

Securitization and Community Lending: A Framework and Some Lessons from the Experience in the U.S. Mortgage Market

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The purpose of this article is to provide a framework for analyzing the development of securitization as a vehicle for funding community economic development (CED) loans. Broadly speaking, there are two models for funding assets: the portfolio lender model, which typically involves banks or other intermediaries originating and holding the loans and funding them mainly with debt, most often deposits, and the securitization model, which involves tapping bond markets for funds, for instance, by pooling loans and selling shares in the pools. The focus here is on broad issues of when securitization is likely to be the more economic form of funding, some specifics of how the funding might be structured, and an analysis of the experience in the U.S. mortgage market.

It is important to consider why securitization has dominated the “prime” mortgage market in the United States, while it has not been nearly so successful in other markets and other places, and whether this dominance provides a good model for CED loans. Securitization might not matter as much as is often thought, and it is not necessarily an especially good tool for funding CED loans. In particular, a reasonable way of posing the problem of which funding structure is best is that it can be defined by a trade-off between the advantages of securitization as a low-cost and elastic source of funds with the disadvantages of securitization due to information asymmetry between investors and lenders and the costs of setting up deals. A priori, the balance could go either way.

A Framework

Securitization has become an important part of the U.S. financial system. It is the process by which lenders raise money in capital markets by selling shares in pools of loans. At the end of 2002, the outstanding volume of mortgage- and asset-backed securities was close to \$6 trillion. Of this, over 80 percent was in the form of mortgage-backed securities. Credit cards and car loans, combined, were just over 10 percent.¹ Securitization is an important part of the system, but it has been largely confined to the mortgage market, particularly the “prime” market, which consists of relatively low-risk, single-family mortgages. This concentration in a single market is important, and it is important for reasons relevant to CED lending. Prime

¹ See Davidson et al. (2003).

mortgages are among the most transparent financial instruments in the system, particularly because of the collateral that supports them and the legal system that supports foreclosure. That is less true for CED loans. As I will discuss below, while there is no particular reason that any asset cannot be securitized, it is not an accident that high-quality mortgages are securitized more successfully than other assets. They suffer least from asymmetric information and small volume problems that can present important barriers to securitization.

The main advantage of securitization is that it can provide an elastic and low-cost source of funds, particularly for long-term fixed-rate assets. In contrast, traditional funding sources for banks, such as deposits, are generally not elastic in supply and have variable rates. As I will argue, in a perfect, frictionless world, different sources of funds would have the same cost in an “all-in” sense, after adjusting for the value of characteristics like embedded options, hedging cost, and loan term. The choice of funding vehicle (e.g., traditional bank via deposits vs. packaging and selling into the bond market) would not matter. This does not appear to be the case in the real world. There are many “frictions,” like asymmetric information, that make the choice important and make the public policy issue of barriers to securitization at least potentially important. To get a handle on this, it is best to begin with a very simple framework in which frictions are unimportant, and move from there to the real world by focusing on important frictions.

Modigliani-Miller

The point of departure is the much-celebrated “Modigliani-Miller Irrelevance Theorem” (henceforth MM) (see Modigliani and Miller 1958). Briefly, the theorem assumes perfectly competitive markets, no transaction costs, and widely agreed-on information. The liability structure of the firm is irrelevant; changing the way the firm finances its assets will not affect its “all-in” cost of funds because different liability strategies are simply different ways of rearranging the same cash flows from the firm’s assets. In a well-informed, competitive market with a perfectly elastic supply of funds, arbitrage will assure that all structures will be priced so that none has an overall advantage.

Taken literally, the theorem implies that while there are lots of possible institutional structures for funding mortgages, for example, and lots of liability structures within the institutional structures, which institutions and structures are chosen does not affect mortgage rates. A softer version of the theorem is that any advantages of different structures are likely to be small. Because of very elastic supply curves, small advantages of one source of funding (e.g., some sort of subsidy or slightly lower transaction costs) can lead to big effects on how the financing is done, but with small effects on borrower interest rates.

