

Bank Regulation and Mortgage Market Reform

Dwight M. Jaffee
Booth Professor of Finance and Real Estate
Haas School of Business
University of California, Berkeley
jaffee@haas.berkeley.edu

Draft of March 8, 2011

1. Introduction

Two sets of major financial sector regulatory reform initiatives are currently unfolding in the United States (U.S.). One set concerns *bank regulatory reform* as embedded in the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) and the 2010 Basel III bank regulatory proposals.¹ While the Dodd-Frank Act and Basel III both include regulatory changes that affect mortgage market activity, neither addresses the regulatory adjustments that would be necessary for a fundamental U.S. mortgage market reform. The second financial sector regulatory reform concerns precisely a fundamental U.S. *mortgage market reform* as proposed in the recent U.S. Treasury/HUD (2011) White Paper. The White Paper recommends winding down Fannie Mae and Freddie Mac (the two large government sponsored enterprises (GSEs)) and proposes a set of options for redesigning the U.S. mortgage market to operate without them. The White Paper, however, provides no details concerning complementary bank regulatory reforms.

The result is that the bank regulation and mortgage market reforms are developing independently of one another. This is particularly striking since the subprime crisis, which is the

¹ The most complete discussion of the Basel proposals and their motivation is provided in Basel Committee on Banking Supervision (2009). Basel Committee on Banking Supervision (2010) reports the adoption of Basel III in September 2010.

major impetus for both reforms, was particularly damaging to the banking sector and financial markets precisely because the banking and mortgage market regulatory failures interacted. One quantitative measure of this interaction is that the cumulative losses on subprime mortgages are estimated at no more than \$1 trillion, whereas the total U.S. household sector net worth was over \$78 trillion at year-end 2007.² Thus the direct, one-time, estimated subprime loss of \$ 1 trillion equaled less than 1.3% of the U.S. net worth. While 1.3% is not a minor amount, fluctuations in the stock market frequently create far greater losses without threatening to bring down the U.S. banking or financial systems. A further factor is thus necessary to explain why the subprime mortgage losses had a systemic impact on the U.S. banking and financial systems. Most commentaries identify the high concentration of subprime mortgage risks within the U.S. banks and related financial firms as a primary culprit.³

It follows that the implementation of two reforms might be greatly enhanced by recognizing the important interactions of banking and mortgage market regulation. The goal of this paper is precisely to consider how the banking regulation and mortgage market reforms could and should interact. In doing so, I take as the starting point, on one hand, the bank regulation initiatives already present in the Dodd-Frank Act and the Basel III proposal, and on the other hand, the mortgage market reform principles presented in the Treasury/HUD (2011) White paper. I then consider what additional reform elements should be considered in view of the interaction of bank regulations and mortgage market activity.

² Estimates of the total expected losses from subprime loans from Moody's (2010) indicate distinctly less than \$1 trillion in losses. For example, applying Moody's cumulative projected loss rates on the subprime vintages 2005, 2006, and 2007 (18.7%, 38.4% and 48.1% respectively) to estimates of subprime mortgage originations for these years from Inside Mortgage Finance (2010), the estimated total losses are \$439 billion. Even if it is assumed that losses on ALT A and Home Equity loans equal the subprime losses, the \$1 trillion estimate still seems a reasonable upper bound. The U.S. household sector net worth of \$78 trillion is from the Federal Reserve (2010).

³ See Jaffee (2009) for a discussion of the various factors that interacted to create the systemic dimensions of the subprime crisis.

The paper is organized as follows. In Section (2), I provide an overview of the failed U.S. bank regulation system that was in place for approximately the last 20 years, and identify the key components of bank regulation that created the systemic dimensions of the subprime mortgage losses. In Section (3), I analyze the Treasury/HUD White Paper proposal and identify the primary issues it raises for regulatory reform. In Section (4), I compare securitization with covered bonds and analyzes the appropriate regulatory rules if mortgage-backed covered bonds are to become an important element of the U.S. mortgage markets. The positions I take on securitization and covered bonds are at variance with some parts of the Dodd-Frank Act and the current policy position of the Federal Deposit Insurance Corporation (FDIC). Section 5 summarizes the key components of bank regulation and mortgage market reform that must be in place if the full reform package is to be successful.

2. Bank Regulation

2.A The Failed Game Plan of U.S. Banking Regulation During the Subprime Crisis

I start with a brief survey of U.S. bank regulation as it existed leading up to and during the subprime crisis. Of course, in its totality U.S. bank regulation is very complex, including state and federal regulations, and a wide range of laws, regulations, and traditions, some going back to the founding of the Republic. In this survey, I greatly simplify and focus only on three elements that played a significant role in the subprime boom and crash: Prompt Corrective Action, Subordinated Debt, and Capital Requirements.

Prompt Corrective Action.⁴ The rules for prompt corrective action (PCA) were adopted, following the Savings and Loan (S&L) crisis of the 1980s, in the 1991 Federal Deposit Insurance Corporation Improvement Act (FDICIA). PCA was intended to avoid the *regulatory forbearance* that ended up expanding the government's losses from failed S&Ls. Regulatory forbearance arose as the policy of the Federal Home Loan Bank Board and the Federal Savings and Loan Insurance Corporation (FSLIC) to allow distressed S&Ls to continue to operate in the hope that financial market conditions would improve and the firms would return to a solvent state. Instead, many S&Ls gambled on very risky investments, hoping to save their institutions even if conditions did not improve, but the primary result was to create much greater losses, even though the market conditions did improve.

