

THE FINANCIAL CRISIS: MORAL FAILURE OR COGNITIVE FAILURE?

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This may be our first epistemologically-driven depression. (Epistemology is the branch of philosophy that deals with the nature and limits of knowledge, with how we know what we think we know.) That is, a large role was played by the failure of the private and corporate actors *to understand what they were doing*. Most heads of ailing or deceased financial institutions did not comprehend the degree of risk and exposure entailed by the dealings of their underlings—and many investors, including municipalities and pension funds, bought financial instruments without understanding the risks involved.¹

There are two major competing narratives for the financial crisis. One narrative focuses on moral failure, in which the compensation structure for executives at financial institutions encouraged them to place their own and other firms at risk to reap short-term gains.² The other narrative focuses on cognitive failure, in which executives and regulators overestimated the risk-mitigating effects of quantitative modeling and financial engineering. It is important to sort out which of these narratives deserves more credence.

Those who emphasize moral failure have highlighted a number of distortions between private and social benefits, including: that executive pay at financial institutions is not tied to long term viability,³ the “originate to distribute” model of mortgage financing gives the originator an incentive to make bad loans that are passed down the line in the system of struc-

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1. Jerry Z. Muller, *Our Epistemological Depression*, AMERICAN, Jan. 29, 2009, <http://www.american.com/archive/2009/february-2009/our-epistemological-depression>.

2. See, e.g., Lucian A. Bebchuk & Holger Spamann, *Regulating Bankers' Pay*, 98 GEO. L.J. 247, 249 (2010).

3. Lucian Bebchuk has emphasized this disconnect. See *id.*

tured financing of mortgage securities,⁴ and rating agencies are overly generous in granting AAA and AA ratings because they were paid by the issuers of mortgage-related securities.⁵

Under the moral failure theory, the essential problem is the misalignment between the incentives of executives to maximize their own salaries and the long-term best interest of the financial firms they led.⁶ In this narrative, regulators were either stifled by ideological faith in markets or hampered by organizational flaws—most notably, the alleged absence of anyone charged with monitoring systemic risk.

The other narrative is one of cognitive failure. Under this view, key individuals believed propositions that turned out to be untrue. Propositions that were falsely believed included: that a nationwide decline in housing prices, having not occurred since the Great Depression, was impossible; increased home ownership rates were a sign of economic health; the use of structured finance and credit derivatives had reduced risk to key financial institutions; monetary policy only needed to focus on overall economic performance, not on asset bubbles; banks were well capitalized; and quantitative risk models provided reliable information on the soundness of mortgage-backed securities and of the institutions holding such securities.⁷ In hindsight, these propositions were wrong. Policymakers were caught up in the same cognitive environment as financial executives. Market mistakes went unchecked not because regulators lacked the will or the institutional structure with which to regulate, but because they shared with the financial executives the same illusions and false assumptions.

Under the narrative of moral failure, the financial crisis was like a fire started by delinquent teenagers, with the adults in charge not sufficiently inclined or positioned to exercise ade-

4. See, e.g., Antje Berndt & Anurag Gupta, *Moral Hazard and Adverse Selection in the Originate-to-Distribute Model of Bank Credit* 5 (Nov. 2008) (unpublished manuscript), available at <http://ssrn.com/abstract=1290312>.

5. See, e.g., *Credit Rating Agencies and the Financial Crisis: Hearing Before the H. Comm. on Oversight & Gov't Reform*, 110th Cong. 31–32 (2008) [hereinafter *Hearing*] (statement of Frank L. Raiter, former Managing Director, Residential Mortgage-Backed Securities Ratings, Standard & Poor's).

6. Bebchuk & Spamann, *supra* note 2, at 249.

7. For what is, in my view, the best work on the crisis thus far, see GILLIAN TETT, *FOOL'S GOLD: HOW THE BOLD DREAM OF A SMALL TRIBE AT J.P. MORGAN WAS CORRUPTED BY WALL STREET GREED AND UNLEASHED A CATASTROPHE* (2009).

quate supervision. The solution is thus to reorganize and re-energize the regulatory apparatus.

