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What Made the Financial Crisis Systemic?

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Executive Summary

The current narrative regarding the 2008 systemic financial system collapse is that numerous seemingly unrelated events occurred in unregulated or underregulated markets, requiring widespread bailouts of actors across the financial spectrum, from mortgage borrowers to investors in money market funds. The Financial Crisis Inquiry Commission, created by the U.S. Congress to investigate the causes of the crisis, promotes this politically convenient narrative, and the 2010 Dodd-Frank Act operationalizes it by completing the progressive extension of federal protection and regulation of banking and finance that began in the 1930s so that it now covers virtually all financial activities, including hedge funds and proprietary trading. The Dodd-Frank Act further charges the newly created Financial Stability Over-

sight Council, made up of politicians, bureaucrats, and university professors, with preventing a subsequent systemic crisis.

Markets can become unbalanced, but they generally correct themselves before crises become systemic. Because of the accumulation of past political reactions to previous crises, this did not occur with the most recent crisis. Public enterprises had crowded out private enterprises, and public protection and the associated prudential regulation had trumped market discipline. Prudential regulation created moral hazard and public protection invited mission regulation, both of which undermined prudential regulation itself. This eventually led to systemic failure. Politicians are responsible for both regulatory incompetence and mission-induced laxity.

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It wasn't the lack of regulatory authority, but rather its pervasiveness and widespread failure, that not only allowed but caused the subprime lending debacle.

Introduction and Overview

The 2008 global financial collapse emanated from the U.S. subprime lending bubble. Economists generally resort to mass psychology to explain how the bubble could inflate to such an extent, assuming that borrower and lender behavior was irrational. The Fraud Enforcement and Recovery Act of 2009 created the Financial Crisis Inquiry Commission (FCIC) to investigate why the financial crisis became globally systemic. The FCIC was charged with conducting a comprehensive examination of 22 specific and substantive areas of inquiry relating to various and seemingly unrelated hypotheses advanced primarily by politicians, business executives, and university professors. The final FCIC report (2011) found varying degrees of merit for all of these hypotheses, blaming the financial crisis on a confluence of generally independent events, such as “recklessness of the financial industry and the abject failures of policymakers and regulators”¹ to regulate the essentially deregulated or never regulated parts of the mortgage and deposit markets. This justified the 2,300-page Dodd-Frank Act’s regulatory approach.

The basic difference between the United States and other market economies since 1975 has been that U.S. mortgage and related markets relied more on federally sponsored and regulated enterprises that were more pervasively—that’s not to say appropriately—regulated. The conventional narrative is that the unregulated private-label securitizers (PLS) like Countrywide and Bear Stearns funded the subprime bubble, subsequently dragging down the giant government-created mortgage financers Fannie Mae and Freddie Mac with them. But all of the markets contributing to the crisis were already subject to regulation in one way or another. The FCIC Report’s conclusions succeed in diffusing the political responsibility for making the crisis systemic and hence fail as a guide to avoiding future systemic crises.

The specific regulatory failures necessary for Fannie Mae and Freddie Mac to become so heavily entwined in the subprime bubble were

- allowing them to bypass the primary mortgage insurers;
- allowing them extreme leverage; and
- requiring them to finance at least half of the subprime market.

The specific regulatory failures necessary for the private-label securitizers to become likewise heavily entwined in the subprime bubble were

- the Securities and Exchange Commission (SEC) designation of approved credit rating agencies without the necessary supervision;
- the use of the credit rating agency designations in risk-based capital requirements;
- the failure of bank regulators to prevent the deterioration of underwriting guidelines, regulatory arbitrage, off-balance sheet funding, and the rise of the “shadow banking” market; and
- woefully inadequate Securities and Exchange Commission capital regulations for investment banks and accounting rules that allowed the acceleration of income and delayed recognition of expense.

These will all be explained below. However, all of these failures should not obscure a more general problem: federal regulators did not understand and mitigate systemic risk.

Regulation and Intervention

Public protection of private enterprises creates a “moral hazard” wherein private enterprises are more willing to take risk when they know that they will be rescued if they get into trouble. As a result, protected enterprises will take excessive risks. Virtually all of the behavior that created the subprime lending debacle can be explained by incentive distortions, mostly moral hazard, and none of this behavior was new or irrational. It wasn’t the lack of regulatory authority, but rather its pervasiveness and

widespread failure, that not only allowed but caused the subprime lending debacle. Adding to this, purely political mission regulation—specifically, the government-embraced “mission” of expanding homeownership rates regardless of risk—pushed the bubble to systemic proportions.

Politicians are responsible for regulatory oversight, but that oversight failed because of both incompetence and incentive conflict.² Politicians and their regulators consistently failed to understand how regulation would undermine and replace, rather than complement, market discipline. Market discipline can’t be said to have “failed” during the subprime lending bubble, because it didn’t exist; market forces had been replaced by regulatory oversight. Only market speculation operated largely outside of this regulatory regime, but politicians and their regulators have always tried to limit and even criminalize the stabilizing activity of speculators “shorting the market.”

Banking deregulation has often been blamed for causing the financial crisis, but it’s unclear why that would be the case. The so-called “Reagan-era” banking deregulation (which was actually signed into law by President Jimmy Carter after being passed by a Democrat-controlled Congress) was the phase-out of deposit interest rate ceilings beginning in 1980, and that had nothing to do with housing finance. The next piece of banking deregulation was the 1994 elimination of bank branching restrictions, which was passed by a Democrat-controlled Congress and signed into law in 1994 by Democratic president Bill Clinton, and which, again, had nothing to do with housing finance. The 1999 banking reform, passed by a Republican Congress and signed by President Clinton, eliminated the Glass-Steagall Act’s forced separation of investment and deposit banking. But that didn’t seem to contribute to the financial crisis: the institutions at the heart of the crisis—Bear Sterns, Lehman Brothers, Ameriquest, Countrywide, AIG, and so on—were not “universal” banks (though many of those institutions were later merged into universal

banks so as to stabilize them). These reforms all removed political distortions and strengthened the financial system.

The credit allocation goals of mission regulation, in contrast, directly conflicted with prudential regulation. In the case of Fannie Mae and Freddie Mac, political mission regulation and corruption explains most of the regulatory failure. In the case of the banks, mission regulation also likely explains why regulators didn’t raise the credit standards for their loans or increase capital requirements.

How did the U.S. mortgage markets become so much more politicized than those of other market economies? The numerous federally sponsored enterprises that insure deposits and mortgages, or lend against or make a market in mortgages, all trace their roots to the response of federal politicians to the Great Depression.³

Government-provided deposit insurance—introduced in 1933 to prevent bank runs and protect the payments mechanism—arguably had a positive effect over its first four decades of existence. But repressive government prohibitions on branching and paying interest eventually spawned the “shadow banking system,” a financial system outside the formal regulated system of banks and thrifts. Moral hazard grew in the banking system as deposit protection became comprehensive, regulators promoted bank consolidation over competition between banks, and large banks and other financial firms became “too-big-to-fail”—that is, so important to the U.S. economy that government would rescue them if they got into trouble. Moral hazard eventually affected the entire shadow banking system as well, which subsequently played a role in funding the subprime lending debacle.

Intervention in Housing

Mortgage market enterprises such as Fannie Mae and Freddie Mac were introduced to maintain “liquidity” of mortgage lenders and stimulate housing construction and jobs. Instead of acting as traditional mortgage companies that raise money from investors and then use that money to extend loans to individual

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homebuyers, these government enterprises purchased from banks the mortgage contracts that the banks had already made with homebuyers. This reduced the banks' risk of default and provided them with cash to use for more home loans, while the enterprises received the long-term payments from the homebuyers.

Originally, the enterprises financed the purchases with money from Congress augmented by the mortgage payments from existing borrowers. But in time, the enterprises began reselling the mortgages, as large "bundles" of diversified mortgages, to independent investors who then receive the mortgage payments.

Ultimately, the two largest enterprises, Fannie and Freddie, were partly spun off from government, becoming government-sponsored enterprises (GSEs). Though they still had a public mission to boost the housing market and they were under special government oversight, they also had private investors and could hold mortgages and attempt to profit from doing so.

For approximately the next four decades, these enterprises did no obvious harm. Home mortgage lending to households financed largely by private mutually chartered savings and loan, savings bank, and life insurance company intermediaries—the backbone of the U.S. housing finance system for over a century—raised the U.S. homeownership rate from a level of about 45 percent in 1945 to 55 percent by the early 1950s as returning veterans got Veterans Administration loans, and then to 65 percent by 1975, prior to the GSE era, where the rate remained for approximately the next quarter century.

Restrictions on branch banking and deposit rates caused regional capital shortages for banks by the 1970s, owing to huge demographic migrations. As a result, banks came to rely more heavily on wholesale funding sources like Fannie and Freddie. Mortgage bonds of the type commonly used in other developed market economies date back to the 1800s in the United States. But U.S. capital markets were fragmented by multiple state jurisdictions and overlapping state and federal regulation. Providing GSEs with regulatory

exemptions was politically more expedient than streamlining securities laws or removing branch banking restrictions. But politicians have consistently muddled the distinction between "liquidity" and "marketability," as well as the distinction between "market-making" and "trading," which can refer to both broker/dealer activities and speculation. The consequence was often that GSE policies justified as promoting liquidity often promoted only marketability and frequently only speculation. Moreover, the subsequent "privatization" of Fannie and Freddie created a huge incentive distortion of public risk for private profit, and their regulatory preferences that conveyed agency status allowed them to become public housing banks that crowded out the private market while inviting a public mission for political cover.

Politicians weren't motivated to dramatically reform the U.S. financial system, but attempts to use regulation to favor both borrowers and savers did disturb the system's balance. With each successive economic crisis, politicians and bureaucrats have, not surprisingly, doubled down on regulation so as to protect the fiction that markets, rather than bureaucrats and politicians, had failed and to maintain and expand the federal regulation and programs this fiction justified.