The PCA regulation requires the FDIC, when facing a distressed institution, to take prompt action to (i) require the institution to raise new equity capital, or (ii) find a sound merger partner, or (iii) close the bank or S&L. The policy appeared to be working well based on the very small number of bank and S&L failures throughout the 1990s and early 2000s. PCA, however, failed totally during the subprime crisis as the bank regulators concluded that none of the three options was feasible when a significant number of the country's largest banks simultaneously faced severe financial distress. In effect, the regulators added a fourth option to the list, namely for the U.S. Treasury and Federal Reserve to provide bank bailouts. In other words, too big to fail trumped PCA.⁵

⁴ U.S. Code, Title 12, Chapter § 1831o. Prompt corrective action.

⁵ William Black (2009), a law Professor at the University of Missouri and previously a S&L regulator, takes the bank regulators to task for their failure to uphold the PCA regulations during the subprime crisis.

Subordinated Debt.⁶ Bank regulators understood that PCA could not be successfully applied if the bank was already highly distressed when the regulators first recognized there was a problem. They thus developed a plan that had the major banks issuing subordinated debt, which was expected to be helpful in two ways.⁷ First, since investors in subordinated debt are, in effect, in a second-loss position just after a bank's equity holders, it was expected they would provide a valuable *market discipline* to curtail overly risky bank activities. Second, it was expected that falling prices, i.e. rising yields, on the subordinated debt would alert the regulators if the market perceived a decaying situation at the particular bank. It appears, however, that subordinated debt investors actually provided very little market discipline; indeed the subordinated debt investors were actually rewarded for their inaction as they became the primary beneficiaries of the government's too big to fail bailout policies.

Capital Requirements. Capital requirements have been the backbone of the regulation of U.S. banks for safety and soundness, based on a modified version of the Basel I capital requirement system that was initially created in 1988.⁸ The core of the Basel I system was a required, risk-based, capital ratio, which was set equal to 8.0% for U.S. banks.⁹ For this reason, the risk-weights applied to the different asset classes may have played a critical role in determining the assets that banks chose to hold on their balance sheets.

⁶ See Van Der (2000) for a discussion of the market discipline benefits expected from subordinated debt.

⁷ Title I of the 1999 Gramm-Leach-Bliley Act instructed the Federal Reserve and Treasury to study the feasibility of using subordinated debt to enhance bank regulation.

⁸ The Basel regulatory consortium was established in 1974 by the central-bank governors of the Group of Ten (G-10) countries. Countries are represented by their central bank and also by authorities with bank supervisory responsibilities. The 1988 Accord is described Basel Committee on Banking Supervision (1998).

⁹ A 10% risk-based capital ratio was required for a bank to be designated as "well capitalized".

Table 1: Bank Capital Risk Weights on Mortgage and Mortgage-Related Securities ¹⁰		
Asset Class	Risk Weight	Capital/Asset Ratio (Based on 8% Requirement)
Whole Residential Home Mortgages	0.50	4%
Agency Debt and Agency MBS	0.20	1.6%
AAA /AA Securitization Tranche	0.20	1.6%
A Securitization Tranche	0.50	4%
BBB Securitization Tranche	1.00	8%
BB Securitization Tranche	2.00	16%
B and Below Securitization Tranche	Dollar for Dollar Capital	100%

Table 1 details the risk-based weights applied to home mortgages and mortgage-related securities. The 0.50 weight for whole residential home mortgages remains from the original 1988 Basel 1 requirements. The remaining entries refer to securities from government agencies or securitizations with a public rating; these weights have been in effect since January 1, 2002.¹⁰ The securitizations can be based on residential mortgages, commercial mortgages, other asset-backed securitizations, and collateralized debt obligations (CDOs). The lower risk weights on Agency securities (both debt and mortgage backed securities) and AAA/AA securitization tranche provided banks the opportunity to reduce their capital requirements by securitizing pools of whole mortgages into Agency or AAA/AA rated securitization MBS or CDOs. U.S. banks responded to this opportunity and accumulated large portfolios of these securities.

¹⁰ On November 29, 2001, the Federal Deposit Insurance Corporation, the Office of the Comptroller of the Currency, and the Federal Reserve, and the Office of Thrift Supervision published substantially identical final rules for new risk-based capital requirements that would apply to bank investments in Asset Backed Securities and Mortgage Backed Securities; see Federal Register, November 29, 2001 (Volume 66, Number 230), page 59613 to 59667 A more accessible description of these requirements is provided in Deloitte and Touche (2001).

Banks were also allowed to reduce their capital requirements by hedging their mortgage default risk with private mortgage insurance or credit default swaps CDS. Full regulatory credit was provided as long as the counterparty was itself rated AAA. Of course, a bank would weigh the benefits of lower capital requirements against the cost of the hedge. This arbitrage seems to have been generally profitable, since banks purchased substantial amounts of insurance from private mortgage insurers and credit default swaps from AAA financial service firms such as AIG.¹¹

Bank investments in agency securities, highly rated securitizations, and CDS hedges were at the core of the subprime crisis in several dimensions:

- 1) The large losses banks suffered directly on their mortgage and mortgage-related security positions created both bank failures and bank bailouts.
- 2) The threatened losses on bank GSE security positions, had the GSEs failed, was a major factor why the GSEs were bailed out.
- 3) The threatened losses from failed AIG CDS, had AIG failed, was a major factor why AIG was bailed out.

Thus, not only did the capital requirements fail to keep the banks solvent, they also provided the banks with a positive incentive to invest in GSE and AIG instruments that ultimately required the GSEs and AIG themselves to be bailed out. Of course, it can be countered that these capital requirement failings are more apparent with the benefit of hindsight. It can also be countered that a significant impetus was the overly optimistic ratings assigned to the mortgage-related securities by the rating agencies. My own view is that the bank regulators designed the capital requirement

¹¹ The arbitrage reached its zenith when the banks required the credit default swap counterparties, such as AIG, to collateralize the CDS obligation with lower-rated subprime tranche purchased from the hedging bank.

system based on ratings, so it was their responsibility to verify that a AAA MBS rating or a CDS hedge from a AAA-rated firm embedded at least as much capital as the bank was saving on its own account. In any case, no matter the level of responsibility one assigns to the bank regulators, it is apparent that the bank capital requirement system requires a fundamental redesign and recalibration.