Under the narrative of cognitive failure, it is as if the authorities supplied the lighter fluid, matches, and newspapers used to start the fire. In particular, housing policy encouraged too many households to obtain homes with too little equity. Bank capital regulations steered banks away from traditional lending toward securitization. Moreover, these regulations encouraged the banks' use of ratings agencies and off-balance-sheet entities to minimize the capital held to back risky investments. If this narrative holds, then financial regulation itself is inherently problematic. Regulators, sharing the same cognitive environment as financial industry executives, are unlikely to be able to distinguish evolutionary changes that are dangerous from those that are benign. It may not be possible to design a fool-proof regulatory system.

I. FREDDIE MAC

Perhaps the best illustration of the tension between moral and cognitive failure narratives is the response to Freddie Mac's rapid decline. Freddie Mac, a company chartered by the government in 1970 but sold to private investors in 1989, was one of the institutions that suffered catastrophic losses, in part because it relaxed credit standards from 2002 through 2007.⁸ Was this relaxation a moral or cognitive failure?

In August 2008, the *New York Times* reported that in deciding to become more active in the subprime mortgage market, Freddie Mac's CEO, Richard Syron, had ignored the warnings of the company's Chief Risk Officer, David Andrukonis.⁹ Early in 2004, Andrukonis had sent Syron memoranda that argued against purchasing mortgages that were originated with reduced documentation.¹⁰ Shortly afterward, Andrukonis left, and Freddie Mac expanded its purchases of various high-risk mortgage products.¹¹

8. STAFF OF H. COMM. ON OVERSIGHT & GOV'T REFORM, 111TH CONG., *THE ROLE OF GOVERNMENT AFFORDABLE HOUSING POLICY IN CREATING THE GLOBAL FINANCIAL CRISIS OF 2008*, at 24 (2009).

9. Charles Duhigg, *At Freddie Mac, Chief Discarded Warning Signs*, N.Y. TIMES, Aug. 5, 2008, at A1.

10. *Id.*

11. *Id.*

The narrative of moral failure would suggest that Syron was motivated by the desire for short-term profits and bonus payments to the detriment of his obligations to shareholders and other long-term constituencies. Certain reports, however, such as one that appeared in the *Boston Globe*,¹² paint a different picture. According to this alternative account, Syron focused on his responsibility to keep Freddie Mac active in a mortgage market that was shifting away from traditional safe mortgages and toward riskier products.¹³ Moreover, he believed that Freddie Mac had a mission to serve the needs of minorities and low-income home buyers.¹⁴ One could therefore argue that his decisions were driven by moral considerations, not by personal greed.

The ultimate difference between David Andrukonis and Richard Syron, however, was not that one had a moral backbone that the other lacked. The difference was cognitive. Andrukonis, a twenty-year employee of the mortgage company, knew of the bad experience Freddie Mac once had with low-documentation loans in the late 1980s—an experience that resulted in agreement between Freddie Mac and Fannie Mae not to purchase reduced-documentation loans. He was also skeptical of the ability of Freddie Mac to safely expand its share of loans to so-called “under-served” borrowers. By contrast, Syron, who became CEO in 2003, thought that Freddie Mac had been too conservative in the past and needed to demonstrate greater commitment to the mission of making home ownership more affordable.¹⁵

II. INSIDE THE CREDIT RATING AGENCIES

The history of credit rating agencies also highlights the moral and cognitive failure dichotomy. These agencies played a central role in the buildup to the crisis.¹⁶ Financial engineers structured mortgage-backed securities to try to maximize the pro-

12. Robert Gavin, *Syron's side of the story*, BOSTON GLOBE, Aug. 6, 2008, at C1.

13. *Id.*

14. *Id.*

15. Andrukonis was a colleague of mine when I worked at Freddie Mac in the late 1980s and early 1990s, and we have remained friends since. My reconstruction of the controversy is based in part on conversations with Andrukonis after the story broke in the *New York Times*.