During the Depression, the Franklin D. Roosevelt administration and bank regulators were much more concerned with the moral hazard consequences of regulation than Dodd-Frank is today, even though the New Dealers' attempts to mitigate it with arm's-length federal sponsorship of insurers ultimately failed. Dodd-Frank will fail to achieve its goal of mitigating systemic risk because it doesn't distinguish between the deposit/money markets that Congress should have—and now must—comprehensively and appropriately regulate, and the investment markets, including mortgage markets, that Congress didn't and can't effectively regulate.

The laws and regulations resulting in the subprime lending debacle reflected the unique historical evolution of federal intervention in U.S. deposit and mortgage markets. That evo-

lution will be described in the rest of this paper. The next section traces the early origins of federal regulations and enterprises from the introduction of the Federal Reserve to the landmark Housing and Urban Development Act of 1968. The following section describes the development of the GSEs and the subsequent expansion of U.S. secondary markets in housing finance through the end of the last century, resulting in substantial replacement of the private market. Following that is an explanation of how moral hazard created by the SEC and deposit insurance further undermined mortgage market discipline in the 1990s. That is followed by a description of the origins and development of the subprime lending debacle. The paper concludes with policy implications and recommendations.

The Great Depression to 1968

Economists are still debating the relative causes of the Great Depression, but the central findings are indisputable. It was not caused by instability in unregulated financial markets. Unregulated private financial markets in the United States had previously produced regular but smaller self-correcting financial crises that were blamed—unfairly—for the Great Depression.⁴ Rather, politically induced distortions turned the recession into a depression and made it “great.” For example, labor market distortions relating to the Wagner Act and Davis-Bacon kept wage rates as much as 40 percent above market clearing levels, and Smoot Hawley tariffs reduced international trade by more than half.

The seeds of the Great Depression were planted two decades before the crash, with the creation of the Federal Reserve and U.S. embrace of “modern” monetary policy. When the Federal Reserve Act was passed in 1913 establishing the Federal Reserve, the American Banker hypothesized that “from this time forward the financial disorders which have marked the history of the past generation will pass away forever.”⁵ But soon thereafter, the Fed was accused of fueling the asset bubble of the 1920s. Housing production had boomed, fueled by the Fed’s easy credit policies, and

then fell by over 80 percent, from 753,000 units in 1928 to 134,000 in 1932. According to Simon Johnson and James Kwak:

Not only did the Federal Reserve’s System encourage excessive risk taking by bankers, the safety net, it turned out, had gaping holes that could not be fixed in the intense pressure of a crisis. The result was the Great Depression.⁶

But the Fed did more. The current Fed chairman Ben Bernanke publicly apologized to Milton Friedman on behalf of the Fed, agreeing that the centralized monetary authority was the cause of the systemic deflation that perpetuated the Depression.⁷

The Depression era spawned numerous federal interventions in the financial system, including deposit insurance, mortgage insurance, and mortgage discount lending and market-making facilities.

Liquidity of Deposit Institutions

Many banks had liquidity problems early in the Depression and many—but not necessarily the same banks—were technically insolvent. It was virtually impossible for depositors to discern between insolvency (when a bank has failed as an ongoing concern) and illiquidity (when a bank is temporarily short on cash). Hence, at any sign of trouble, depositors rushed to the bank to withdraw their funds before the bank ran out of money. These bank rushes turned many illiquid banks insolvent.

It fell to the Fed to make that distinction, providing sufficient liquidity to solvent banks only. In sharp contrast to the United States, bank runs weren’t a problem in Canada, where banks branched freely and were, as a consequence, well diversified.⁸ Moreover, Canada lacked deposit insurance, hence the lack of insurance couldn’t have been a cause of bank runs in the United States.⁹

Contrary to the belief underlying Glass-Steagall, that universal banks were responsible for the Depression by duping depositors into making questionable investments, the large U.S. money-center banks that engaged in both

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commercial and investment banking were diversified and generally remained both liquid and solvent. Combining commercial and investment banking—i.e., underwriting new securities sold through their sales force and making a secondary market in these and other securities as a broker (matching buyers and sellers) or as a dealer (maintaining a modest inventory for sale), depending on the type of security and market—was common in market economies due to the potential synergies.

But Sen. Carter Glass and Rep. Henry B. Steagall had long been concerned with the potential conflicts of interest between selling securities and taking deposits and the concentration of power on Wall Street. Congress created the Pecora Commission ostensibly to determine the causes of the Great Depression, but really the commission was created specifically to cast these universal banks as villains even though there was no evidence that risky investment banking activity was a contributing cause of the financial collapse or Great Depression.¹⁰ The negative press coverage of the bankers during the commission hearings was sufficient to pass the Glass-Steagall Act of 1933, separating commercial banking and deposit-taking from securities underwriting and market-making activity.

The fear of centralizing power in Wall Street money-center banks made branch banking across state lines politically problematic. That was unfortunate for U.S. depositors because branching and, hence, geographic diversification would have buttressed the banks, making them better able to withstand the droughts and other local shocks that pushed many local banks into illiquidity and insolvency during the Depression. Glass-Steagall supporters did not understand that and, not wanting to waste a crisis or the political momentum of the Pecora Commission, they used the legislation to extend the prohibition against branching across state lines to federally chartered banks.

Of course, Glass-Steagall only exacerbated the problem with bank runs. In response, Congress established the Federal Deposit Insurance Corporation (FDIC). Both FDR and bank regulators had previously opposed pub-

lic deposit insurance because of concerns with moral hazard, but the best they could do at this point was to try to mitigate this risk by limiting the insurance to small depositors and the federal role to sponsoring a self-funding enterprise.¹¹ Savings and loans (S&Ls) had not been subjected to the same runs as small banks because their deposits were not callable on demand, so they refused to join the FDIC and pay the large insurance premiums needed to fund commercial bank losses. But they acquiesced two years later to their own federally sponsored insurer, the Federal Savings and Loan Insurance Corporation (FSLIC).

Whether it was deposit insurance that stopped the bank runs is debatable, but both federally sponsored deposit insurers remained solvent during their first 50 years. The strategy of mitigating moral hazard by limiting the federal role to “sponsorship” was, however, an immediate failure. As early as 1933, when FDR reopened the banks, the markets perceived the federal backing of deposit insurance as complete.¹² Bank capital levels fell steadily from over 16 percent of assets when deposit insurance was first introduced to only 5.5 percent by 1945, where they stayed for over four decades before falling further in response to risk-based capital requirements and off-balance sheet financing.

Housing and Mortgage Market Distress

The mostly mutual savings and loan model of mortgage finance, patterned after the 200-year-old British system, had worked fairly well in the United States to this point. Under this model, borrowers repaid principal by contributing monthly to a sinking fund—the common practice of the time—effectively amortizing the mortgage principal and avoiding a balloon payment at maturity. Payments into a sinking fund are used to retire the outstanding debt which funded the original mortgage. Loans were rolled over every 5 to 10 years, at which time they were re-priced to the current market interest rate. So long as the borrower was current and the lender remained solvent, rollover was relatively automatic. But no system could have sur-

vived the systemic credit default debacle of the Great Depression—during which three in four home borrowers defaulted—unscathed.

S&Ls that faced liquidity problems had relied on their lines of credit with commercial banks to keep them liquid, but these lines mostly disappeared when banks failed.¹³ The S&Ls couldn't access credit through the Federal Reserve's discount window (a prohibition that would continue until 1989). Arguably to address this problem, Hubert Hoover's administration established an independent federally sponsored enterprise, the Federal Home Loan Bank (FHLB) System, in 1932 to provide liquidity directly to S&Ls. The FHLB did this by discounting home mortgages, that is, providing loan advances against mortgage collateral at less than par value (called a "haircut") and with full recourse to the borrowing institution, which meant that the FHLB could seize the S&L's assets if the S&L failed to repay its loan. The FHLB advance program was analogous to the Fed discount window, without the discount window's stigma of signaling distress and with a more liberal collateral requirement and significantly longer terms, both of which were at least partly intended to promote homebuilding and hence construction jobs. The FHLB System had authority to borrow up to \$215 million from the U.S. Treasury in emergencies, but it generally relied on capital market access for funding.

The demand for housing units fell much faster than supply because of doubling up—conversion of single-unit dwellings to multiple smaller units, for example—so that the vacancy rate rose by over 60 percent from 8 percent to 13 percent during a period of plummeting housing starts.¹⁴ This caused housing prices to fall by far more than the general monetary deflation. Then as now, falling house prices caused considerable economic pain, as homeowners found themselves owing more money on their houses than the houses were worth.

Politicians intervened to mitigate the impact of financial system distress on borrowers as well as to stimulate housing production and jobs. The Homeowners Loan Corporation (HOLC) was established in 1933 and placed

under the FHLB System to implement the government's Depression-era forbearance program for distressed but salvageable borrowers, giving them a reprieve on their payments. One component was to refinance creditworthy borrowers with a fixed-rate mortgage that replaced the rollover provision with a long-term loan and the sinking fund with a more portable amortization schedule. The HOLC marked down the nominal loan balance to only 70 percent of the new lower house price, with lenders taking the loss, and offered an interest rate slightly above the Treasury borrowing cost. Still, 20 percent of the borrowers subsequently re-defaulted. The re-pricing of mortgages at rollover reduced the payment to reflect falling interest rates. The HOLC was profitable for the U.S. government because it required borrowers to pay a fixed rate on their loans, but the HOLC financed the program with debt at interest rates that declined, creating the profit margin. The HOLC was liquidated in 1951.¹⁵

Politicians next tried to stimulate housing demand by reducing down payments. Congress enacted the National Housing Act of 1934 that established the Federal Housing Administration (FHA) as an independent federally sponsored mutual mortgage insurance fund authorized to insure only the long-term (up to 20 years), fully amortizing fixed-rate mortgage (FRM) with a maximum loan-to-value (LTV) ratio of 80 percent. With such insurance, it was hoped that banks would be more inclined to make loans to prospective homebuyers. Private monoline mortgage insurers had previously insured loans with a high LTV, but the Great Depression was a systemic risk to which they were inherently vulnerable due to their lack of diversification among other lines of insurance, and they all failed as a consequence. As the National Housing Act's stated intent was to promote homebuilding and construction jobs,¹⁶ activity was limited to new housing, and the initial limit on the loan amount was more than three times the median house price. But portfolio lenders saw no need for default insurance on newly originated loans with a 20 percent cash down payment, so FHA activity was minimal.