The MM Theorem is one of those ideas that seems obvious, but of course it does not hold true in the real world. Real markets are not perfect, though they are often rather good. Asymmetric information is often the rule rather than the exception. And transaction costs

matter. MM has been debated extensively in the economics and finance journals, but the theorem is not a bad first approximation. It makes us ask the right question: Why should we expect one institutional setup to be better than another at financing a particular set of cash flows when they all compete in the same overall financial system? In particular, it suggests that some justifications for particular structures, like “getting assets off balance sheet” or “the high cost of capital relative to debt” or “allowing banks to shed the risk of low downpayment loans” are wrong, or at least suspect, pending analysis of what part of MM is violated.

Much of the focus in studying MM has been on debt vs. equity funding. However, the securitization issue is less about debt-equity structure than it is about the structure of debt funding, particularly as it relates to institutions that typically use different types of debt funding. For instance, the most common type of debt funding for financial institutions is deposit funding by banks, but the important alternative, especially in U.S. mortgage markets, has been securitization, typically performed by the government-sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, or the government-owned Ginnie Mae (collectively, the “Agencies”). The starting point for our investigation, then, is to understand why there should be any difference between deposit funding and securitization.²

I. Community Development Lending

Public policy interest in CED lending has been alive, cyclically, at least since the Community Reinvestment Act of 1977. Here is a brief discussion of what it is and what characterizes CED loans.

What Is It?

Community economic development lending is not easy to define. Many CED loans are small business loans, and they are typically defined by lender and customer type rather than loan type. They are often supported by the federal government via a variety of grants, tax subsidies, and guarantees, which are typically “leveraged” with private funding. Community development lenders are generally small institutions, often not for profit, though they can also be commercial banks or work closely with commercial banks. Sometimes the loans are defined by specific tax benefits for which they are eligible or regions in which they operate.

The GAO (2003) study on barriers to securitizing community development lending defined CED loans by lender and customer: “Community and economic development (CED) lenders make loans to qualified businesses that are generally unable to obtain suitable financing from conventional private-sector sources.”³ The customers are typically low-to moderate-income borrowers with little experience or observable credit history, and the

² The issue of subsidy via guarantee is not touched on to any extent here. Both sources of funds, deposits and Agency liabilities, have implicit or explicit guarantees, and the question of which is more valuable (at the margin) is not clear.

³ GAO (2003) cites five major types of lending sources: Community Development Financial Institutions, Micro-lenders, Community Development Corporations, Revolving Loan Fund Lenders, Intermediate Relenders, 504 Certified Development Companies, HUD Section 108, and Community Development Block Grant Programs.

loans typically have one or more types of subsidy. Community development loans are often mortgages, that is, loans secured by real property, but they are also often ordinary business and other loans without property as security. According to the GAO, the loans are perceived as risky and requiring a fair number of resources devoted to monitoring and technical assistance.

Policy and History

The theoretical underpinnings for the public policy concern follow a line of literature associated with the classic Stiglitz and Weiss (1981) paper on asymmetric information as a source of market inefficiency, leading to “underserved” markets. In particular, Weber and Devaney (1998) argue that information asymmetries are larger for marginal borrowers in rural or inner-city geographies, and this causes underallocation to these areas. The asymmetric information here is between borrower and lender, rather than between lender and seller as discussed above, but it presents a similar problem. Lenders know a lot less about projects and collateral than borrowers know, which makes lending difficult. This in turn creates an asymmetry of information between the lender and the potential buyer of the loans because the lender is closer to the borrower and is likely to have better information than an outside buyer, putting the buyer at risk of being selected against.

Other policy issues revolve around externalities, such as that increased lending in certain geographies produces external benefits for those communities. These are reasons for subsidizing the loans, however. They are not directly relevant to the securitization issue.

While there has been some interest in, and some success in, securitizing CED loans, securitization has not been a major factor in CED lending. The GAO estimated that less than \$6.2 billion in nonfederally guaranteed loans was securitized from 1994 to 2001, and only \$22 billion in SBA guaranteed loans.⁴ In contrast, banks held around \$450 billion in small business loans in 2001. The leading firm that does securitization of community development loans is the Community Reinvestment Fund (<http://www.crfusa.com/>). It is a private nonprofit, and it has bought over \$300 million in loans.