16. See *Hearing*, *supra* note 5, at 1–2 (statement of Rep. Henry Waxman, Chairman, H. Comm. on Oversight and Gov't Reform).

portion of securities that could obtain a rating of AA or AAA.¹⁷ In this endeavor, they received close cooperation from rating agency staff. The high ratings allowed these securities to be sold to a broad spectrum of institutional investors at relatively low interest rates. As it turned out, many of these securities subsequently suffered substantial losses.

Frank Raiter, Standard and Poor's former Managing Director and Head of Residential Mortgage-Backed Securities (RMBS), suggested in congressional testimony that, with the best modeling techniques, his rating agency might have begun to take a more conservative approach to rating structured-mortgage securities in 2003 or 2004.¹⁸ He also pointed out that upgrading his agency's modeling capability would have added costs without increasing market share.¹⁹ This position is consistent with the moral failure narrative. Raiter further pointed out, however, that "[t]he Managing Director of the surveillance area for RMBS did not believe loan level data was necessary and that had the effect of quashing all requests for funds to build in-house data bases."²⁰ This position is consistent with the cognitive narrative.

More generally, there seems to be evidence of both moral failure and cognitive failure at credit rating agencies. Morally, certain internal documents from various credit rating agencies indicate that at least some employees knew of problems with rating methodology.²¹ Cognitively, there were indications of a belief that a nationwide housing price decline would never occur.²²

Most notably, regulators appear to have supported the use of credit rating agencies. Capital regulations explicitly encouraged banks to hold securities rated AA or AAA. In a comment letter to regulators, Fannie Mae warned that the use of ratings on untraded securities solely for regulatory purposes would create an incentive to distort ratings because the ratings agencies would be accountable only to the creators of the securi-

17. *See id.* at 2.

18. *Id.* at 37–39 (statement of Frank L. Raiter, former Managing Director, Standard & Poor's).

19. *Id.* at 38.

20. *Id.*

21. *See id.* at 2–4 (statement of Rep. Henry Waxman, Chairman, H. Comm. on Oversight and Gov't Reform).

22. *See id.* at 68 (testimony of Sean J. Egan, Managing Director, Egan-Jones Ratings).

ties—not to any buyers in the market.²³ Along the same lines, a group of economists that regularly provided commentary on bank regulatory matters wrote:

[T]he use of private credit ratings to measure loan risk may adversely affect the quality of ratings. If regulators shift the burden of assessing the quality of bank loans to ratings agencies, those regulators risk undermining the quality of credit ratings to investors. Ratings agencies would have incentives to engage in the financial equivalent of “grade inflation” by supplying favorable ratings to banks seeking to lower their capital requirements. If the ratings agencies debase the level of ratings, while maintaining ordinal rankings of issuers’ risks, the agencies may be able to [avoid] a loss in revenue because investors still find their ratings useful. . . . In short, if the primary constituency for new ratings is banks for regulatory purposes rather than investors, standards are likely to deteriorate.²⁴

Notwithstanding this commentary, a white paper recently issued by the regulatory community states: “Market discipline broke down as investors relied excessively on credit rating agencies.”²⁵ This statement seems to imply that the use of rating agencies reflected a moral failure within the private sector. As the historical record demonstrates, however, cognitive failures may have played just as significant a role.

III. COGNITIVE FAILURES IN THE REGULATORY COMMUNITY

Today, we know that certain financial practices were unsafe and unsound. Mortgage securities were created without sufficient due diligence concerning the quality of the underlying loans. Banks were able to use structured finance and off-balance-sheet entities to reduce regulatory capital for risky investments. Credit default swaps created excess risk concentration. At the time, however, regulators viewed all of these developments positively. The regulatory community accepted, and even encouraged, mortgage securities, structured finance, off-balance sheet entities, and credit default swaps.