2.B Bank Regulatory Reform with Regard to Mortgage Market Activity

I now survey the actions actually taken in the Dodd-Frank Act and Basel III proposal that have important implications for the mortgage market.

Basel III¹²

The primary focus of Basel III was to raise bank capital and related requirements in order to improve banking system safety. Principal actions in Basel III include:

- 1) Raise the Tier 1 capital requirements by 2.5 percentage points plus an additional procyclical component that can be reduced during periods of serious systemic events.
- 2) Require that only equity capital can satisfy the Tier 1 capital requirements
- 3) Introduce a leverage requirement that tier 1 capital equal at least 3% of total bank assets.¹³
- 4) Introduce a short-term liquidity requirement that short-term assets must at least equal short-term liabilities.
- 5) Introduce a long-term liquidity requirement (the “Net Stable Funding Ratio”) that, in effect requires a close matching in the duration of long-term liabilities and long-term assets.

It appears that most banks in most countries, including the U.S., will be able to meet the new quantitative capital requirements without serious difficulty. One facilitating factor is that many

¹² The discussion in this section is based in part on Jaffee and Walden (2010a and 2010b).

¹³ U.S. banks have long been subject to a 3% leverage requirement, so this not a new factor for them.

banks have already raised additional equity capital. A second facilitating factor is that the quantitative increases in the new requirements are relatively modest, reflecting a quite successful lobbying effort by the major banks.¹⁴ The cost, of course, is that Basel III will have limited effects in terms of reducing the systemic risks that in the banking sector.¹⁵

The primary mortgage market implications of Basel III arise from the Net Stable Funding Ratio that requires, for the first time, a duration balance between long-term assets and liabilities. The initial proposal raised serious concerns among certain European banks, since it appeared to require these banks to issue larger amounts of long-term covered bonds than they believed the capital markets could readily absorb. However, the final Basel III rules significantly reduced the quantitative goal, delayed its starting date, and provided the countries' central banks with significant flexibility to adjust the rule to local conditions. Thus, while the final rules will force banks to issue more, and longer maturity, covered bonds, the overall impact on the European banks and the covered bond markets is likely to be modest.

Dodd-Frank Act

The Dodd-Frank Act contains a complex set of regulatory initiatives, made all the more impenetrable because many of the specifics are left for regulatory discretion. Here I summarize only the primary mortgage market initiatives contained within the Act. Most of the mortgage market actions are contained in Title XIV - Mortgage Reform and Anti-Predatory Lending Act:

- Subtitles A to D enact a wide range of mortgage market reforms to prohibit predatory lending and other subprime lending mechanisms that are considered detrimental to consumer welfare. The focus is on the “nuts and bolts” of mortgage market lending, including proscribing certain actions of mortgage originators and brokers.

¹⁴ As one example, the European Covered Bond Council (2010, pp. 38-43) describes the progressive reductions in the Net Stable Funding Ratio that initially posed a serious threat to covered bond issuing banks.

¹⁵ The limited benefits of Basel III are emphasized in Admati et al. (2010) and Jaffee and Walden (2010a).

Other components expand on, or provide legal standing to, the Truth in Lending Act (TILA) regulatory revisions already created by the Federal Reserve (2008) in July 2008. Further, the ongoing regulatory power for TILA as well as the Home Ownership Protection Act (HOPEA) and the Real Estate Settlement Procedures Act (RESPA) is transferred to the newly created Consumer Financial Protection Bureau (CFPB).¹⁶ Not surprisingly, the CFPB has created mortgage industry concerns, since it is unclear how the Bureau will balance its charge of consumer protection with the practical realities of running a mortgage market.

The Act also creates a good faith responsibility for lenders to determine that a borrower has a reasonable possibility to repay the proposed mortgage loan, and imposes a significant liability when there is a failure to do so. Exemptions are allowed for “Qualified Mortgages” (QMs), and the CFPB is charged with the responsibility to determine the final QM definition.

- Subtitle E creates new requirements for mortgage servicers. Some of these reflect existing industry practice, but others do not. There is now a federal liability for failing to comply.
- Subtitle F creates much higher standards for home mortgage appraisals.
- Subtitle G charges HUD to develop further programs with regard to multifamily housing.
- Subtitle H commissions the GAO to study methods to reduce mortgage modification and foreclosure scams, and commissions other studies concerning diverse topics from defective drywall imports to legal assistance for foreclosure-related issues.

The other major mortgage market regulations of the Dodd-Frank Act arise in Title IX-Investor

Protections and Improvements to the Regulation of Securities:

- Subtitle C imposes new responsibility on the SEC to regulate the National Recognized Statistical Rating Organizations (NRSROs).
- Subtitle D imposes the risk-retention provision that requires the federal banking agencies and the SEC to issue rules to force securitizers to retain an economic interest of at least 5 percent of the credit risk on securitized mortgages. However, the law exempts “qualified residential mortgages” (QRMs) from the 5% risk retention requirement and regulators are charged with defining QRMs. There are also new rules to raise the standards for securitization disclosures and reporting, including loan level information and details concerning loan brokers and originators including their compensation.

¹⁶ The CFPB is itself created in Title X of the Dodd-Frank Act.

One must applaud the general goal of the Dodd-Frank Act to prohibit mechanisms that created and expanded predatory subprime lending. From the perspective of this paper, however, the benefit of requiring securitizers to retain 5% of the mortgage default risk is much less clear.

2.C Evaluating the Moral Hazard of Securitization

The Dodd-Frank Act 5% risk retention requirement is a response to a presumed moral hazard from securitization. FDIC Chairman Sheila Bair described the moral hazard claim very clearly:

“All along the chain of securitization—from originators, to securities underwriters and rating agencies to investor and regulators—insufficient attention was paid to both safety and sound and basic consumer protection. With each of these parties acting in its own best interest, the system as a whole lurched toward disaster.”