Stylized Facts

In the GAO study, lenders cited several barriers to securitization. The key barriers were:

1. A lack of incentives for lenders to participate due to lack of knowledge of borrower demand.
2. A lack of capacity to securitize loans, due especially to small scale.
3. External requirements attached to funding sources (both statutory and programmatic).
4. Loans with below-market rates that would have to sell at a large discount.
5. A lack of lender standardization and performance information.
6. Mechanisms to support securitization, such as information links among capital

⁴ See GAO (2003) for a review of securitizations so far.

markets, lenders, and pool assemblers, are limited in number and capacity.

Taken together, these observations suggest that there are five major items that can be taken as basic “stylized facts” about CED loans. These “facts” are the focus of the analysis that follows:

1. There is a great deal of heterogeneity across CED programs and loan types.
2. Information about individual CED loans is poor and the loans are perceived as risky by investors.
3. Scale is small.
4. The loans require more work by lenders (technical assistance and servicing) than do most loans.
5. The loans may have to be sold at a discount to cover transaction costs and the present value of subsidies attached to the loans.

There has not been a lot of research in this area. The GAO (2003) could not get reliable estimates of the volume of CED loans, and there was little consistent overall performance data. Weber and Devaney (1998) look at rural vs. urban loans in the Lower Mississippi Delta Region and find some evidence of a dual system with less efficient lending in rural areas. DiPasquale and Cummings (1990) analyze barriers to securitizing low-income multifamily lending. A related area of research is that of “subprime” lending. Cutts and Van Order (2004) survey some of the economic issues in the area, and Straten and Yezer, eds., (a) and (b) are special issues of the *Journal of Real Estate Finance and Economics* devoted to the issue. Carr and Zhong, eds. (2002) is a volume of research on microlending.

Data and empirical work being scarce, the focus here is on first principles, taking the stylized facts above as given and analyzing the underlying economics of securitization and how it might be applied to CED loans. What follows is a discussion of U.S. experience, primarily in the mortgage market, and of the underlying economics that drives securitization, which will provide a framework for the discussion of CED loans.

II. Securitization Models

Securitization in the United States has been most successful in mortgage markets. Indeed, the structure of the U.S. mortgage market has changed dramatically in the last quarter century, largely because of the rise of securitization. This rise has come about primarily because of the standardization of mortgage-backed securities, brought on mainly by three secondary market agencies: Fannie Mae, Ginnie Mae, and Freddie Mac. Annual sales of mortgages to these three institutions have risen from under \$100 billion in 1980 to over \$2 trillion recently. They now own or are responsible for over half of the outstanding stock of single-family mortgages. This growth has been accompanied by a decline in the market share of savings and loans and banks.⁵

⁵ See Weicher (1999) for a discussion of some of the history of the secondary market. See also Frame and White (2005) and Van Order (2001).

Institutions and Instruments

The U.S. residential mortgage market is characterized by a rather unique set of financial institutions and instruments. What follows is a brief summary.

Fannie, Freddie, and Ginnie⁶

Fannie Mae, the oldest of the agencies, was established in the 1930s as a secondary market for newly created Federal Housing Administration (FHA) loans, which were insured by the government, but which had trouble gaining acceptance by investors during the Great Depression. Until the 1980s, it operated in some ways like a national savings and loan, a portfolio lender gathering funds by issuing its own short-term debt (rather than deposits) and buying mortgages that it held in portfolio. Because it held government-insured mortgages, it accepted almost no credit risk, but it was subject to considerable interest-rate risk. In 1968, it was restructured as a privately-owned, off-budget government-sponsored enterprise or “GSE,” and was allowed to buy “conventional” (non-government-insured) loans.