23. Corine Hegland, *Why it Collapsed*, NAT’L J., Apr. 11, 2009, at 12, 16.

24. SHADOW FIN. REGULATORY COMM., REFORMING BANK CAPITAL REGULATION (2000), <http://www.aei.org/article/16542>.

25. U.S. DEP’T OF THE TREASURY, FINANCIAL REGULATORY REFORM: A NEW FOUNDATION 2 (2009).

Regulators considered mortgage securities a safer, more efficient form of mortgage finance than traditional mortgage lending. They viewed the decline of the savings and loan industry in the 1970s and 1980s as a result of the mismatch between short-term deposits and long-term mortgages. Mortgage securities, in contrast, seemed to avoid this shortcoming because they could be placed with pension funds and other institutions with long-term investment horizons.

In reality, the growth of mortgage securitization was not so benign. Distortions in bank capital requirements fueled much of that growth. For high-quality mortgages issued and held by banks, capital requirements were too high.²⁶ As a result, banks were inhibited from undertaking traditional mortgage lending. To compensate for the disincentive to invest in mortgages caused by high capital requirements, regulators permitted banks to reduce their capital requirements—but only for mortgages held as securities. This approach had a perverse effect. In addition to lowering the capital requirements for holding safe mortgages in the form of mortgage-backed securities, the reduced capital requirements for securities enabled banks to hold less capital for risky mortgages as well, including subprime loans.

A given pool of mortgages, for which a bank might otherwise be required to hold four percent capital (that is, \$4 in capital for each \$100 in mortgage principal), could be carved into tranches, each with a separate capital requirement, based on its rating by a credit rating agency. When added together, the sum of these capital requirements would be less than three percent.

Banks were also able to dodge capital requirements altogether by putting mortgage securities into off-balance sheet entities. Known as Structured Investment Vehicles, these entities issued short-term commercial paper to fund their holdings of mortgage securities. A line of credit from the bank backed the commercial paper, but because the line of credit was in force for less than a year, no capital was required for regulatory purposes.

Regulators clearly were aware of this regulatory capital arbitrage.²⁷ Fannie Mae and Freddie Mac complained in January 2002 about the potential for regulatory capital arbitrage in

26. See David Jones, *Emerging problems with the Basel Capital Accord: Regulatory capital arbitrage and related issues*, 24 J. BAN. & FIN. 35, 36–37 (2000).

27. See *id.* at 48–49.

comments about rules that gave official sanction to the use of ratings to reduce capital requirements on mortgage securities.²⁸

Regulators also were aware of the banks' growing use of credit derivatives, such as credit default swaps, to transfer away risk. Today, the regulatory community refers to the investment banks and insurance companies that absorbed credit risk as the "shadow banking system," suggesting a financial network that was stealthy, if not downright illicit. At the time, however, lending regulatory authorities acknowledged and even applauded the use of these techniques. In fact, regulators were proud of the role they played in stimulating and spreading these innovations.

For example, in June 2006, Federal Reserve Chairman Ben Bernanke said:

The evolution of risk management as a discipline has thus been driven by market forces on the one hand and developments in banking supervision on the other, each side operating with the other in complementary and mutually reinforcing ways. Banks and other market participants have made many of the key innovations in risk measurement and risk management, but supervisors have often helped to adapt and disseminate best practices to a broader array of financial institutions. . . .

The interaction between the private and public sectors in the development of risk-management techniques has been particularly extensive in the field of bank capital regulation, especially for the banking organizations that are the largest, most complex, and most internationally active. . . .

. . . .

. . . Moreover, the development of new technologies for buying and selling risks has allowed many banks to move away from the traditional book-and-hold lending practice in favor of a more active strategy that seeks the best mix of assets in light of the prevailing credit environment, market conditions, and business opportunities. Much more so than in the past, banks today are able to manage and control obligor and portfolio concentrations, maturities, and loan sizes, and to address and even eliminate problem assets before they create losses. Many banks also stress-test their portfolios on a business-line basis to help inform their overall risk management.