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The National Housing Act also gave FHA the authority to establish private national mortgage exchanges to “make a market” in these FHA-insured FRMs and thereby promote their use. But there were no private takers because lenders originated mortgages as a portfolio investment and S&Ls could now discount mortgages at the FHLB. Nevertheless Congress established the Reconstruction Finance Corporation (RFC) Mortgage Company in 1935 with \$10 million in capital to *buy and sell* FHA loans that financed new residential construction, and later in February 1938 Congress amended the National Housing Act to have the FHA create the National Mortgage Association of Washington (later changed to the Federal National Mortgage Association, or Fannie Mae) to replace the RFC Mortgage Company. The restriction to finance only new construction was removed and the loan limit was reduced to the median house price in 1938.¹⁷ The RFC Mortgage Company was later absorbed into the Reconstruction Finance Corporation in 1947.

The private lending industry strongly opposed the creation of what its members recognized as a government housing bank because Fannie Mae’s two main “special assistance” functions were financed directly by the U.S. Treasury, which also provided an emergency liquidity backstop similar to that of the Federal Home Loan Bank System. To assuage these concerns, the third facility—explicitly limited by charter to a pure secondary market broker/dealer function that required selling in equal proportion to buying—was limited to FHA-insured loans, which at the time had an insignificant market share. In addition, this dealer inventory had to be funded with “private” corporate debt, issued only with prior Treasury approval.

The conventional wisdom is that these federal interventions restored the housing market. While there was little merit in a separate liquidity facility without central bank access, the FHLB discount facility did no harm. It is unlikely that the FHLB, FHA, or Fannie Mae stimulated many—if any—construction jobs. And Fannie Mae did not

build a secondary market. By 1966, after almost three decades in operation, the secondary market “dealer” portfolio was estimated at about \$2.5 billion, reflecting the activities of the post-war Veterans Administration, whose loans were made eligible for purchase after the war, as well as the FHA inventory, and there was little if any turnover.

One later *ex post* rationalization is that the FHA’s long-term amortizing FRM solved the problem of rollover balloon mortgages. But this justification doesn’t fit the facts. Lack of amortization wasn’t a problem, because most mortgages had sinking funds, and the rate adjustment at rollover wasn’t a problem, because rates were adjusting downward during the Depression, making fixed-rate mortgages more expensive at the time than rollover mortgages. Only the rollover provision was potentially problematic. In theory some current borrowers could have faced problems rolling over their loans, but the borrowers were mutual owners as well and hence had an equal say in making rollover policies, and liquid lenders had every incentive to roll over a loan for a current borrower rather than foreclose on an unsalable house. Even in the event of lender insolvency, depositors and other creditors were better off with a paying loan, so the problem, to the extent it existed, was with the way in which insolvent institutions were liquidated.

The Development of the GSE Mortgage Capital Market System

The influence of the numerous Depression-era federally sponsored enterprises, inconsequential up to this point, grew in significance with the 1968 Housing Act that shaped the GSEs and mortgage securitization during the last quarter of the 20th century. Speculative trading in GSE mortgage-backed securities (MBS) gave rise to GSE agency status, which drove out private competition and increased moral hazard.

Early Origins of GSE Mortgage Securitization

One of the most consequential aspects of the 1968 Housing Act was the so-called “privatization” of Fannie Mae. This was driven by nothing more than myopic political expediency. President Lyndon Johnson wanted to wage war in Vietnam while simultaneously instituting his Great Society domestic agenda, but the federal budget could not accommodate both. This ratcheted up the normal pressure for budget accounting gimmicks. One gimmick would be to make Fannie Mae disappear from the budget.

Politicians had previously tried to get Fannie Mae mortgages held as a consequence of the public housing bank functions off the budget with the 1964 Housing Act. The act provided authority for Fannie Mae to issue participation certificates, an early form of MBS, on pools of mortgages by treating the securitization as a “sale of assets” rather than a “financing,” but Fannie continued to borrow from the Treasury instead.¹⁸ The 1968 Housing Act established the Government National Mortgage Association, or Ginnie Mae, to “manage and liquidate” the Treasury-financed FHA/VA-insured Fannie Mae portfolio of about \$4 billion as quickly as feasible, getting them off the budget to reduce the reported deficit.

Arguably, the newly chartered Ginnie Mae should have been given Fannie’s \$2.5 billion corporately financed “dealer” portfolio to liquidate as well, but that was already off-budget and would have to be carried on-budget until it was sold, having the exact opposite effect of what the act was trying to accomplish. It was politically more expedient to simply give the “company” to the mortgage bankers—holders of nominal “stock” issued in return for a fee for using the secondary market facility. This stock had little value and became virtually worthless when Ginnie Mae introduced MBS backed by pools of FHA-insured and VA-guaranteed loans—an activity that went well beyond its “management and liquidating” charter—shortly after the newly privatized Fannie Mae rejected the securitization concept. In

retrospect, had the Ginnie Mae security been anticipated and authorized by the 1968 act, this corporately funded broker-dealer facility would likely have been liquidated as well.

The motivation for the new Ginnie Mae MBS was to bypass all conflicting state and federal laws and regulations that would have required separate security registrations in all 50 states for each offering. This bypass was easy because its securities were treated as federal government issues with a federal preemption of state and local laws. But Ginnie Mae was not exempt from federal law; in particular, it was not exempt from the taxation of mortgage revenues as profits before distribution of interest to security holders. It found an old but limited “grantor trust” statute to avoid corporate tax because it was by law passive, that is, it passed through all of the cash flow from the mortgages, rather than actively manage its income.¹⁹ The IRS allowed the guaranteed advancement of the typically delayed FHA insurance reimbursements in the event of borrower default, but the grantor trust vehicle prohibited Ginnie Mae from guaranteeing credit risk.

Soon after Ginnie Mae introduced the participation certificates, the newly privatized Fannie Mae became totally superfluous. Rather than liquidate it, the mortgage banking industry lobbied for new legislation providing Fannie with conventional loan authority, but the charter restriction limiting activity to a broker-dealer function remained. Even though S&Ls had no use for such a secondary market facility, they did not want to lack for an authority given to mortgage bankers. They had previously lobbied for and got the Federal Home Loan Mortgage Corporation (Freddie Mac) to deal in conventional mortgages, without the explicit charter restrictions but with the explicit promise that if this dealer function was a commercial failure the corporation would be liquidated. But the mortgage bankers immediately turned the Fannie Mae secondary market facility into a portfolio-lending government-sponsored housing bank serving their interests in spite of the unambiguous charter limitations to the contrary. Likewise,

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when Freddie Mac's broker dealer operation proved to be a commercial failure, the corporation reneged on its pledge to liquidate and followed the Fannie Mae lead as a federally sponsored quasi-public—subsequently privatized—housing bank engaged in funding mortgages.

Mortgage Insurance, Private and Public

Housing banks are notoriously political and prone to actuarial (albeit often opaque) failure. The saving grace of the U.S. system was reliance on mortgage insurance—FHA for Ginnie Mae securities and private mortgage insurers (PMIs) for conventional loans—to mitigate credit risk.

PMIs, bankrupted by the Great Depression but reincarnated in the 1950s, became the primary credit risk filter for conventional loans with less than 20 percent down payments for the originate-to-sell system of funding, just as FHA was for qualifying loans in its market segment.²⁰ The down payment requirements for insured conventional loans remained relatively constant between 5 percent and 10 percent; the FHA minimum down payment was lowered from the initial 20 percent to 5 percent in 1950 and 3 percent in 1961. (Beginning in 1995, the minimum down payment percentage increased for loans above \$50,000).²¹

The FHA and the PMIs both “assure” risks with *ex ante* risk-mitigation measures to minimize the potential for moral hazard associated with insuring borrowers with little or no equity at stake and “insure” remaining risks through diversification. The fundamental principle of insurance is that the remaining credit risk can be diversified and actuarially priced because of the uncorrelated nature of default risk among the individual loans in a pool. The FHA covered a lender's entire loss, while the VA and PMI insured the top 20 and 25 percent respectively, but these differences were generally insignificant as loans not fraudulently underwritten rarely resulted in losses greater than 20–25 percent. Further, both the FHA/VA and the PMIs maintained a local underwriting presence and rigorous underwriting guidelines, and the PMIs attempted to avoid

correlated risks such as widespread economic downturns and falling house prices.

Insurance underwriting was based on the premise that borrowers would pay if they could, which they had always done before to protect their down payment investment, other assets, and credit reputation as well as in response to societal expectations. But unlike market-oriented systems in other countries, recourse to the borrower's income and other assets in the event of default is outlawed in 27 states and not enforced in many of the rest. Hence, when borrower equity evaporates due to minimal down payment, falling house prices, or both, insurance in the United States relies on the strength of the future borrowing penalty and societal expectations to limit default.

Moral hazard is inherent in the originate-to-sell model, but the FHA and Ginnie Mae minimized it in three ways: first, the FHA maintained local underwriting offices; second, Ginnie Mae required an “excessive servicing fee,” postponing some of the origination profit to the end of the loan, which was lost in the event of default due to foreclosure expense borne by the servicer;²² and third, Ginnie Mae had full recourse, which cross-collateralized all securitizations, thereby putting an MBS originator's entire profitable loan servicing business and capital at risk for a failure to perform on any individual pool. Freddie Mac was historically more protected against this moral hazard by dealing with better capitalized portfolio lenders rather than mortgage brokers and bankers.