In my view, securitization cannot be described as a chain of inattention once it is recognized that the world’s largest and most sophisticated investors were the end of the line.¹⁷ Had these investors refused to buy the securities, the chain of securitization would have failed. Further, the securities were fully labeled as subprime, and the prospectus disclosures left no doubt about the loan quality in terms of FICO scores, loan to value ratios, and the like. The investors purchased the instruments because they felt the yields provided more than adequate compensation for the risk. The ultimate evidence against a moral hazard chain is that the same bank often represented both ends, first as originator and last as the final investor. In addition, requiring banks to retain 5% of the mortgage risk conflicts with the regulatory goal of greater bank safety. The retention requirement is also, effectively, a tax on mortgage securitization and it thereby creates an impediment to the GSE and mortgage market reform discussed in the next section.

¹⁷ See also Ambrose, Lacour-Little, and Sanders (2005) for empirical evidence against the claim of moral hazard.

3. The GSEs and Fundamental Mortgage Market Reform

This section begins by outlining the recent U.S. Treasury/HUD (2011) White Paper proposal to wind down Fannie Mae and Freddie Mac, and to replace them with a largely private mortgage market. It then draws out the regulatory implications of the proposal.

3.A The Treasury/HUD Mortgage Market Reform Proposal¹⁸

For almost 40 years, Fannie Mae and Freddie Mac dominated the U.S. mortgage market based on their status as government sponsored enterprises (GSEs). By 2008, however, the U.S. mortgage and housing markets had crashed, and the two GSEs survived only as the result of a government bailout and conservatorship. There is now a general consensus that the GSE model of a public/private hybrid is untenable: uncontrolled risk-taking is the unavoidable consequence of combining the private sector incentive to maximize profits with an implicit, or eventually explicit, government guarantee.¹⁹ In the end, the GSE shareholders and managers took the profits, and left U.S. taxpayers with losses that are estimated between \$200 and \$400 billion; see Government Accountability Office (2009). The Treasury/HUD (2011, p. 8) White Paper puts the issue succinctly:

Fannie Mae and Freddie Mac's profit-maximizing structure undermined their public mission. Fannie Mae and Freddie Mac's congressional charters require them to promote market stability and access to mortgage credit. But their private shareholder structure, coupled with a weak oversight regime, encouraged management to take on excessive risk in order to retain market share and maximize profits, jeopardizing their ability to support the mortgage market and leaving taxpayers to bear major losses. Their pursuit of profit leading up to the financial crisis caused them to fail when their broader public mandate to support the market was needed most.

¹⁸ See Jaffee (2011) for a mortgage complete discussion of the Treasury/HUD reform proposal.

¹⁹ The U.S. Treasury/HUD (2011) White Paper is unambiguous that the GSEs should be wound down. In the academic literature, Jaffee (2003) first demonstrated that the GSEs were expanding their interest rate risk in order to maximize profits. Although the GSE failure is commonly attributed to their losses on subprime loans, the proximate cause of their failure in September 2008 was actually their inability to roll over maturing debt. This problem would have been avoided had the GSEs matched the cash flow maturities of their assets and liabilities.

The overall Treasury/HUD proposal can be summarized in five points:

- 1) The proposal's main action is to wind down the GSEs by (i) reducing the conforming loan limits and (ii) raising the guarantees fees charged by the GSEs.²⁰ In particular, the White Paper proposes, as the first step, to allow the temporary increases in the limits to expire as scheduled on October 1, 2011. In my own earlier proposal, Jaffee (2010), I further advocated announcing a schedule of steady declines in the loan limits, perhaps \$100,000 a year, so they reach zero in about seven years, at which point the GSEs are effectively terminated. A steady decline has the further advantages that it is transparent and easy to legislate, it retains the GSE subsidy as long as possible for the smaller mortgages, and the private market can anticipate the precise time at which each market tier will be released from GSE crowding out.
- 2) A second component is to maintain the FHA in its traditional role as the lender for affordable mortgages for underserved borrowers. This contrasts with the current situation in which the FHA and the parallel GNMA program have been expanded to cover a wide range of emergency government mortgage lending and modification programs.
- 3) A third component is to limit the future role of the Federal Home Loan Banks (FHLBs) to provide support only for small- and medium-sized financial institutions and to restrict the overall size of their portfolios. Without such constraints, the FHLB system has become an untargeted and large-scale provider of subsidized funds to large mortgage lenders.
- 4) A fourth component is to endorse the Dodd-Frank Act's consumer protection provisions (as summarized in the previous section of this paper).
- 5) The fifth component develops three nested options for the long-term restructuring of the U.S. mortgage market without the GSEs:

²⁰ Glaeser and Jaffee (2006) were among the first to advocate winding down the GSEs by raising the guarantee fees.

- Option 1 provides a privatized system of housing finance with government insurance limited to the existing FHA and VA programs for targeted borrowers.
- Option 2 expands on option (1) to provide an additional government insurance mechanism that can be scaled up during times of financial crisis.
- Option 3 expands on option (2) by providing continuing government, catastrophic, reinsurance in support of even moderate-income borrowers.

The choice among these options will no doubt create the greatest debate, since it raises the question why a private mortgage market system alone cannot adequately provide for the mortgage needs of U.S. consumers. Jaffee (2011) makes the case that a private market system can successfully meet this test based on the evidence that Western European countries have operated at a performance level that equals or exceeds the U.S. mortgage market and with only minor government intervention. Lea (2010) using an alternative data source, draws similar conclusions for Canada, Australia, and New Zealand, as well as Europe. On the other hand, proposals for a variety of government mortgage insurance programs can be found in Acharya, Richardson Van Nieuwerburgh, and White (2011), the Center for American Progress (2010), Ellen, Tye, and Willis (2010), and Hancock and Passmore (2010).