28. Hegland, *supra* note 23, at 16.

To an important degree, banks can be more active in their management of credit risks and other portfolio risks because of the increased availability of financial instruments and activities such as loan syndications, loan trading, credit derivatives, and securitization. For example, trading in credit derivatives has grown rapidly over the last decade, reaching \$18 trillion (in notional terms) in 2005. The notional value of trading in credit default swaps on many well-known corporate names now exceeds the value of trading in the primary debt securities of the same obligors.²⁹

At about the same time, the International Monetary Fund wrote that “[t]here is growing recognition that the dispersion of credit risk by banks to a broader and more diverse group of investors, rather than warehousing such risk on their balance sheets, has helped to make the banking and overall financial system more resilient.”³⁰

Regulators were aware of the ways that banks were using securitization, agency ratings, off-balance-sheet financing, and credit default swaps to expand mortgage lending while minimizing the capital necessary to back such risks. Like the bankers themselves, the regulators believed that these innovations were making financial intermediation safer and more efficient.

IV. CAPITAL REGULATION AS A FUNDAMENTAL CAUSE OF THE CRISIS

Capital regulations played a fundamental role in fostering the behavior that created the financial crisis. They discouraged traditional mortgage lending and instead encouraged securitization. They created a role for credit rating agencies to enable banks to take credit risk on mortgages, including subprime mortgages, without having to hold the requisite capital. And they allowed banks to further reduce capital by undertaking the transactions that we now think of as “shadow banking,” including structured investment vehicles and credit default swaps.

Bank capital regulation made traditional mortgage origination of low-risk loans uneconomical in comparison with securi-

29. Ben S. Bernanke, Chairman, Fed. Reserve, Speech at the Stonier Graduate School: Modern Risk Management and Bank Supervision (June 12, 2006), *available at* <http://www.federalreserve.gov/newsevents/speech/Bernanke20060612a.htm>.

30. INT’L CAPITAL MKTS. DEP’T, INT’L MONETARY FUND, GLOBAL FINANCIAL STABILITY REPORT 51 (2006).

tization. Banks were thus discouraged from simply originating and holding low-risk mortgages. Instead, they were rewarded for holding mortgage loans in the form of securities, without regard to how or by whom those loans were originated.

Capital regulations also shifted focus away from the risk on the underlying mortgages and instead put emphasis on grading by credit rating agencies of slices of mortgage-backed securities. The quality of the underlying loans grew progressively worse, and originators relaxed the requirements for down payments, extended eligibility to borrowers with more troubled credit histories, and abolished requirements for borrowers to provide documentary proof of their income, assets, and employment status. None of this deterioration in loan quality, however, kept financial engineers from carving AA-rated and AAA-rated mortgage security tranches out of loan pools. In turn, banks were eager to supply funds to fuel the housing boom.

Moreover, capital regulations created a situation in which the banking system became highly fragile. Because of regulatory capital arbitrage, banks were not required to hold sufficient capital relative to the risks that they were taking. When the crisis hit, there were consequently justifiable doubts about the solvency of many large banks, which in turn caused a freeze in inter-bank lending. If banks instead had been required to hold sufficient capital reserves, an adverse shock would have raised fewer questions about bank solvency.

Additionally, capital regulations stimulated the use of structured investment vehicles and credit default swaps, enabling banks to present a lower risk profile. At the time, regulators were pleased with the way these instruments were reconfiguring credit risk. When the crisis hit, however, regulators were just as tormented by risks embedded in the large position in credit default swaps at AIG or the off-balance-sheet entities of the leading international banks as they would have been had those risks been on the books of the banks. Officials at the Fed and at the Treasury found themselves confronted by the sorts of domino effects and bank runs that they thought had long since been made impossible by deposit insurance and other market developments.