Ginnie Mae was responsible for developing the major innovation in secondary markets, the mortgage-backed security (MBS). The MBS issuer, typically a mortgage bank, passes the payments from a pool of mortgages (both principal and interest, net of its fee) through to the ultimate investors, who typically receive pro rata shares of the payments. The issuer also guarantees the payment of interest and principal even if the borrower defaults (the issuer is covered by the government insurance for almost all the foreclosure costs), and Ginnie Mae guarantees timely payment even if the issuer does not make the payments. Hence, its guarantee is on top of the federal insurance and the issuer’s guarantee. This has proven to be quite valuable in marketing government-insured loans. As with most pass-through securities, Ginnie Mae’s are subject to interest-rate risk.⁷

Freddie Mac was created in 1970 as a secondary market for savings and loans. At the time, it dealt only with savings and loans, while Fannie Mae dealt with mortgage banks. Today, both institutions deal with the same originators. Like Fannie Mae, Freddie Mac is a GSE, and it too is off budget. Freddie Mac initiated the first MBS program for conventional loans in 1971, while Fannie Mae began its conventional MBS program in 1981. The MBSs of both institutions are similar to Ginnie Mae’s in that both protect investors against credit risk but not interest-rate risk, though neither Fannie nor Freddie buys more than a small amount of federally insured mortgages, which almost always go into Ginnie Mae pools.

Because Ginnie Mae is on budget, its securities have a “full faith and credit” federal guarantee. In contrast, as GSEs, Freddie Mac and Fannie Mae are private corporations without an

⁶ Recent accounting problems at both Fannie Mae and Freddie Mac are not analyzed here for two reasons: One is that they involve somewhat arcane questions about accounting, economic vs. accounting income and hedge accounting that are far beyond the scope of this article and obviously are not applicable outside the United States. The other is that they have had little to do with or have little effect on the ways the companies operate or their economic function. (The author acknowledges being an extremely minor shareholder in one of the GSEs).

⁷ For more on mortgage-backed securities, see Fabozzi (2001), Havre (2001), and Hu (1997).

explicit guarantee, though they both have an “implicit” or “conjectured” guarantee because investors believe that if these institutions failed, the government would protect debt-holders, though it has no legal obligation to do so. This allows the GSEs to borrow money and sell mortgage-backed securities at more favorable rates than they would otherwise. Both are regulated by the Department of Housing and Urban Development for their public purpose missions and by the Office of Federal Housing Enterprise Oversight (OFHEO) for safety and soundness.⁸

Private-Label MBS

There is a growing “private label” MBS market that securitizes mortgages without using Fannie, Freddie, or Ginnie. This market operates mostly in areas not eligible for the Agencies, primarily loans with balances above the conforming loan limit (the maximum loan size eligible for purchase by Fannie and Freddie). It is about 10 percent to 20 percent of the market. Private-label securities resemble agency MBSs. However, the credit risk is typically managed by breaking pools into subordinated parts that take the default losses up to some amount (e.g., 5 percent of the pool balance) and senior parts that take the rest of the risk. This allows the bulk of the credit risk to be taken by the originator, or specialist, who has the best information about the risk. Senior parts (which typically have an AA or AAA rating) are open to a wide range of investors who do not want to manage the problems associated with mortgage credit risk. An alternate but less widely used credit enhancement tool is mortgage insurance on the pool, typically with limits on losses to the insurer. The existence of the private-label market provides some evidence that securitization can work even without government support. The senior/subordinate structure is also a popular way of securitizing commercial mortgages.

Another advantage that the agencies have, beyond their guarantees, is size and liquidity. Mortgage-backed securities and Agency debt trade in very large volume, second only to Treasuries. They are issued regularly, they have low transaction costs (low bid-ask spreads), and the setup costs have already been paid. This is less true of the private-label market.

Derivatives: CMOs

CMOs, or “collateralized mortgage obligations,” break MBS pools into “tranches” that pay out the pool’s cash flows in non pro rata ways.⁹ The reason for this is that many investors find straight pools awkward investments and might just want, for instance, the “short” part of the pool and might buy a tranche that receives the first of the principal payments. There are different ways of structuring CMOs. Many of the ways are attempts to sell parts of the pool that look like straight bonds by selling prepayment risk to other investors. CMOs are also a way of parceling out credit risk in different ways, for instance, by having senior and subordinated tranches.