3.B Implications of the Treasury/HUD White Paper Proposal

I now turn to the regulatory implications of the Treasury/HUD White Paper proposal. The immediate question is how will the U.S. mortgage market function without the GSEs. The answer, of course, will depend on the choice made among the three options for alternative levels of government mortgage insurance. In the following, I assume that only a modest degree of government mortgage insurance is adopted (as in the White Paper options 1 and 2), and focus on the required changes as the mortgage market is transformed from a GSE-dominated to a private-

sector-dominated system. The changes developed here will be moderated the greater the extent that new government insurance programs are also created. In the extreme case, where all conforming mortgages become government guaranteed, the changes in mortgage market activity will become more of form than substance, but at the cost that U.S. taxpayers will once again be backstopping the country's mortgage risk.²¹

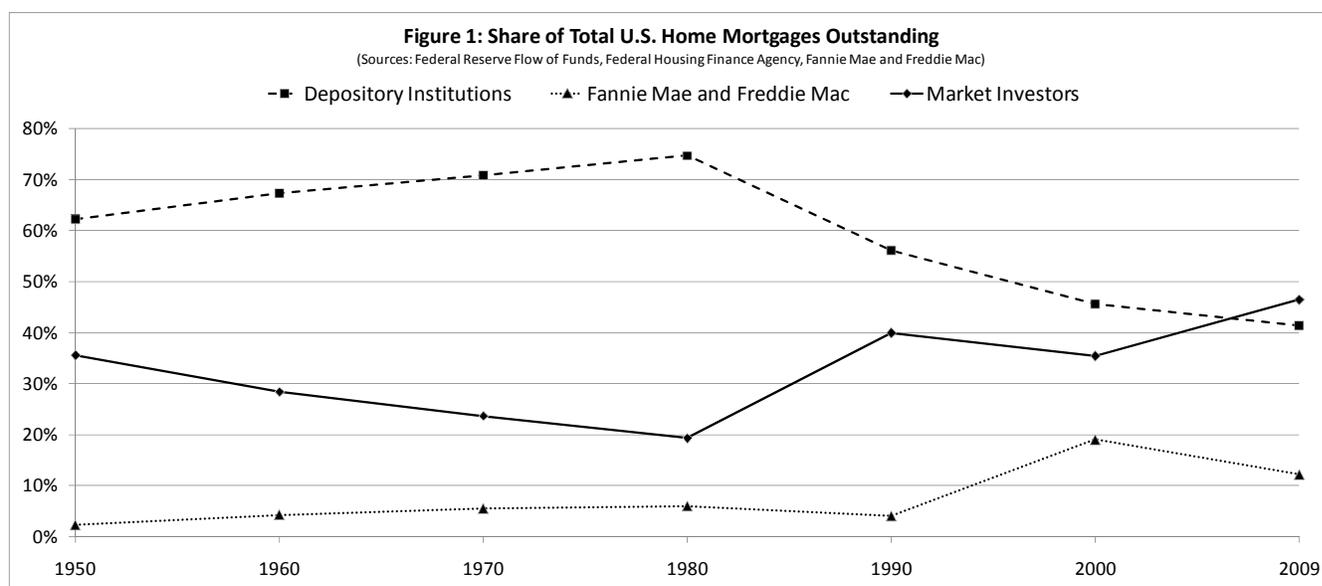
To analyze how the private sector will perform as a substitute for the GSEs, I consider in turn the three primary activities carried out in any mortgage market:

(i) Mortgage Originations. U.S. mortgages have always been entirely originated by private firms and banks, in good part because the GSEs (and FHA) have been prohibited from originating mortgages. This will surely continue in the absence of the GSEs.

(ii) Contract Design and Underwriting. The absence of GSEs will immediately allow a private market to provide a greatly expanded range of contract choices. The GSEs focused on creating a single standardized mortgage contract, the 30-year, fixed payment, fixed-rate, mortgage with no prepayment penalties and effectively no recourse to borrower assets beyond the housing collateral. The expanded private market mortgage menu will include choices such as fixed-rate versus adjustable-rate, prepayment penalties or not, recourse or not, and so on. A lower mortgage rate will result when the chosen contract benefits the lender, a higher rate will result when the choice benefits only the borrower. Of course, very complete and accessible disclosures of the terms and conditions of these mortgages is required if borrowers are to make informed decisions. The Dodd-Frank Act borrower protections, discussed in the previous section, should ensure that these disclosures are provided.

²¹ To be clear, even in this case, the change will be to the good, since the moral hazard, created by the GSEs functioning as private institutions but with a public guarantee, should be eliminated.

It can be further anticipated that the private market mortgages will be intrinsically safer, with default and foreclosure outcomes that more closely resemble the European markets than the recent U.S. subprime experience. Mortgage default is costly to all parties: lenders and investors face the costs of foreclosure and liquidation under distressed conditions, borrowers lose their homes and credit ratings, and the government is then called on to fix the problem. A key virtue of a private mortgage market is that both risky and safe mortgages will be originated, but the risky contracts will pay the full price of their risk, and the safe mortgages will realize the full benefits of their safety. Almost surely, the end result will be decidedly safer mortgages in the U.S.



(iii) Mortgage Investors. Figure (1) provides insight into how winding down the GSE will affect mortgage investors. The depository institution include commercial banks, savings and loan associations, and credit units. The values are shown at the end of each decade since 1950, ending with the most recent data in 2009. In addition, Figure (1) shows explicitly the share of home mortgages held by the GSEs and by market investors (with that group computed as the residual). The market investors include hedge funds, mutual funds, and foreign investors among other

capital market entities. As of 2009, the GSEs held approximately 12 percent of all U.S. whole home mortgages and MBS. Since the depository institutions and the market investors together hold 88 percent of all U.S. home mortgages, it would appear the 12% GSE share could be readily distributed between them. The solution is relatively easy because, although the GSEs have represented close to 50 percent of all U.S. mortgage market activity, most of this activity was carried out by creating MBS and selling them to the depositories and capital market investors.

