-backed loans, redlined by financial institutions, or barred from homeownership by banks, black families have been denied the benefits of housing inflation and the subsequent vast increase in home equity assets.”


81 Wilmarth, Jr., Dark Side of Universal Banking, 970 (2009).
of financially vulnerable consumers to refinance or make good on ballooning debt obligations. We now know that these financially vulnerable individuals, disproportionately racial minorities that have suffered historical exclusion from the prime credit market, were intentionally targeted by predatory businesses, often through information garnered from data brokers. We are left to wonder whether, absent the history of racial discrimination in housing, the subprime industry would have flourished as it did.

It should also be noted that during the subprime boom many large mortgage originators restructured their commission systems so that mortgage loan officers and underwriters would be paid considerably higher commissions when customers purchased subprime loans instead of prime loans. Wells Fargo, for example, adopted a commission structure favoring subprime loan origination in company offices nationwide, allowing many of its loan officers to earn over $500,000 per year.

The incentive to maximize profits led to widespread misconduct in mortgage origination practices by brokers throughout the industry. Beth Jacobson, a Baltimore-based former employee of Wells Fargo, described an environment in which officers often “falsified loan applications in order to steer prime borrowers to subprime loans,” sometimes cutting and pasting credit reports for one customer onto another’s application, or falsely claiming that the applicant did not wish to provide documentation. Another Wells Fargo employee reported that when computer software flagged subprime loans going to what should have been prime customers, underwriters would enter one of a number of “stock responses,” including “customer has no assets,” to override the system and approve the loan.

Loans to minority borrowers were the centerpiece of this strategy. The bank put “bounties” on minority customers, offering cash incentives to employees who signed minorities up for subprime loans. The Wells Fargo office in Silver Spring, Maryland, created an Affinity Group consisting entirely of African American employees whose job was to target African Americans and African American churches. Employees began to refer to minority customers as “mud people,” and the subprime loans made to them as “ghetto loans.”82 And where was the Fed in all this? “In 2005, Alan Greenspan, then chairman of the Federal Reserve Bank, praised subprime mortgages as a positive innovation made possible by better risk assessment. . . . Only two years later, there was growing concern that failing subprime loans, which had shot up to nearly a quarter of the total mortgage market originations, were driving our economy into recession.”

82 See Muolo & Padilla, supra note 214, at 64-69, 82-87, 120-25, 263-65; Peter S. Goodman & Gretchen Morgenson, Saying Yes to Anyone: WaMu Built Empire on Shaky Loans, N.Y. Times, Dec. 28, 2008, at A1 (“WaMu gave mortgage brokers handsome commissions for selling the riskiest loans, which carried higher fees, bolstering profits and ultimately the compensation of the bank’s executives”); Gretchen Morgenson, Inside the Countrywide Lending Spree, N.Y. Times, Aug. 26, 2007, § 3, at 1 (“The company's incentive system . . . encouraged brokers and sales representatives to move borrowers into the subprime category, even if their financial position meant that they belonged higher up the loan spectrum.”).
Conclusion

Although the financiers bear the primary responsibility for the depression, I do not think they can be blamed for it—implying moral censure—any more than one can blame a lion for eating a zebra. Capitalism is Darwinian.

Judge Richard Posner, A Failure of Capitalism\textsuperscript{83}

As I have discussed, contrary to the conventional wisdom that “the Federal Reserve does not have a role in creating or ameliorating the problem of economic inequality in America”, my analysis of the Financial Crisis of 2008 directly implicates the Fed in a central role before the crisis. The Fed’s program of radical deregulation of financial markets and new financial products set the stage for a market without fences in which the lions ate the zebras.

During the crisis the Fed’s failure to see the converging nodes of the interdependent networks of a transformed global financial system meant that it was caught unawares. It did not have a plan, it resorted to its ideological pre-commitments as the basis for distributing emergency lending worth 12.8 trillion dollars.

In this essay, I do not take up the question of the Fed’s democratic accountability for this enormous control of the wealth of this nation during the crisis and for many years in the future. Among the many questions that invite my attention for future research are: the matter of democratic accountability and transparency of Federal Reserve powers; What is the meaning of the transformation of the New Deal banking safety net requiring separation of insured deposits from speculative investments, regulated capital levels to internalize and restrain risk in exchange for emergency lending to respond to banking sector panics? Have we entered a new era in which the genie of regulatory control of financial innovation and its attendant risks cannot be put back into the bottle. Is the “Bernanke Doctrine” of rescue of private financial firms without regulation or requirements for traditional cash buffers to protect taxpayers or transparent fully explanatory balance sheets now a fait accompli?

Who is responsible for ensuring that homeownership, the centerpiece of middle- and working-class wealth potential, is financed with stable, suitable financial products that lead to eventual ownership? Transitory occupancy of homes that never yield real wealth, or the community stability associated with the pride of eventual complete ownership is a cruel economic hoax. A central role of government is to mediate the market forces that manipulate the deep longing for participation in homeownership as a fundamental marker of economic citizenship.\textsuperscript{84}

\textsuperscript{83} Posner A FAILURE OF CAPITALISM \textsuperscript{supra} at 284-285.

\textsuperscript{84} See, e.g., Franklin D. Roosevelt, President of the United States of Am., State of the Union Address (January 11, 1944). “We have come to a clear realization of the fact that true individual freedom cannot exist without economic security and independence. We have accepted, so to speak, a second Bill of Rights under which a new basis of security and prosperity can be established for all—regardless of station, race, or creed.” Among these is “the right of every family to a decent home.”