The 1968 act designated the U.S. Department of Housing and Urban Development (HUD) the regulator for the FHA, the Veterans Administration regulated the VA, and state insurance commissioners regulated the PMIs. As HUD was a new agency with a social mission without other prudential regulatory responsibilities, conflicts with the FHA should have been expected. Soon enough, conflicts arose when the Carter administration FHA Report recommended that the agency serve “underserved markets.” That recommendation came despite the fact that the prior early

1970s failure of the FHA's special risk insurance fund was enough to convince FHA actuaries that "insurance" was not an appropriate vehicle for delivering subsidies to high-risk borrowers because "adverse selection" would prevent actuarially sound pricing. (Adverse selection occurs when lenders attempt to accept more risk, with higher losses paid for by charging all borrowers a higher rate premium.) Unfortunately, the better credit borrowers find cheaper loans elsewhere, leaving inadequate premiums to cover losses on the insured loans. This cross-subsidization of risk only works if the insurance is mandatory or the government has a monopoly. The Ginnie Mae participation certificates protected the FHA insurance fund from adverse selection by giving FHA a monopoly pricing advantage and virtually a 100 percent market share in its qualifying loan market by charging only 6 basis points annually for the agency status conferred on Ginnie Mae MBS.

Increased borrower equity caused by price inflation in the housing market during the 1970s protected the insurers, but credit risk became a concern in the 1980s when prices stagnated. The PMIs raised premiums numerous times, but in order to prevent what would have otherwise been overwhelming adverse selection, they also significantly tightened underwriting guidelines to exclude several types of loans: investor loans, loans with cash out refinancing, loans with deep buydowns, and loans in regions with a weak economy due to a systemic risk factor, such as the oil patch.²³ Even these steps didn't save all the PMIs from adverse selection, but the industry survived the decade and the private investors' losses due to PMI failure were minimal.

In contrast, the FHA did not mitigate adverse selection. They did not exclude investor loans, they eased qualification standards, and half of their loans endorsed in 1988–89 were to those with LTV above 95 percent or to investors—up from a third in 1982–83. The FHA was arguably technically insolvent and clearly not actuarially sound,²⁴ so the ironically named Cranston-Gonzalez National Affordable Housing Act of 1990 restored actuarial

soundness by charging new borrowers more to subsidize existing borrowers. While the FHA did worse than private mortgage insurers, it did much better than public insurers in other countries have typically done, probably reflecting the FHA's reliance on private loan servicers and investors to evaluate risk. Unlike debt financing, securitization passes on the interest rate risk to investors so GSE securitization exposed Fannie and Freddie only to the residual pool insurance risk. As a result, the public's risk exposure to securitization in the 1970s through the 1980s was minimal. GSE securitization benefited mortgage borrowers by alleviating regional credit shortages due to branching restrictions, increasing the overall availability of funds. This reduced rates somewhat in credit-short areas while raising them in credit-surplus areas. Borrowers of conforming conventional loans paid a quarter percentage point less than borrowers of otherwise comparable jumbo loans,²⁵ but whether this reflected the nonagency cost of capital market access or the ability of GSEs to borrow at rates slightly above that of the U.S. Treasury is unclear. In any event, the capital market access rationale became obsolete by 1990 with the elimination of bank branching restrictions and the legal and regulatory obstacles to private capital market access, including new Real Estate Mortgage Investment Conduit (REMIC) legislation of 1986 that enabled private-label MBS.

The capital market access rationale became obsolete by 1990 with the elimination of bank branching restrictions.

Speculative Trading, Agency Status and Wall Street Greed

The conventional *ex post* rationalization for securitization is that it converted inherently illiquid mortgage loans into "liquid" MBS. The reality is that GSE MBS became a trading vehicle for speculation—much of it otherwise illegal—and was complicit in converting investment banks into highly leveraged hedge funds issuing bank-like deposits in the shadow banking system.

The enduring political fiction that securitization and secondary market trading could convert intrinsically illiquid mortgages into liquid securities continues to be the primary political and economic GSE rationale. The

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financial press has always used the terms “liquidity”—the ability to sell quickly for cash at par value—interchangeably with the term “marketability”—the ability to sell with a low bid-ask spread at whatever investors think the security is worth. Cash managers buy government securities to invest cash balances and sell (or issue short-term debt such as commercial paper) when they need cash. Marketability, as measured by the bid-ask spread, does improve with the volume of trades, but this had never before been a concern to long-term investors in bonds or mortgages and hence debt rarely traded.

Unlike government bonds or highly rated corporate bonds, the cash flows of pre-payable and, at the time, assumable fixed-rate home mortgages were extremely difficult to predict. Hence there was a reason to trade MBS based on different prepayment and assumption views and changes in projections over time. As interest rates became more volatile, there were both premium and discount pools to trade. Wall Street loved trading GSE MBS because they were risky and thus inherently illiquid. There is nothing inherently wrong with speculative trading, which arguably made the options price more efficient. But the implicit option premium is taken into income currently with no regard for the residual risk, which is called “tail risk” because it often comes at the end.²⁶ The “tails” could be quite long, and the perception of higher yields created by the options premium encourages speculation, especially if the tail risk will be borne by others.

Speculating in tail risk was particularly attractive to money managers, to whom such speculation was typically prohibited. Because they trade so frequently, speculators are often called “traders” or more specifically “proprietary traders.” The political fiction that GSE securities were liquid because they “traded” essentially allowed regulated investors otherwise authorized only to invest in “liquid government securities” to engage in speculative GSE MBS trades, and the investment banks all came up with competing strategies as to how to speculate. These trading strategies generally

allowed traders to write “out of the money” options using GSE and derivative securities in an opaque way, treating the entire trading revenue in the form of option premium as profit. By the 1980s these strategies were marketed mostly to S&Ls as part of their “go-for-broke” survival strategy, often camouflaged as “hedges”—that is, using instruments and strategies to reduce portfolio risk. After the S&Ls went broke, the bankers turned to cash managers of state and local governments (see box).

Investment banks historically had two trading (market-making) desks: government and corporate. As GSE MBS issuance and speculation-driven trading volume skyrocketed in the mid-1970s, it was the lawyers at and advisers to the Wall Street trading firms that made a judgment that Ginnie Mae, Fannie Mae, and Freddie Mac securities could all be traded on the government desk. The judgment that such securities would be backed by the government in the event of default—in spite of the specific disclosures to the contrary—reflected their federal sponsorship with the regulatory and tax exemptions of a public entity.²⁷ As volumes soared, the market itself became “too big to fail” and, as with deposit insurance, there was no denying the implicit government backing, removing any pretense of market discipline.

Whereas speculation had historically been reserved to individuals and hedge funds, speculating in GSE MBSs enticed investment banks to do so for their own account, establishing “proprietary trading desks,” essentially in-house hedge funds. Hedge fund managers generally keep 20 to 25 percent of the return over a benchmark as a management bonus with no downside risk, creating an incentive conflict to load up on tail risk. Hedge fund managers are also expected to contribute their own personal funds to mitigate moral hazard. Similarly, proprietary trading began at investment banks when they were all partnerships where partners waited a lifetime to enjoy the fruits of their greed.

But proprietary traders eventually demanded and received annual cash bonuses just like hedge fund managers, often on unrealized profits. This undermined the partnership

Speculating in GSE Securities: The Case of Orange County

In 1994 Orange County, California, one of the highest family-income counties in history, was forced to declare bankruptcy. Its investment manager, Robert Citron, had collected all the cash accounts that numerous local governments held in their local bank accounts to meet the public payroll and deposited them at Merrill Lynch. He then leveraged them with re-purchase agreements, and invested them directly in supposedly liquid risk-free GSE securities. However, they were actually derivative securities employed in “risk-controlled arbitrage” strategies largely designed by Merrill Lynch. Citron was considered a hero for years as the higher earnings from this speculation allowed local politicians to keep taxes down. He was essentially “playing the yield curve” by investing in long-term securities as well as speculating by earning excess “quoted yield” that reflected not higher expected returns but rather the “option premium” for prepayment risk and other derivative trading strategies, a form of tail risk. When GSE MBS prices subsequently plummeted as interest rates rose, past gains were wiped out, bankrupting Orange County and severely wounding San Diego County finances.

Orange County blamed its demise on Wall Street greed. Citron and other cash managers obviously had no business transferring taxpayer bank accounts to the shadow banking system and then speculating with options trading. Whose responsibility was it to stop them? The answer in this case was that politicians who provided oversight took responsibility when the bets paid off, and Wall Street investment banks took the blame when they didn’t, a political lesson that didn’t go unnoticed.

structure of traditional investment banking. When Salomon Brothers—the premier fixed-income trading house—cashed out by selling the firm to the commodities trading firm Phibro in 1979, the lesson was not lost on the partners of other firms. Virtually all the Wall Street firms had sold out or converted to stock by 2000 (with only Goldman Sachs retaining some partner equity). Because all the firms were now owned by shareholders and many an investment bank CEO now rose from the (proprietary) “trading” ranks—limiting or deferring bonuses wasn’t a competitive strategy.

By the end of the last century, the largest investment banks had portfolios approaching or exceeding a trillion dollars of mostly hedge fund—proprietary trading account—balances and some private equity fund assets. These banks were able to fund their portfolios by borrowing extremely short-term using a variety of instruments such as commercial paper and overnight repos. (A repurchase agreement,

or “repo,” is essentially an overnight loan at a slight discount to the trading or market value of the collateral.) Repos were provided with GSE MBS as collateral on essentially the same basis as for liquid government securities based on their marketability. In fact, their entire funding structure assumed that “marketable” dealer inventory and internal hedge fund assets were “liquid,” ignoring the distinction between immutable liquidity and ephemeral marketability. The too-big-to-fail investment banks had essentially had commercial bank, hedge fund, and private equity fund assets and near-money liabilities without bank regulation or a liquidity backstop.