At a deeper level, however, there is a more difficult issue: the market treated the GSE MBS as virtually risk-free based on the implicit government guarantee of GSE obligations. Without the GSEs, mortgage investors will directly face the default risk that was always embedded in the mortgages. This is clearly preferable relative to the GSE system in which the taxpayers were, unknowingly, guaranteeing the mortgages as they backstopped the GSEs. It is equally important to recognize that the quality of the mortgages will rise: as already noted, there are strong incentives for a private market system to create decidedly safer mortgages precisely because the investors directly face the default risks. And this outcome is confirmed by the high degree of mortgage safety achieved by virtually every other developed country in the world.

4. Securitization Versus Covered Bonds

The interaction between banking and mortgage market reform arises primarily from the fact that eliminating the GSEs will expand the mortgage market activity of the banks in two dimensions.²² First, the banks must expand their home mortgage holdings as they take up their part of the 12% market share no longer held by the GSEs. Second, capital market investors will be more vigilant concerning the default risks embedded in the mortgage securities, and the

²² From this point on, the text uses the term “banks” to refer to all depository institutions that originate or hold mortgages, that is, commercial banks, savings and loan associations, and thrift institutions.

banks, as the primary U.S. mortgage originators, will be forced to allocate more resources to the design, pricing, and investment attributes of the new mortgage contracts.

Looking more closely, banks have three options once they have originated a home mortgage:

- i) hold the mortgage in portfolio based on deposit funding,
- ii) hold the mortgage in portfolio based on covered bond funding, and
- iii) securitize the mortgages and sell them to third-party investors.

The choice among these three options will depend on the cost and benefit of each channel, including the incentives created by the bank regulatory system. Further insight into this decision requires an understanding of the factors that distinguish covered bonds and securitization.

Covered bonds and securitization are two alternative financial instruments that achieve the same ultimate goal, namely to allow capital market investors to fund large pools of home mortgages. The primary difference is that securitization allows a bank to carry out a true sale of its mortgages, while covered bonds are secured debt backed by mortgage collateral that remains on the balance sheet of the issuing bank.²³ Bank securitization is dominant in the U.S. mortgage markets, while covered bonds dominate in most European mortgage markets. The following analysis draws out the distinctive features of the two instruments in order to understand why the two regions have differed so sharply in the instrument that dominates their mortgage markets.

²³ European covered bonds are also issued based on local government loans as the collateral. The text focuses on the mortgage-backed bonds, but the case of municipal bond collateral is discussed briefly.

4.A Structural Features of European Covered Bonds

The European Covered Bond Council (ECBC) succinctly lists four essential features of covered bonds:²⁴

- 1) The bond is issued by—or bondholders otherwise have full recourse to—a credit institution which is subject to public supervision and regulation;
- 2) Bondholders have a claim against a cover pool of financial assets in priority to the unsecured creditors of the credit institution;
- 3) The credit institution has the ongoing obligation to maintain sufficient assets in the cover pool to satisfy the claims of covered bondholders at all times;
- 4) The obligations of the credit institution in respect of the cover pool are supervised by public or other independent bodies.

Although not list here, over-collateralization is also a very common and important feature of European covered bonds. Among AAA-rated European covered bonds, the average over-collateralization was 18.3% as of May 2010. Further, among the 110 publicly rated European covered bonds, 98 were rated AAA at the end of May 2010. As a result, at least in stable financial markets, covered bond yields are often little more than 20 basis points above the yields on the sovereign debt of the same country.

The Basel regulations reinforce the high underwriting standard required of mortgages that serve as collateral for covered bonds. For one thing, Basel III requires that covered bonds be rated at least AA if they are to count fully toward meeting the new Net Stable Funding Ratio. In

²⁴ See web page titled “Four Essential Features of Covered Bonds,” available at: <http://ecbc.hypo.org/Content/Default.asp?PageID=367> . The formal basis of covered bond is based on Article 52 (4) of the Directive 2009/65/EC of the European Parliament and of the Council of July 13, 2009 for undertakings for collective investment in transferable securities (UCITS).

addition, the Basel Committee on Banking Supervision earlier issued a Capital Requirement Directive (CRD) regarding covered bonds and it was official adopted by the European Council adopted on June 7, 2006. The CRD set further requirements for the high underwriting standards that mortgages must meet if they are to provide the collateral for covered bonds.²⁵

4.C Structural Features of U.S. Residential Mortgage-Backed Securitization

The corresponding features of U.S. residential MBS can be readily summarized:

- 1) The mortgage pools underlying a securitization are generally transferred to a special purpose vehicle (SPV), where the SPV is explicitly off the balance sheet of the originating entity.²⁶
- 2) The transfer of the mortgage pool from the originator to the SPV is a true sale, and the SPV is typically organized to be bankruptcy remote from the originator. Investors in a securitization thus generally look only to the mortgage pool for the payment of interest and principal. The investors have no further remedy when defaults in the mortgage pool create a shortfall in the receipt of interest and principal.²⁷
- 3) Almost all private label securitizations (PLS)—securitizations without government or GSE guarantees-- are created as structured instruments, where the junior tranche are subordinate to the senior tranche. The subordination structure allows the more senior tranche to obtain high credit ratings even in the absence of a government guarantee.²⁸

²⁵ The CRD is discussed at length in Chapter 2.3 of the European Covered Bond Council (2010).

²⁶ The mortgage pools that underlie securitizations may be created by either bank or non-bank originators. This contrasts sharply with the mortgage pools underlying covered bonds.