Lastly, capital regulations encouraged cyclicity. Assets maintained high ratings during the boom, but were downgraded when the housing market turned. This reversal forced banks to sell assets to restore regulatory capital. Those asset sales, however, further depressed asset values, which meant that banks had to mark

down their equity even further. In other words, during a boom, the value of bank capital may have seemed higher than it really was, and during the crash the value of bank capital may have appeared lower than it really was. In view of the way things worked out, several economists have proposed countercyclical capital requirements designed to mitigate these effects.³¹

V. HOUSING POLICY

Capital regulations were the primary locus of cognitive errors leading to the financial crisis, but it is worth commenting on the role that housing policy played. The irrational efforts to promote home ownership certainly contributed to the boom and crash in the housing market. The proportion of households in the United States owning their dwellings rose from sixty-four percent in 1994 to sixty-nine percent in 2006.³² Among politicians, there was bipartisan pride in this development. The policies that pushed up the home ownership rate, however, were rather questionable in retrospect. In particular, the Community Reinvestment Act³³ and regulatory oversight of Fannie Mae and Freddie Mac were used to impose quotas on lenders in segments of the housing market where households had difficulty affording the homes that they were buying. Moreover, the policies did not distinguish owners from speculators, and the proportion of loans for non-owner-occupied housing rose from five percent in the 1990s to fifteen percent in 2005 and 2006.³⁴

Increasing home ownership also encouraged costly mortgage indebtedness. Arguably, there are positive externalities associated with having people own rather than rent their dwellings. But a high ratio of mortgage debt to house price is, if anything, a negative externality, because it reduces the stability of the housing market. Public policy is nevertheless heavily committed to subsidizing mortgage indebtedness through the income tax deductibility of mortgage interest, direct federal subsidies in

31. See, e.g., Charles Wyplosz, *The ICMB-CEPR Geneva Report: "The Future of Financial Regulation,"* VOXEU, Jan. 27, 2009, <http://www.voxeu.eu/index.php?q=node/2872>.

32. U.S. Census Bureau, *Housing Vacancies and Home Ownership*, tbl.14, <http://www.census.gov/hhes/www/housing/hvs/historic/index.html> (last visited Feb. 11, 2010).

33. Pub L. No. 95-128, 91 Stat. 1147 (codified at 12 U.S.C. §§ 2901–2908 (2006)).

34. Robert B. Avery, Kenneth P. Brevoort & Glenn B. Canner, *The 2006 HMDA Data*, 93 FED. RES. BULL. A73, A87 (2007).

the Federal Housing Administration and Veterans Affairs, and indirect federal subsidies through Fannie Mae and Freddie Mac, which enjoyed special status as Government-Sponsored Enterprises. Had there not been such political support for home ownership and mortgage subsidies, the housing cycle probably would have been much less severe, and this mitigation could have interrupted one of the key triggers of the financial crisis.

VI. THE ISSUE OF NARRATIVE

The ultimate outcome of the financial crisis will be visible in the high school history textbooks of the future. If those books convey the causes of the crisis only in terms of moral failure, then as a society we will have entrenched a historical narrative that is excessively skeptical of markets and excessively credulous of the effectiveness of regulation.

The narrative of moral failure is attractive for many reasons. First, for those who are inclined to distrust markets and support vigorous government intervention, the narrative provides reinforcement of those prejudices. Second, it is a narrative with clear villains, in the form of greedy financial executives. Such villains always make a story more emotionally compelling. Finally, the narrative provides a comforting resolution: Once we reorganize and reinvigorate the regulatory apparatus, we can rest assured that the crisis will not recur.

The narrative of cognitive failure is not so comforting. Rather than identifying villains, this narrative sees the crisis as the outcome of mistakes by well-intentioned people, including both financial executives and regulators. Moreover, this narrative carries with it the implication that human fallibility will persist, and so we cannot be confident that regulatory reform can make our financial system crisis-proof.

The narrative of cognitive failure suggests a need for greater humility on the part of policymakers. They should perhaps rethink the push for greater home ownership, particularly to the extent that the push encourages people to borrow nearly all of the money necessary to finance the purchase of a home. They might even want to reconsider the corporate income tax, which penalizes equity relative to debt, creating an incentive for banks and other firms to look for ways to maximize their use of debt relative to equity. Above all, the public should not be deceived into believing that regulatory foresight can be as keen as regulatory hindsight.