The separation of commercial from investment banking required by the Glass-Steagall Act was gradually phased out through regulatory forbearance in the 1980s and 1990s and eliminated with the repeal of the act signed by President Clinton in 1999. The FCIC report’s chapter 4, “Expansion of Banking Activities:

Repos were provided with GSE mortgage-backed securities as collateral on essentially the same basis as for liquid government securities based on their marketability.

By the early 1980s the GSEs were both the biggest customers of and competitors with the Wall Street investment houses.

“Shatter of Glass Steagall,” follows the conventional wisdom that this “deregulation” was a major cause of the financial crisis. But the crisis had nothing to do with commercial banks underwriting or broker/dealer activities—the original separation required by Glass-Steagall. Funding hedge funds with near money was something altogether different.

Agency Status Crowds Out Private Lenders

Once privatized, the GSEs viewed both portfolio lenders and private-label securitizers as competitors and, consequently, spent lavishly on politicians to maintain their legal and regulatory advantages. Ultimately they prevailed against both.

Thrift institutions—S&Ls and savings banks—had been the backbone of the mortgage lending industry for the century prior to GSE securitization. Deposit rate regulation introduced for demand deposits at commercial banks in the 1950s (Regulation Q) was extended to S&Ls in the 1960s. Thrifts were granted regulatory authority to engage in traditional banking functions by offering money market accounts in the 1970s, and they had a competitive advantage of being allowed to pay interest. But rates were still capped, and when market rates rose, Merrill Lynch pioneered the cash management account that paid market interest rates while providing check-cashing privileges, extending the payments mechanism further to investment banks. Money market funds became a big industry when interest rates rose and deposit institutions were “disintermediated” by deposit outflows. Advances from the FHLB helped maintain thrift liquidity, but deposit rate ceilings channeled a significant share of mortgage funding to the GSEs.

The mortgage banking industry voluntarily had Fannie Mae borrow short-term debt to get the highest price for their loans. As a result of the sharp run-up in short-term interest rates in the late 1970s and early 1980s, Fannie Mae became technically insolvent just as the thrift industry did. By the end of the century, the thrift industry was largely gone, replaced by the GSEs and a few large thrifts that were indistinguishable from commercial banks.

Meanwhile, the “shadow banking” industry spawned by deposit rate ceilings had grown in size to rival the commercial banking industry, and was a source of funds for mortgages.

With thrift competitors largely out of the way, the GSEs focused on eliminating competition from private-label securitizers. By the early 1980s the GSEs were both the biggest customers of and competitors with the Wall Street investment houses. The GSEs had monopoly power like the U.S. Treasury and could negotiate low underwriting fees, but Wall Street firms earned lucrative underwriting fees on sheer volume. Similarly, the bid-ask spread was much narrower for GSE than corporate securities, but this could be made up with speculation-driving trading volume. The underwriting spreads were more lucrative for private-label securitizers, but the investment banks were leery of losing a sure thing with the GSEs for the potential profits from private securitization.

In 1983 First Boston purchased a firm with the technology to originate mortgages straight into private-label securities. The GSEs strongly opposed extending their regulatory exemptions to private-label competitors with all their political might—Fannie Mae in particular was known to be quite vindictive regarding potential Wall Street competition. But at the end of the day, agency status still trumped private-label securitization, especially if exploited with risky strategies. While there is some merit to GSE assertions that their subsequent interest rate risks were hedged, the trillion-dollar arbitrage strategy of using debt to fund their buying of MBS was obviously risky. The only issue is the extent to which this arbitrage reflected a speculative interest rate or options play.

Prudential Regulation, Market Discipline, and Mission Regulation

During the 1990s, private-label securitizers found ways to exploit the credit rating dependent risk-based regulations and the moral

The 1989 S&L Crisis

The conventional explanation for why the S&L industry collapsed in 1989 is much the same as that for subprime lenders several decades later: the product of deregulation and greed. Of course moral hazard was a problem, as the industry was highly leveraged, and many economists argued that this caused the industry to “go for broke” as a result. Some economists even argued that the cause of the systemic failure was that they purposely tried to “go broke,” with management “looting” the already failed and sure-to-be-closed thrifths.²⁸ Charles Keating of Lincoln Savings and Loan in Phoenix was the poster boy of the decade and jailed for “looting” as a result of the failure of his institution. But the government spent an unprecedented amount on “looting” prosecutions in the search for scapegoats, with little to show for the effort.²⁹

By the early 1980s, virtually the entire S&L industry was underwater, and the reason was entirely political. Federally chartered S&Ls were forced into an interest rate maturity mismatch by politicians who refused to allow them to invest in anything other than fixed-rate mortgages. State-chartered S&Ls had issued mostly adjustable rate loans, minimizing the maturity mismatch. But William Proxmire, chairman of the Senate Banking, Housing and Urban Affairs Committee refused to allow federally charted S&Ls to do so.

Of course the industry went for broke, but this, too, was at least partially caused by explicit federal policy. The deposit insurance coverage maximum was increased from \$40,000 to \$100,000 and the Garn St. Germaine Act of 1982 gave thrifths new powers to invest in both risky commercial real estate and high-yield bond investments, after they were already technically insolvent. And utilize them the S&Ls did: the share of S&L assets in home mortgages plunged from 73 percent in 1981 to 57 percent in 1985. This shift and the 1981 tax act with its incredibly generous tax depreciation allowances caused massive overbuilding of commercial real estate and large losses on the new thrift investments.³⁰

That political distortion of the industry would eventually but inevitably lead to systemic failure had been widely predicted in numerous congressionally mandated study commissions spanning four decades, and so it did.³¹ Two political forces culminated in the passage of the Financial Institutions Regulatory Reform and Enforcement Act (FIRREA) of 1989 that phased out thrifths. First, bank regulators at the Fed and FDIC didn’t like the idea of S&Ls with money-like liabilities regulated by the FHLB, which also had a housing support mission. The regulators essentially won a bureaucratic turf war, as the passage of FIRREA eliminated the prudential regulation duties of the FHLB and consolidated the Office of Thrift Supervision (OTS) into Treasury (and, in 2011, the Controller of the Currency within Treasury). Second, with both the S&L industry and Fannie Mae technically insolvent in the late 1980s, Congress could only let one increase market share, at the expense of the other, to grow out of its problem. It chose the politically too-big-to-fail Fannie Mae, for which lawmakers could not dodge accountability, by signaling markets that the government would stand behind Fannie’s debts no matter how great the losses. Politicians nevertheless claimed they didn’t see this failure coming and blamed greedy thrift owners (in spite of the fact that most thrift institutions were nonprofit mutual institutions) and their managers (of which courts subsequently found virtually no evidence of guilt).

That political distortion of the industry would eventually but inevitably lead to systemic failure had been widely predicted in numerous congressionally mandated study commissions spanning four decades.

The first big subprime mortgage lending boom occurred in the mid-1990s.

hazard of deposit insurance expanded across the financial markets, eliminating market discipline.³² Mission regulation was expanded to justify public protection of banks and GSEs, but ended up competing with and ultimately undermining prudential regulation.

Trumping Market Discipline

Beginning in 1975 with the SEC adoption of Nationally Recognized Statistical Rating Organizations (NRSROs), the risk regulators began moving away from what was prudent and toward greater reliance on risk assessments by credit ratings agencies Moody's, Standard & Poor's, and Fitch—the only raters so recognized at the time.³³ In the late 1970s, Michael Milken at the investment firm Drexel Burnham Lambert started issuing junk-rated bonds and replaced bank loans with bond financing. These events converted published “opinions” into a regulatory sanctioned approval and created a two-tiered new-issue market of investment grade and “junk.”

This SEC adoption had an enormous impact on the way markets evaluated risk. While the credit ratings agencies had been rating corporate bonds since the early part of the last century, by 1970 only about 10 percent of corporate bonds were publicly registered and rated, with the rest privately placed, mostly with life insurance companies. Moreover, corporate bond opinions were fairly transparent, as investors could generally check up on them by reviewing a simple transparent balance sheet of a big company. But bank regulators became increasingly reliant on the ratings—subsequently embedding them in Basel I risk-based capital rules governing commercial bank capital—and GSE regulators followed suit.³⁴

By the end of this era, virtually all securities were publicly placed and rated. Investors in investment grade securities ceased doing independent due diligence, depending entirely on the judgment of the ratings agencies. In addition, investment grade securities were priced on the basis of their ratings and their regulatory status at a slight discount to Treasury securities, reflecting only the difference in the rating. In addition, prior to the SEC des-

ignation, the rating agencies didn't rate weak companies or those without a sufficient track record as “below investment grade” (BBB) and, as a result, such companies typically relied on banks for funding.

The result was the development of private label securitization. Investors were now able to create pools of mortgages, bundle them into a series of both investment grade and below investment grade tranches. They could sell virtually all the parts, which allowed the investors to treat the securitization as a sale of assets for regulatory accounting purposes. The credit risk evaluation of these securities was directly delegated to the ratings agencies, and pricing followed the ratings.

The first big subprime mortgage lending boom occurred in the mid-1990s. Loans were provided to people with generally bad credit but substantial down payments, initially 20 percent to 30 percent. The loans typically were not eligible for sale to the GSEs because of the borrowers' low credit scores, but the loans didn't require private mortgage insurance due to the high down payments. Originators chose private securitization over internal bank funding because the rating agencies dramatically underestimated the default risk and loss severity, enabling excessive amounts to be financed in the investment-grade tranches with only a small retained equity strip. In addition, following “present value” Generally Accepted Accounting Principles dictated by the SEC, these firms booked large current profits based on projected lifetime revenue of the residual interests discounted at a relatively low interest rate, again specified by the SEC.

So banks spun off their mortgage banking divisions as finance companies or free-standing mortgage banks that went public based on these reported profits. The SEC-inflated reported profits allowed lenders to raise both equity and debt in the high-yield (junk) bond market relatively cheaply to fund residual interests of only 1–2 percent of the pool, thereby achieving about 100–1 leverage. Some of these lenders converted to Real Estate Investment Trust (REIT) status to avoid paying taxes on the investment earnings of the retained strips (and potentially on the operating profits as well).³⁵

Not all investors were fooled by SEC accounting. Many recognized the Ponzi scheme, profiting both on bubble speculation and subsequent shorting of the market. Within a few years, realized credit losses proved the fallacy of SEC-dictated financial disclosure and virtually all the publicly traded companies filed for bankruptcy.