⁸ While Fannie Mae and Freddie Mac are off-budget, there is a separate federal credit budget that does analyze their risks. See Budget of the United States, 1992.

⁹ CMO has become a sort of generic name for structuring pools. REMIC is a largely equivalent name. Much of the history of these has revolved around tax and accounting issues.

The Economics of Securitization

The economic issues revolve around the asymmetric information and transaction-cost problems. The following analysis focuses on types of structures and how they solve these problems.

Basic Securitization Models

There are two basic models of securitization:

Model 1: the MBS (Conduit/Mutual Fund) Model

The simplest model of securitization is the standard MBS model as developed by Ginnie Mae and pursued by Fannie, Freddie, and some private-label securitizers. It is set up like a mutual fund. Mortgages are sold to a Special Purpose Vehicle (SPV), which manages the cash flows. In the agency case, the Agencies guarantee timely payment; generally there is also some other form of credit enhancement. In this model, the securitization is set up as a conduit device for packaging securities to open up a new source of funds from the bond market. The conduit need not sell pro rata shares to investors. It can sell different parts to different investors, like the CMOs.

Model 2: the Bowie (Financial Intermediary) Model

In 1997, David Bowie raised \$55 million in the bond market by securitizing the future royalty income from twenty-five of his albums. This was not structured as a pass-through. It used an SPV as above, but investors did not get shares in the royalties; rather, they got a debt claim secured by the royalties. Royalty income is not especially transparent or stable, and bond market investors most likely would have felt they were at an informational disadvantage in holding straight shares. So the deal was structured by selling ten-year bonds with a fixed 7.9 percent rate. This approach is less like the conduit approach and more like the way a traditional intermediary works, by transforming messy assets into more transparent liabilities. Nonetheless, while it is a securitization, it looks like straight debt issued by a corporation whose assets are royalty rights. A version of this, used for some time by the Federal Home Loan Banks when they lend to banks, is to have borrowers issue debt that is collateralized by specific loans that remain on the on-balance sheet.

The two models have a lot in common: they both have to find a way of managing credit risk, either by having an agency take it, by having subordinated tranches take it, or by providing excess collateral. They also both tap the long-term bond market by putting the bond market investors down in the queue for credit risk so that they can get high (AA or AAA) bond ratings. The following discussion will focus on the MBS model because it has been most prominent in the United States. However, the discussion will return to the Bowie model in addressing alternative securitization structures. Indeed, it is a structure that is probably the more likely to succeed with CED loans.

Alternatives to Securitization

The main alternative to securitization is the portfolio lending of banks and savings and loans. Banks have a low-cost source of funds in the form of insured deposits, but that has not been as elastic a source of funds as the one coming from capital markets in general, which can be tapped quickly by the secondary market. As a result, banks sometimes have trouble raising money quickly, especially relative to the Agencies.

GSEs holding loans or pools of loans and funding the purchases with debt is similar to the portfolio lending model. However, they do not originate or service the loans, and they still have the problem of being selected against.

Unbundling and the Securitization Process

The traditional portfolio lender performs all aspects of the mortgage bundle. It originates the mortgage, services it, takes the risk of default (perhaps along with a private or government insurer), and raises money in the deposit market to fund it. The secondary market evolved by unbundling this package. The major contribution of Ginnie Mae, Fannie Mae, and Freddie Mac has been to facilitate the money-raising part of the bundle by taking on residual credit risk, and then packaging the mortgages so that they can be sold as relatively homogenous securities or financed with homogenous debt in the capital markets. This has allowed separation of the funding part of the bundle from the other three parts.