²⁷ To be sure, third party protection, such as private mortgage insurance, may provide compensation to investors.

²⁸ The SPVs that hold the mortgage pools must generally be tax-free conduits. Otherwise, if securitization introduces an additional layer of taxation, this will generally be an economic show-stopper for the transaction. Tax-free conduit status, however, imposes responsibility on the SPV, most importantly that it not allow active management. In addition, multi-class securitizations faced additional scrutiny, and must abide by the Real Estate Mortgage Investment Conduit (REMIC) act in order to retain their tax-advantaged status.

4) Since securitized mortgage pools are placed in an off-balance sheet SPV, the Basel capital requirements have no application; indeed, a primary motivation of securitization is to avoid the capital requirements. However, the Dodd-Frank Act 5% risk retention requirement will deter securitization unless the mortgages obtain the QRM exemption.

4.C The Basic Economics of Covered Bonds versus Securitization

The structural and legal features of covered bonds versus securitization have an immediate and dominant implication for the quality of the mortgages that can be funded through the two instruments. A bank issuing a covered bond generally applies only the highest quality mortgage collateral. As we have seen, high-quality mortgage collateral is generally required by EU, Basel Committee on Banking Supervision, and individual country rules and regulations. It is also confirmed by the AAA or AA ratings obtained by almost all European covered bonds. Finally, since covered bonds are a single-class instrument, they will provide a low-cost channel to capital market investors only as long as those investors consider the default risk on the bonds to be negligible.

In contrast, the mortgages backing private label securitizations in the U.S.—even putting aside the excesses of subprime lending—generally embed a substantially higher default risk. The tranche structure that is fundamental to these securitizations allows the default risk to be efficiently managed, with the AAA and AA tranche facing little or no default risk, while the mezzanine and equity tranche face the risk quite directly.

The simple and direct implication is that the choice between covered bonds and securitization as the channel connecting lenders and the capital markets is fundamentally determined by the quality of the mortgage collateral. High quality mortgages allow covered bonds to be used, higher-risk mortgages require securitization.

4.D The Applicability of Covered Bonds to U.S. Mortgage Markets

While it is common to associate covered bonds primarily with Western European mortgage markets, it is often not recognized that the Agency debt issued by the GSEs and Federal Home Loan Banks, to fund their on-balance sheet mortgage portfolios and mortgage-backed lending, are essentially covered bonds. As a result of the implicit, and now explicit, government guarantee, their bond ratings exceed even the AAA rating common to most European covered bonds. Taken together, at year-end 2009, the debt issues of the GSEs and FHLBs totaled just under \$2.5 trillion, which is to say 22.9 % of the total \$10.9 trillion in outstanding home mortgages.²⁹ As it happens, this even slightly exceeds the 20% of Western European mortgages that are funded with covered bonds. The key conclusion is that U.S. bank issued covered bonds could serve as a direct replacement for the covered bond channel between mortgage lenders and capital market investors that has heretofore been provided by the GSEs and FHLBs.

Serious attention is now being paid to promoting covered bonds in the U.S.³⁰ In July 2008, the FDIC (2008) published its official Covered Bond Policy Statement, setting the procedures under which it would allow U.S. insured banks to issue covered bonds. The process is relatively cumbersome, and only three bonds have been issued to date.³¹ In particular, further expansion is restricted by the FDIC requirement that covered bonds represent no more than 4 percent of an issuer's total liabilities. This restriction reflects the FDIC's concern that large-scale covered bond

²⁹ See FHFA (2010) for GSE debt and the Federal Home Loan Bank Office of Finance at http://www.fhfb-of.com/ofweb_userWeb/pageBuilder/debt-statistics-61

³⁰ Sabine Winkler (2010) provides an excellent summary of the legislative and regulatory proposals that are in process and the factors that have impeded their adoption.

³¹ Two of the bonds were issued by Bank of America, and one was issued by Washington Mutual; the latter was accepted by J.P. Morgan Chase when it took over Washington Mutual. The bonds have remained fully current. Their prices declined in the aftermath of the subprime crisis but have now rather fully recovered.

issues could leave it with a failing bank where most of the bank assets were already claimed as collateral backing the secured covered bonds. Following the FDIC policy statement, the U.S. Treasury (2008) issues its own “Best Practices Guide” to promote the development of a covered bond market in the U.S. The regulatory statements from the FDIC and Treasury, however, have not created an adequate impetus for the development of a significant covered bond market in the U.S. and it appears Congressional action will be required. This was initiated in March 2010 when Representative Scott Garrett introduced his Covered Bond Act of 2010. Representative Garrett is now Chairman of the House Financial Services Subcommittee on Capital Markets and GSEs, and further action on the bill is likely. While a covered bond clause was considered for the Dodd-Frank Act, it did not make it into the final legislation.

V. Summary and Conclusions

The paper has developed the case fundamental mortgage reform in the U.S. will reflect three primary changes from the existing GSE-dominated system:

- 1) A primarily private mortgage market will create incentives to originate decidedly safer mortgages than has been the case.
- 2) A significant proportion of these mortgages will be retained by depository lenders and funded with either deposits or covered bonds.
- 3) Mortgage pools of riskier mortgage will continue to securitized.

These mortgage market changes require three corresponding changes in banking regulation:

- 1) Bank regulator must recognize that a greater proportion of U.S. mortgage risk is likely to be held by banks, and the regulators must become more adept at evaluating the associated risks.

- 2) Legislation allowing banks to issue covered bonds under conditions that are comparable to those that exist in Western Europe are essential to promote this link to capital market investors.
- 3) The risk-based bank capital regulations and regulatory oversight of these requirements must be more accurately related to the actual risk of the respective asset classes. In particular, if rating-based capital requirements and counterparty hair cuts are employed, then the bank regulators must confirm that the capital reflected in the rated securities and counterparties at least equals the capital requirement from which the banks are being exempted.