While prudential regulation by the deposit insurers was technically limited to commercial banks and thrifts, the moral hazard extended well beyond their portfolio activities to those they funded, particularly to hedge funds and

investment banks (which had their own internal hedge funds). The failure of Long-Term Capital Management (LTCM) and its subsequent bailout in 1998 proved the systemic scope of moral hazard by the end of the last century. If a hedge fund failed, it could bring down at least one too-big-to-fail investment bank. If just one investment bank failed, it could bring down one or several too-big-to-fail commercial banks, and their failure could bring down the global financial system. So says the current political conventional wisdom, at any rate.

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Long-Term Capital Management: The Extension of Moral Hazard

Long-Term Capital Management was a hedge fund established by former Salomon Brothers proprietary trader John Meriwether to take advantage of what he perceived to be small anomalies in the prices of fixed-income securities. To do this, LTCM employed massive leverage, exceeding 1,000:1, mostly with bank-funded repos. Despite having two Nobel Prize winners in finance on its board and its renown for massive modeling capacity, LTCM simply played the tail risk and failed spectacularly in 1998.

Timothy Geithner, then-CEO of the New York Federal Reserve Board (and current secretary of the treasury) organized a bailout by arm-twisting the too-big-to-fail banks and investment banks to socialize the loss by committing \$300 million each of their firms' capital to the bailout. Lehman Brothers, the weak sister at the time, was only asked to pony up \$100 million, and Bear Stearns, which was not exposed, notably refused. The CEOs, some of whom may have been conflicted as they had personally invested significant sums in LTCM, all agreed to contribute their independent stockholders' capital.

In the wake of the LTCM crisis, banks significantly raised haircuts and stopped financing much of their repo activity. This forced a widespread de-leveraging by hedge funds that depressed asset prices and slowed asset-backed securitization until significant de-leveraging had occurred. The Fed's role in the aftermath was to flood the market with liquidity and keep interest rates extremely low.

The LTCM bailout and subsequent comments about the Fed's role in the aftermath of a bubble created the perception of a "Greenspan put," a bailout in the event of trouble that many believe exacerbated subsequent moral hazard.³⁶ Essentially, the Fed thought that an immediate hit to the banking system's capital was better than the prolonged uncertainty of a bankruptcy proceeding.³⁷ The tradeoff is the long-term economic cost of subsequent moral hazard behavior engendered by a short-term bailout. The bailout of LTCM arguably prevented a more systemic problem to avoid the economic consequences of the aftermath, but whether the precedent was worth the moral hazard created is questionable.

Mission Regulation Competes with Prudential Regulation

Current social lending goals for housing in the United States date back to the Home Mortgage Disclosure Act (HMDA) of 1975 and the Community Reinvestment Act (CRA) of 1977. Purportedly, the HMDA and CRA reflected a concern that bankers were not lending enough in their local communities or neighborhoods, which were typically characterized by minority ethnic and/or racial concentrations. Lending goals for Fannie Mae were introduced about the same time and ostensibly for the same purpose.

Economists have provided *ex post* market failure rationalizations for housing goals focused primarily on racial discrimination. Because older inner city neighborhoods often had a much higher percentage of African Americans—and later, other racial minorities—the implicit concern of HMDA and CRA was with illegal racial discrimination. The theory behind these goals was that there was a sufficient supply of creditworthy borrowers in those areas, but that lenders were blinded by prejudice and would not extend credit. Because incomes were also generally much lower in older inner city neighborhoods and the risk of a systemic decline in property values much greater, it was generally difficult to distinguish illegal racial profiling from legal credit discrimination.

HUD was charged with enforcing laws prohibiting racial discrimination in housing finance. Moreover, while the government's direct lending programs had been scaled back to avoid a budget impact, HUD had the capacity to direct credit to worthy borrowers who were discriminated against through FHA, which it also administers. In this case, pricing additional credit risk was both politically problematic and actuarially difficult because adverse selection was a major obstacle to raising borrower rates to cover the extra risk.

Lending goals became really serious in 1992 with the adoption of the (ironically named) Federal Housing Enterprises Financial Safety and Soundness Act. Part 2, Subpart B of the act required Fannie and Freddie “to provide ongoing assistance to the secondary market

for residential mortgages (including activities relating to mortgages on housing for low- and moderate-income families involving a reasonable economic return that may be less than the return earned on other activities).” Politicians and bureaucrats understood that it might not be prejudice, but a sound appraisal of risks, that limited such lending, and thus the bill’s language, “may be less than the return earned on other activities,” implies an acknowledgement of higher credit losses not actuarially paid for with higher mortgage coupons.

In 1994 President Bill Clinton directed HUD to boost the homeownership rate to an “all time high by the end of the century,” and HUD secretary Henry Cisneros set a goal of a 70 percent homeownership rate in the National Homeownership Strategy of 1995. The U.S. homeownership rate had stabilized at about 65 percent for the prior two decades in spite of the tremendous expansion of the GSEs. That is, even with mortgage credit generally available with low or no down payment and often underwritten at a below-market teaser interest rate and with no evidence of qualified borrowers systematically being denied credit, the homeownership rate had not risen.

The origin of these lending goals—essentially quotas—was the belief that federal subsidies (deposit insurance and GSE status) were a benefit for which a political price could be extracted. If banks or GSEs were forced to lend at rates below actuarially sound levels—or, more likely, make essentially uninsurable loans—then someone had to subsidize the losses: probably shareholders. But these costs could also be passed on to more qualified borrowers or hidden in higher deposit insurance premiums, artificially low deposit rates, potential taxpayer bailouts, or by other means of opaquely providing subsidies through finance.

The problem was not so much with the morality of extracting a “user fee” for federal sponsorship as it was the distortions and conflict it created for regulators that could compromise their primary prudential mission. Community groups like ACORN used their leverage with bureaucrats to extort subsidies in return for discretionary approval of branch-

If banks or GSEs were forced to lend at rates below actuarially sound levels, then someone had to subsidize the losses.

ing and merger applications, which was particularly ironic because just such restrictions had led to deposit insurance and prudential regulation in the 1930s. Reaching Cisneros's 70 percent target seemed to require major outreach and presumably large subsidies. HUD demanded the outreach by requiring that the GSEs direct at least 30 percent of their loan financing to at- or below-area median income households, but didn't request congressional appropriations to fund the subsidies.

Making the FDIC responsible for enforcing social goals at banks to extract rents was clearly in conflict with its primary mission of prudential regulation. The conflict was even greater at HUD. By 2000, given that HUD had directed the GSEs to increase outreach to 42 percent of their loan financing, it is hard to argue that the GSEs were just making mortgages "liquid." But the GSEs could only fund the implied subsidies by increasing risk, which was the responsibility of HUD as the prudential regulator to prevent. Making HUD—an agency with a social mission—responsible for prudential regulation as well as mission regulation was not only a conflict of interest, but signaled a clear political intent that the latter would eventually come to dominate.

Regulated Investors Fund the Subprime Lending Debacle

The Federal Reserve's loose money policy during the first half of the last decade allowed a credit boom to develop somewhere, and the GSEs helped channel it to housing. But a subprime lending bubble in the United States kept the housing boom going for about three additional years, from mid-2004 through mid-2007, and it is this bubble that caused the collapse of the global financial system. The conventional view is that unregulated private lenders financed weak or victimized borrowers, eventually dragging the GSEs down with them. The truth is that essentially the same investors that funded private label securitizers also funded GSE securities, and for essentially the same reasons.

Specifically, the investors' reasons for funding the GSEs were as follows:

1. Market discipline had long since been replaced by prudential regulation.
2. Prudential regulation conveyed agency status on the GSEs, essentially giving them too-big-to-fail status, and that status was extended to non-GSE investment grade private-label securitizers.
3. Prudential regulation was by now politically trumped by mission regulation, especially for the GSEs. Speculators—the last remaining source of market discipline—may have been able to prick the bubble several years earlier but for the continued bubble inflation provided by the GSEs.

Most subprime borrowers put in little or no cash.

The *Ex Ante* Credit Risk of Subprime Lending

Peter Wallison provides a detailed discussion of credit risks in subprime lending.³⁸ One stunning fact reveals much about the creditworthiness of subprime borrowers during this bubble: about one in five loans was delinquent within the first six months.³⁹

In spite of all the concern over predatory lending, most of the subprime borrowers had it pretty good. Most subprime borrowers put in little or no cash. Most couldn't afford the full monthly payment *ex ante*, obtaining a teaser rate for several years. Many early subprime borrowers were able to refinance, extending the teaser period for several more years. Some even got to take out cash when refinancing that they hadn't put in initially. Many lived rent-free for two, three, or even more years as foreclosures were delayed by political pressure. The *ex post* consequences suggest that borrowers and mortgage lenders were preying on investors, and indirectly on taxpayers.

Whether the borrowers were predators or prey, one thing is certain: historically they would have been required to get mortgage insurance, but not during the past decade. The market share of FHA was halved from 2001–03 to 2005–07, and the share of conventional high LTV loans insured privately likely fell even more. The reason for this is simple: most

Only the GSEs could have kept the bubble inflated.

subprime borrowers could not afford the normal insurance premium or, more importantly, qualify for insurance. Moreover, a much higher premium would have been required, but adverse selection would have been extreme. Put differently, the FHA and PMIs couldn't have insured these loans even if their risk models ignored the bubble in house prices, which they didn't, and as a consequence the vast majority of subprime loans were not insured, but were instead funded by nontraditional means.