All four parts of the mortgage bundle can now be unbundled. Mortgage securitization typically has four major actors: (1) mortgage originators, who are large in number and sometimes small in scale, sell the loans themselves or act as agents for mortgage bankers or depositories, who in turn sell the loans;¹⁰ (2) mortgage servicers, who sell the mortgages into the secondary market and either keep the servicing or sell the servicing rights to other mortgage servicers; (3) secondary market institutions and mortgage insurers, who take on credit risk;¹¹ and (4) investors, who buy mortgage-backed securities or GSE debt. Indeed, the last function has become further unbundled with the advent of derivative securities (e.g., CMOs).

Principal-Agent Problems

Unbundling takes advantage of scale economies and division of labor and promotes competition among the suppliers of the various bundles, but it occurs with a cost. The cost is that the players that focus on one part of the bundle depend on players in the other parts of the unbundling process to perform services for them as expected (e.g., sell them good loans) when it is not always in their interest to do so. Thus, there is a “principal-agent” problem: the principals (investors) depend on agents (originators and servicers) to perform as promised, even though it may not be profitable for them to do so.

For investors, or, more broadly, those who end up taking the risk, especially the credit risk, the major principal-agent issue has come from the reliance on originators and servicers

¹⁰ In 2002, over half of the loans originated were done through mortgage brokers.

¹¹ It is typically the case that loans with down payments of less than 20 percent have private mortgage insurance. The insurance typically covers the first 20 to 25 cents on the dollar of loss.

to originate good loans and service them properly. The major risk is that sellers, with superior information about loans, will select against investors by keeping good loans and selling the riskier ones, relaxing monitoring, underwriting, or servicing, or even by intentionally making loans that are of low quality. This is particularly true for institutions that are in danger of bankruptcy, for which reputation is less valuable. Hence, to control credit risk, whoever is taking the credit risk needs to do things that align the incentives of originators and servicers with their own or get better information on risk.

Securitizing on a large scale, which keeps fund-raising costs low, has historically required that Fannie and Freddie not spend a lot of resources monitoring the credit risk of individual loans. Hence, the burden of controlling credit costs has largely fallen on: (1) the performance of mortgage insurers, who insure loans with down payments of 20 percent or less; (2) underwriting guidelines, which attempt to define the parameters of an acceptable mortgage; (3) the ability to monitor and provide incentives to induce originators to make good loans; and (4) the ability to foreclose on borrowers who do not make their payments.

This is all in contrast with the traditional mortgage lender, who had all the elements of the bundle under its control and was less worried that the part of the firm that originates mortgages would take advantage of the part of the firm that evaluates credit risk.¹²

Controlling Agency Costs and Competitive Balance

The balance between the role of securitization and the role of banks has largely depended on: (1) the balance between economies of scale and fund raising that the secondary market brings with the advantages of control over some important risks that the traditional portfolio lender brings; and (2) differences in the values of the guarantees received by the two.¹³ That this balance has been favorable to the securitization of single-family mortgages has been due to advantageous circumstances in the market for single-family houses that make it easier to control principal-agent conflicts (and may not be easily replicable for other types of loans) and to put constraints on banks (who have to spend their subsidy in the deposit rather than the bond market).

The most important of the favorable circumstances is the ability to use a house as collateral, which comes from foreclosure laws and property registration, and the relatively good information that exists about house values. These two factors mean that lenders have a good idea of homeowner equity and can foreclose and thereby minimize losses. Consequently, home-owner equity is both a good deterrent to default (home owners will be reluctant to default and lose their equity) and cuts costs in the event of default. An important element of this is the ability to foreclose quickly. Otherwise, lost interest during the foreclosure period can easily overcome equity previously built up and leads to large downpayment requirements.

¹² That is not to say that there is no risk. Compensation schemes could induce conflicts of interest inside the firm. The point is that conflicts inside the firm are easier to resolve.

¹³ See Van Order (2000a) for a more formal discussion.