References

- Acharya, Viral, Matthew Richardson, Stijn Van Nieuwerburgh, and Lawrence J. White (2011), Guaranteed to Fail, forthcoming Princeton University Press.
- Admati, Anat, Peter DeMarzo, Martin Hellwig, and Paul Pfleiderer (2010), “Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Expensive,” Working Paper No. 2065, Stanford Graduate School of Business.
- Ambrose, Brent, Michael Lacour-Little, and Anthony Sanders (2005), “Does Regulatory Capital Arbitrage, Reputation, or Asymmetric Information Drive Securitization,” Journal of Financial Services Research, 28:1 2/3 113-133.
- Basel Committee on Banking Supervision (1998), “International Convergence of Capital Measurement and Capital Standards,” July 1998
- Basel Committee on Banking Supervision (2009), “Strengthening the resilience of the banking sector,” Consultative Document, December, 2009.
- Basel Committee on Banking Supervision (2010), “Group of Governors and Heads of Supervision announces higher global minimum capital standards,” Press release, September 12, 2010.
- Black, William (2009), ”William Black on the Prompt Corrective Action Law”, Bill Moyers Journal/09/04, available at http://www.pbs.org/moyers/journal/blog/2009/04/william_k_black_on_the_prompt.html .
- Center for American Progress (2010), A Responsible Secondary Market System for Housing Finance,” available at: http://www.americanprogress.org/issues/2010/09/pdf/housing_finance_slides.pdf
- Deloitte and Touche (2001), “U.S Banking Agencies Approve Final Role on Recourse and Residuals” Speaking of Securitization,” Volume 6, No. 4, December 5, 2001.
- Ellen, Ingrid Gould, John Napier Tye, and Mark A. Willis (2010), “Improving U.S. Housing Finance through Reform of Fannie and Freddie Mac, Furman Center for Real Estate and Urban Policy, New York University, available at: http://furmancenter.org/files/publications/Improving_US_Housing_Finance_Fannie_Mae_Freddie_Mac_9_8_10.pdf
- European Covered Bond Council (2010), “European Covered Bond Fact Book, September 2010.
- European Mortgage Federation (2010), Hypostat 2009.

Federal Deposit Insurance Corporation (2010), "Statements of Policy, Covered Bond Policy Statement, 73 Fed. Reg/ 43754, July 28, 2008.

Federal Housing Finance Agency (2010), Report to Congress 2010.

Federal Reserve (2008), "Highlights of Final Rule Amending Home Mortgage Provisions of Regulation Z (Truth in Lending)," release of July 14, 2008, available at: <http://www.federalreserve.gov/newsevents/press/bcreg/regz20080714.htm>

Federal Reserve (2010), Flow of Funds Accounts of the United States, 2005-2009.
Inside Mortgage Finance (2010), "Mortgage Origination by Product," Volume 27, Number 45, November 23.

Glaeser, Edward and Dwight Jaffee (2006), "What to Do About Fannie and Freddie," Economists' Voice, available at: www.bepress.com/ev, September 2006.

Government Accountability Office (2009), "Fannie Mae and Freddie Mac: Analysis of Options for Revising the Housing Enterprises' Long-Term Structures," Report 09-782.

Hancock, Diana and Wayne Passmore (2010), "An Analysis of Government Guarantees and the Functioning of Asset-Backed Securities Markets," Finance and Economics Discussion Series No. 2010-46, Federal Reserve Board.

Inside Mortgage Finance (2010), "Mortgage Originations Surge in Third Quarter," Inside Mortgage Finance, Volume 27, Number 41, October 28, 2010.

Jaffee, Dwight (2003), "The Interest Rate Risk of Fannie Mae and Freddie Mac," Journal of Financial Services Research, Vol. 24, No. 1.

Jaffee, Dwight (2009), "The U.S. Subprime Mortgage Crisis: Issues Raised and Lessons Learned," in Michael Spence, Patricia Clarke Annez, and Robert M. Buckley editors, Urbanization and Growth, The World Bank.

Jaffee, Dwight (2010), "How to Privatize the Mortgage Market," Wall Street Journal, October 25, 2010.

Jaffee, Dwight (2011), "Reforming the U.S. Mortgage Market Through Private Market Incentives," Fisher Center Working Paper, January 31, 2011, available at: <http://escholarship.org/uc/item/4x0357n0>

Jaffee, Dwight and Johan Walden (2010a), "The Impact of Basel III and Solvency 2 on Swedish Banks and Insurers- An Equilibrium Analysis, Swedish Financial Market Committee Report No. 3, available at: <http://www.sou.gov.se/fmk/pdf/Rapport%203%20engelsk%20ny.pdf>

Jaffee, Dwight and Johan Walden (2010b), “The Impact of Basel III and Solvency 2 on Swedish Banks and Insurers- Appendix, Swedish Financial Market Committee Report No. 3, available at: <http://www.sou.gov.se/fmk/pdf/20%20december%20fmk.pdf>

Lea, Michael (2010), “International Comparison of Mortgage Product Offerings,” Mortgage Bankers Association, September 2010, available at: http://www.housingamerica.org/RIHA/RIHA/Publications/74023_10122_Research_RIHA_Lea_Report.pdf

Moody’s Investors Services (2010), “Moody’s Updates Loss Projections for U.S. Subprime RMBS in 2005-2007, January 13, 2010

U.S. Treasury (2008), “Best Practices For Residential Covered Bonds,” July 2008.

U.S. Treasury/HUD (2011), “Reforming America’s Housing Finance Market: A Report To Congress”, February 2011/

Van Der, Mark (2000), “Subordinated Debt: A Capital Markets Approach to Bank Regulation,” Boston College Law Review, Volume 41, Issue 2, Number 2, Article 1.

Winkler, Sabine, “Chapter 3.29, United States,” in European Covered Bond Council (2010).