In place of insurance was the credit risk evaluation of the SEC-designated NRSROs, which evaluated risks differently. Their ratings of second mortgage securities that substituted directly for insurance proved to be most instrumental in obtaining funding. These ratings proved wildly optimistic for two reasons. First, the rating agencies treated the first mortgages on homes backed by second mortgages the same as if they had cash down payments or private mortgage insurance, even though they had default rates that were approximately five times greater.⁴⁰ Second, they rated pools of second mortgages as if they were home equity loans. Home equity loans became popular after the interest deduction was removed for consumer credit in the 1980s, and the default experience had been good because house prices kept rising. But this was not the case with the "piggyback" second mortgages that were replacing private mortgage insurance. Nevertheless, these piggyback seconds were subsequently securitized with almost as much leverage as the first mortgages.⁴¹ The excessively favorable ratings resulted in much less capital than regulated mortgage insurers were required to maintain to cover the same risk.

The conventional interpretation is that the credit rating agency models were seriously flawed, but it enabled the agencies that created them to make more profit in the last decade than in the previous century, mostly by rating private-label securities.⁴² Having granted the agencies an incredibly valuable franchise, the SEC did nothing to limit the exploitation of this franchise or to regulate the adequacy of their ratings. Bypassing the mortgage insurers was a necessary condition for the subprime lending

debacle. Mission regulation compromised prudential regulators by enabling origination of junk mortgages, and SEC regulations regarding the credit raters enabled the junk to be financed.

Leverage Ratios and Regulatory Arbitrage

Portfolio lenders subject to market discipline would face the same limitations as mortgage insurers because the amount of leverage that markets would allow for subprime credit risk would be comparable to that of a finance company—maybe 4:1—and the underlying loans could not earn the required expected return on equity. Prudential regulators charged with mitigating moral hazard should have substantially increased the risk-based required capital levels to reflect this risk. Had they done so, equity investors in private-label securities would not have put up the financing because of the insufficient expected return. Ginnie Mae doesn't require equity, but the FHA's capital exposure would be transparent. GSE equity investors would face the same facts as private-label securities investors, but the existing investors may have put up additional equity if required to had they extrapolated their past returns to agency status without further due diligence. So only the GSEs could have kept the bubble inflated, but at least taxpayer losses would have been lower with higher capital requirements. In any event, all prudential regulators did the exact opposite, and in the case of the GSEs this reflected the explicit political recognition that the higher cost of capital would preclude pursuit of their political quotas.

The GSEs' regulator, the Office of Federal Housing Enterprise Oversight, required Fannie and Freddie to hold a mere 2.5 percent capital against their debt-funded portfolio of whole loans and only 0.45 percent capital for the MBS-funded portfolio. Fannie and Freddie's average capital ratio for combined MBS and debt-funded assets was 1 percent or less during the bubble, reflecting the debt/MBS mix. But this overstates required capital because the GSEs were allowed to hold half their "capital" in the form of preferred stock, for which the risk-based capital requirements that commercial banks applied was the same 1.6 percent as applied to agency MBS, with the rest funded by government-insured deposits. Hence, in the extreme, the government's

risk exposure could be almost double the stated book leverage. This potential 200:1 combined leverage is remarkable in that the historical rational for such extreme leverage—that the GSEs were only pool insurers back-stopping the PMIs—no longer applied.

Commercial bank risk-based capital regulations required only 8 percent total capital, with a 50 percent risk weighting for whole mortgage loans, a 20 percent risk weighting for AAA and AA securities, and a 100 percent risk weighting for BBB securities. But like the GSEs, banks could issue capital in the form of preferred stock, in this case trust preferred securities (TPS). TPS may reflect the extreme of regulatory arbitrage. Whereas they were considered debt for tax and accounting purposes, the Fed allowed TPS to account for as much as 25 percent of equity capital. Moreover, most of these securities were re-securitized in collateralized debt obligations

and issued as mostly investment grade debt that other banks could then purchase with a 20 percent risk weighting. This didn't result in net new capital going into the banking system, so the net capital backing government-insured deposits could be as little as 75 percent of the nominal risk-based capital, that is, only 1.2 percent for AAA/AA-rated securities. And commercial bank “sponsored” off-balance sheet Structured Investment Vehicles (SIVs) provided even more leverage, as they could purchase virtually any investment grade securities by holding a “cash reserve,” typically around 1 percent with a “put” back to the sponsoring commercial bank.

But the leverage of investment banks was even greater than that of commercial banks. Just prior to the housing market moving from boom to bubble, in April 2004, the SEC voted to designate the five biggest nonbank investment banks (Goldman Sachs, Morgan

The Role of the “Shadow Banking” System

Money market funds were initially invested entirely in liquid U.S. Treasury securities, reflecting the arbitrage between market rates on Treasury securities and regulated deposit rates while avoiding the minimum Treasury purchase requirements. This investment strategy eliminated the need for systemic liquidity support and confidence-building necessary for bank deposits. But when this source of arbitrage revenue was eliminated by deregulation, the funds eventually bought GSE securities and highly rated—typically AAA—commercial paper. Additionally, they relied on the theory that prices couldn't change very much based on credit deterioration over the short (typically 30 day) lifespan of these securities.

Money markets provide a convenience for retail and small institutional customers, but large corporate customers can fund and invest directly in the money markets, bypassing money market funds. Some operate on a significant cash deficit, relying on the ability to roll over outstanding paper. Others invest directly in commercial paper of other firms, investment banks, and SIVs of commercial banks. They may also make direct short-term repo loans collateralized by “liquid”—that is, marketable—securities to obtain higher yields than available on bank deposits. Hence the shadow banking market ultimately issued bank-like deposits and purchased bank-like investments, but without bank regulation and systemic liquidity support.

While it is true that the shadow banking market was not highly regulated prior to the financial crisis, that's not because of a lack of regulatory authority. Bank regulators had total authority to regulate SIVs and repo lending, and the SEC had regulatory authority over money market funds, corporate cash management, and investment banks. Regulators simply didn't understand the danger of muddling the concepts of marketability with liquidity and the consequent systemic risk when the shadow banking system directly or indirectly funded illiquid investments.

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The goal of private-label securitizers was to issue as much cheap investment grade debt as possible.

Stanley, Lehman Brothers, Merrill Lynch, and Bear Stearns) as “consolidated supervised entities” and lower their capital requirements⁴³ based on computer model simulations of the 1988 Basel I Capital Accords. As a consequence, investment banks had dramatically greater and less transparent leverage during this bubble than in prior decades, as stated book leverage ratios approximately doubled. By year-end 2007, the book capital-to-assets ratio for Goldman Sachs, Lehman Brothers, Merrill Lynch, and Morgan Stanley averaged 3.33 percent, far exceeding commercial bank leverage.⁴⁴ Moreover, as with the GSEs and commercial banks, book leverage ratios understated the extent of investment bank over-leveraging because various accounting gimmicks were used (e.g., Lehman’s 105 accounting rule that hid \$50 billion in assets) to move assets off their balance sheet. Unlike at GSEs and commercial banks, however, there was little if any supervision.

With negligible equity required—especially after employing regulatory arbitrage—the bubble was funded almost entirely with debt. This debt was implicitly backed by the government and priced accordingly. Investment grade private-label securities were priced just like GSE securities, based only on the NRSRO rating, but at a slightly higher cost (due to the AAA/A^A rating of agency status) regardless of the risk of the underlying loans or the amount of leverage employed. Hence the goal of private-label securitizers was to issue as much cheap investment grade debt as possible. This was accomplished mostly by negotiations with the credit rating agencies, which had every incentive to minimize equity because of interagency competition, but multiple layers of securitization were also employed using collateralized debt obligations to maximize the amount of investment grade debt in private-label securities. As a consequence, a typical private-label security may have financed a pool of subprime mortgages with 96 to 98 percent investment grade debt. This debt could then be funded directly by commercial banks, SIVs, or the GSEs, which had the same risk-based capital requirement of 1.6 percent for highly rated private-

label securities as commercial banks. Moreover, because the securities also qualified for GSE goals, it is not surprising that the GSEs funded 40 percent of subprime private-label securities.⁴⁵

Commercial banks had treated securitizations of portfolio assets in the mid-1990s as asset sales, selling the investment grade securities and holding only 8 percent capital against the retained interests. But bank regulators had eventually caught on to this re-re-leveraging and began requiring 100 percent capital against any retained interests, that is, the below investment grade securities. These interests subsequently got leveraged in various other ways. Some of these interests got sold to independent hedge funds, which could re-leverage them with commercial bank-financed repos. Hedge fund manager incentives were distorted by the ability to report huge profits from leverage and accelerated income while ignoring the tail risk of deferred losses. Moreover, hedge funds raised most of their additional funding during this period from state and local government retirement funds, many of which faced similarly distorted incentives as retirees got an extra month’s retirement for good investment performance, with taxpayers picking up the tab for bad performance.

Much of the rest was simply retained by the securitizing investment bank in their proprietary trading accounts or placed with “sponsored” hedge funds. The up-front profits from private-label securitization often equaled or exceeded the book value of the retained interests, making future losses a lesser concern. Moreover, the proprietary traders could earn annual cash bonuses of \$10 million or more even when the assets were subsequently found to be virtually worthless, without being required to disgorge past bonuses. Investment bank shareholders bore the loss but got the prior gains from underwriting and trading. In addition, it is noteworthy that when the investment banks needed more capital, they primarily sold shares to sovereign wealth funds, implicitly funded by foreign taxpayers.

The implicit rational for the extreme leverage of investment banks was their debt-

financed “liquid” dealer inventory. Some of it was in “marketable” securities, but it was mostly in private equity, real estate, and of course the “equity” of subprime private-label securities, the marketability of which proved to be ephemeral.