As a result, the major concern of institutions that accept mortgage credit risk is the probability of equity becoming negative. The ability to treat houses and mortgages almost like commodities and default risk almost like a financial option (i.e., a “put” option, which gives the borrower the right to exchange the house for the mortgage) is a major factor in the success of the secondary market. Expected default costs then depend primarily on the initial loan to value ratio, which is known to everyone,¹⁴ and on the probability of house values falling by enough to trigger default, which is not known equally well by everyone, but which can generally be estimated reasonably well by the secondary market. Other factors generally can be diversified away.¹⁵

These advantages are not common to many other markets. For instance, lending for rental housing is quite different. It is much more difficult to evaluate apartment building property values because these properties are much more heterogeneous, they trade less frequently, and incentives for inaccurate appraisals are greater. Moreover, incentives to take care of the property are weaker when owners are not also occupants.¹⁶ Similarly, the markets for subprime mortgages and for business loans have not had a lot of securitization, and they have important principal-agent problems.¹⁷

Recent changes in information technology are also bringing about important changes in how risks are managed and on the level of competition in the industry. The major innovation has been the use of technology to evaluate credit risk, which, together with equity, is an important determinant of default risk. Historically, mortgage originators had better information about credit risk. However, Fannie and Freddie (and many other lenders and insurers) developed statistical automated underwriting systems, with credit history and equity as the major explanatory variables, that allow rapid decisions about what they do and do not want to purchase. The decision to purchase a loan can be made in five minutes, further reducing principle-agent problems.

Interest-Rate Risk

Long-term lending raises the question of interest-rate risk because banks tend to raise money in the deposit market and pay variable deposit rates. A major part of the U.S. financial crisis in the 1980s was the interest-rate risk taken by savings and loans in the 1970s and the subsequent rise in rates in the late 1970s and early 1980s. Securitization handles the risk to conduits automatically because the risk is passed through to the investor. However, not all investors want to take interest-rate risk, particularly the mortgage-specific risk of prepayments when rates fall. CMOs are a device to reallocate this risk, as is debt funding.

14 Of course this is subject to having a good appraisal of property value. For arm’s-length purchases of single family houses, this is not a major problem; trading is usually deep and borrowers have incentives not to overpay. For refinancing (especially if the borrower is increasing the loan balance), there can be problems, as can be the case for apartment buildings and commercial property.

15 An alternative to use of equity is strong borrower liability. For instance, in some civil code countries, borrowers remain liable for residual liability after foreclosure.

16 It is the case that it is relatively easier to foreclose on a rental unit because it does require moving the occupant. However, it is difficult in many countries to evict tenants, which increases the risk of lending on rental units.

17 See Cutts and Van Order (2004) for some analysis of subprime markets.

Both Fannie Mae and Freddie Mac finance close to half their purchases with debt.¹⁸ This can be interpreted as a move in the direction of the “Bowie/Intermediation Model,” where heterogeneous mortgages (in terms of prepayment risk) are transformed into homogeneous liabilities for bond market investors. However, they do not run the deal through an SPV. Rather, they issue corporate debt backed by the whole portfolio, so, as discussed above, they are a bit like a portfolio lender, but with the same agency costs. While both GSEs have sizable holdings of mortgages that are funded by debt rather than by mortgage-backed securities, they have learned the interest-rate-risk lessons from the early 1980s, and neither company is short-funded. Both rely largely on long-term, callable debt or its equivalent (e.g., short-term debt and derivatives like interest-rate futures and options) to finance long-term mortgages.¹⁹

The advantage of debt funding is that debt is more transparent to investors than pass-through securities because: (1) if the debt is not callable, Fannie and Freddie take the call risk on the mortgages (and hedge it at a lower cost than most investors have) and the cash flows are known by investors with little uncertainty; and (2) even if it is callable, the circumstances under which it will be called are more transparent than the circumstances under which borrowers will prepay. The disadvantage to the GSEs is that it is not easy to hedge interest-rate risk because borrowers’ prepayment behavior is not easy to model.