Agency Status and Mission Regulation Make the Crisis Global and Systemic

The subprime private-label securities and GSE funding mechanisms both employed extreme leverage, reflecting the unmitigated moral hazard, and both failed spectacularly. The essential difference is that the GSE prudential regulator at least seemed to recognize the problem and attempted to do something about it, but was explicitly stymied by politicians pursuing mission goals. The private-label securities subprime funding debacle could not have occurred without the extraordinary leverage of banks and investment banks. But off-balance sheet funding (SIVs) and all of the forms of regulatory arbitrage had precedents.⁴⁶ Moreover, the Fed knew full well after bailing out LTCM that the investment banks were essentially indistinguishable from commercial banks in creating systemic risk, but their capital requirements were a fraction of that of banks and their funding even shorter term. Mission regulation may explain some of the failure of prudential regulation by bank regulators and the SEC, but it is hard to avoid the conclusion that persistent prudential regulatory incompetence in mitigating regulatory arbitrage and moral hazard is inherent and systemic.

The only remaining source of market discipline on private-label securities was *ex post* speculation on the bubble bursting. While there were many optimistic and obviously unrealistic forecasts, there were also many astute observers who knew the market would eventually crash.⁴⁷ Betting against the U.S. government’s ultimate backing of GSE debt made no sense, so bearish speculators had to bet against private-label securities. The Asset-Backed Securities Index (ABX Index) was purportedly an index of trading prices for asset-backed subprime mortgage securities, but actual trading

was so thin that the index reflected the cost of credit default swaps (CDS) insurance. This insurance was in great demand because of the massive overexposure of investors to subprime MBS, and was in short supply after AIG backed out, so CDS prices skyrocketed during 2007 as the shorts used it to bet against the market. This drove the ABX Index down sharply all year. It was the “greedy Wall Street speculators”—hedge funds and investment banks, not regulators—who eventually performed the public service of pricking the mortgage bubble by shorting the subprime mortgage market, and politicians are still persecuting them for doing so.

Economists typically assume that whenever a price index drops so precipitously it reflects irrational panic-selling by investors. But there was no irrational exuberance turned to panic. Even the less astute fixed-income money managers were aware by 2006 of widespread criticisms of credit-rating agencies as reported in the financial trade press at the time and many simply stopped purchasing new issues. Investor perceptions of credit loss changed somewhat gradually over a three-year period from 2006 through 2008 when the rating downgrades swept the market. Speculation against the bubble began in 2005, so the speed of the decline simply reflected the fact that whatever had been levitating the subprime market for so long no longer was. The dramatic drop in the price, alternatively increasing yield, didn’t reflect a precipitous change of credit risk premium so much as the initial attempts to de-leverage in what was a very thin and extremely over-leveraged market. This spilled over into other markets as investors sold any marketable assets to get liquid.

Private-label securitization couldn’t levitate the market on its own because it generally required rising or, at worst, stable house prices to finance low or no down payment loans and to refinance teaser rate loans. GSE and private-label securities activity both levitated house prices for about a year, to mid-2005, financing the first year of the subprime lending bubble, but private-label securities activity then began to decline whereas GSE activity picked up.

Persistent prudential regulatory incompetence in mitigating regulatory arbitrage and moral hazard is inherent and systemic.

Politicians had set mission regulation up to trump prudential regulation.

This continued infusion of cash confounded the shorts and comforted the longs, prolonging the bet on the bubble. Unlike too-big-to-fail investment banks (for instance, Lehman), the GSEs were perceived to have no bankruptcy constraint. The longer the bubble remained inflated, the worse the crash would be.

Moral hazard explains why the GSEs funded the housing boom through the first half of the decade, but not why they funded the subprime lending bubble. Competition with the out-of-control private-label securities market proved fatal, but this can't be attributed to the profit motive or blamed just on GSE management.⁴⁸ The more likely explanation is that the mission regulator (HUD) added the requirement that they fund at least half the subprime market in 2005, which forced them into irrational competition with private-label securitizers that ironically helped keep the private-label securitization machine in operation.

But politicians had set mission regulation up to trump prudential regulation, which it clearly and transparently did. The FCIC report spends only 10 of its 662 pages addressing social-lending mandates, concluding that “these (housing) goals only contributed marginally to Fannie’s and Freddie’s participation in those (risky) mortgages.”⁴⁹ The Obama administration report also finds no fault with these goals, only shareholder reckless pursuit of profit in meeting them. But not all FCIC members agreed. Peter Wallison wrote an independent dissent to the FCIC report, arguing that these goals alone explain why the GSEs would reduce and virtually eliminate down payments—bypassing private mortgage insurance—and weaken underwriting guidelines. Chairman Angelides argues that this hypothesis “was analyzed and debunked by the FCIC report,”⁵⁰ but the rebuttal’s argument that the GSEs essentially funded the “crème de la crap” of the subprime loans is irrelevant.⁵¹

The crisis became global because international investors, including many central banks, treated GSE securities as equivalent to Treasuries. Many international banks also owned private-label securities, based entirely on the risk-based ratings, and international

bank regulators were clearly concerned with mark-downs of these securities as well. In the end, the private-label securities market was the triggering device detonating Lehman Brothers, and regulators couldn’t do much to avoid the capital impairment. But the GSEs had promoted their securities to investors globally for at least three decades, and the Chinese central bank alone held over a half trillion dollars in GSE securities in late 2008, making default unthinkable, so the GSEs probably contributed more to making the bubble global.

Policy Recommendations: “Re-regulation and De-regulation”

The Dodd-Frank Act requires a comprehensive extension of regulation across the financial markets, extending its reach to private equity, hedge funds, and derivatives while adding new agencies to “protect” consumers, mortgage borrowers, and investors. To mitigate systemic risk, it created the Financial Stability Oversight Council and the Office of Financial Research, both housed in the Treasury Department with the Treasury secretary as the council chairman. The act is fairly characterized as a lot more protection and a lot more regulation with the express purpose of mitigating systemic risk. This follows the pattern beginning a century ago with the 1913 Currency Act creating the Federal Reserve.

Bank transactions account protection got off on the wrong foot with deposit insurance, initially enacted as a politically expedient way of dealing with the risks of bank runs due to bank branching restrictions. But the bailout of the Reserve Primary Fund in 2008 predictably extended protection to money market funds and the rest of the shadow banking system. Federal protection of the payments mechanism is now comprehensive and permanent—as there is no turning back—and hence there is no role for market discipline. The logical implication is that the shadow banking system must be brought out of the shadows into the regulated banking system. For example, money market funds could continue, but should be limited to investing in short- and medium-term direct U.S. Treasury obligations.

But the Dodd-Frank Act virtually ignores money markets, focusing instead on investment markets. While the act's Financial Stability Oversight Council was hashing out bureaucratic turf during its first year, European banks invested over \$150 billion in Greek debt and \$2 trillion in the debt of Portugal, Ireland, Spain, and Italy due in part to their zero risk-based capital requirement. The U.S. money market funds simultaneously invested half their assets in the debt of European banks, apparently attracted by the yield premium reflecting the possibility of default. Now, either American taxpayers must subsidize Greek (and other European) profligacy or face another systemic financial system failure before recovering from the last one, and the U.S. Treasury is underwriting this moral hazard by planning the bailout.⁵² That was quick! And predictable!

The continued systemic regulatory failures through the fall of 2008 and the resulting moral hazard are the primary causes of the systemic financial crisis. The federal government and prudential regulators didn't lack regulatory authority to mitigate moral hazard, just the political will and technical competence to do so. As argued by economists at the Organization for Economic Co-operation and Development, "Indeed, if current policy responses increase moral hazard in the banking system, then future crises may not only be likely, but possibly larger than the current one."⁵³ Mitigating systemic risk requires nothing more or less than eliminating the potential for regulatory arbitrage and mitigating moral hazard.

When politicians and their regulators are faced with the choice between either a massive *ex post* bailout or a systemic financial system collapse, they will always chose the former. When sufficiently incompetent, they do both. Hence, regulation creates the same moral hazard as insurance and protection. Dodd-Frank seems destined to make moral hazard and systemic risk worse in three ways: First, the focus on consumer protection will likely further politicize U.S. mortgage markets. Second, the focus on regulating hedge funds and derivatives will diminish the last source

of mortgage market discipline. Third, housing the Financial Stability Oversight Council and Office of Financial Research in Treasury, with the Treasury secretary responsible for mitigating systemic risk, is particularly ironic, as excessive Treasury deficit financing has historically been the root cause of systemic financial crises.⁵⁴

The premise underlying current proposals for GSE hybrids—that government-sponsorship is necessary but can be limited, with moral hazard mitigated—is obviously false. Franklin D. Roosevelt first introduced the FHA as a limited, federally sponsored mutual insurance fund to stimulate housing. That spawned Fannie Mae and Ginnie Mae directly and Freddie Mac indirectly as a political compromise. None were or are backed today by the federal government, but you would never know it. Ginnie Mae is a direct government agency but can't guarantee credit risk. HUD officials claim that the FHA guarantee became "full faith and credit of the U.S. government" by virtue of the sentence in the 1968 Housing Act that requires the HUD secretary to require the FHA to maintain adequate reserves. With this line of reasoning, even the most arms-length federal sponsorship implies complete taxpayer backing. The alternative to a return to the status quo ante, which would virtually assure a future systemic failure, is reliance on an appropriately budgeted government housing bank, or a return to a market-based system.

Restoring market discipline won't be easy, as regulations attempting to define a relatively risk-free "Qualifying Residential Mortgage" have become politicized. Sen. Chris Dodd (D-CT), of course, is infamous for his rationale for voting against a proposal to require 5 percent down: "Passage of such a requirement would restrict home ownership to only those who can afford it." Repealing the NRSRO designations, altering bank risk-based capital rules for mortgage securities, eliminating GSEs, and implementing covered bond and asset-backed securities regulations that require a market determination and allocation of risks is the easy part because we have both U.S. historical and contemporary international experience as a

The federal government and prudential regulators didn't lack regulatory authority to mitigate moral hazard, just the political will and technical competence to do so.

guide. The hard parts are establishing capital requirements for the new enlarged and protected too-big-to-fail banks that will prevent arbitrage between capital market investments and portfolio lending and convincing investors that the current pervasive political risks to mortgage lending will be mitigated.

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