From an accounting point of view, MBS and debt are different because MBS funding takes the loans off the lender’s balance sheet.²⁰ This advantage is more apparent than real if the lender keeps the credit risk (for instance, by selling with recourse or taking a subordinated position in the pool). Securitization could, then, simply be a way of avoiding capital regulations, and makes sense only because capital regulations are not really risk-based.²¹ Securitization and regulation that are driven by accounting rules rather than risk management can lead to a poor allocation of risk.²²

MM

So where does Miller-Modigliani fit into this? In the pre-secondary market world in the United States where banks (actually savings and loans) did the lending, deadweight losses and asymmetries were more or less the same for everyone. Capital structure was managed by regulation, and debt was primarily deposits, which were often inelastic in supply but

18 Most mortgages go into pools, and debt-funding comes primarily from repurchasing the pools rather than simply holding whole loans in portfolio. A reason for this is that it helps control the adverse selection problem faced by MBS investors if the Agencies use superior information about prepayment to decide which loans to put into pools.

19 A typical procedure is to do an interest rate “swap,” for instance receiving an income stream indexed to LIBOR (and thereby offsetting short term borrowing rate fluctuations) in exchange for a fixed rate liability, then using a “swaption,” which in effect is an option to undo the swap to handle prepayment risk. This gives the equivalent of long term callable debt.

20 This is done through a “special purpose vehicle” (SPV; in the United States, this is via a “grantor trust”), which buys the mortgages and manages the cash flows. A real advantage of this is that it assures MBS holders access to mortgages in the event of problems, in a way that balance-sheet activities cannot.

21 For instance, until the late 1980s it was possible for savings and loans to sell loans with recourse and not have to hold capital. The regulations have been changed to force them to hold capital against the risk they retain.

22 Much has been made recently of the size of Fannie and Freddie debt, as opposed to MBS. This is a silly distinction, which confuses balance-sheet status with risk. Fannie and Freddie keep the credit risk in either case and the question is the amount of interest-rate risk, which can be controlled and managed by stress tests and capital.

subsidized by deposit insurance. In that model, MM was violated because of regulation. Holding less capital lowered all-in costs to the banks because it allowed better exploitation of the deposit insurance guarantee. The price to be paid for this was that funding was forced through the deposit market, which is not the most efficient vehicle for funding fixed-rate mortgages.

The advent of a new institution type, the GSE, did not add or subtract much in terms of the existence of guarantees. It did, however, change the types of guarantees and the possible ways of operating and exploiting the guarantees by allowing institutions to get access to a new market, the bond market, which has lower transaction costs, a more elastic supply of funds, and is a better way of managing interest-rate risk. But the GSEs were forced, because they were secondary markets, to take on some asymmetric information problems that banks did not have to take on. So MM was still violated, but it was violated in different ways.

So there was some a priori ambiguity as to who—banks or GSEs—would be the winner. It turned out that in the United States the secondary market has been dominant, but that is not inevitable, and, indeed, GSE market share has been declining lately. Within the bond market framework, there are many ways of operating, including straight pass-throughs, CMOs, overcollateralized or “covered” bonds, and straight corporate debt (analogous to long-term deposits), some or all of which can be done by banks. Also, banks have access to the same hedging vehicles (e.g., interest-rate swaps and swaptions) as do the GSEs. MM suggests that these vehicles are all close competitors and small differences among them can greatly change what the market looks like.

III. Comments and Lessons

The mortgage business is an interesting, if not entirely clean, example of how securitization can work. It is clouded because subsidies in the form of guarantees exist for both of the competing structures, and it is not clear which subsidies are larger. Nonetheless, there appear to be some lessons that can be used to help think about securitization in other markets:

1. It is the function of connecting mortgage and capital markets that is important, not the institutional details, and there are several different ways of getting the function done. Securitization is one, but banks securitizing and/or selling bonds is another.
2. While working on the “back end,” for example, doing some deals and getting some mortgages off banks’ balance sheets, may be a good idea, it is getting the “front end” right, so that risk can be understood and managed. That is the essential feature of developing mortgage-backed securities markets, particularly if they are to operate on an ongoing basis. U.S. secondary markets have benefited greatly from U.S. foreclosure laws and improved information technology.
3. Allocating the risk properly, by putting it with the agents best able to handle it, is important. Mortgage insurance, agency guarantees, and senior/sub deals appear to be the most popular ways of doing this.

4. There is no single structure that is always best at accomplishing the function of linking mortgage markets with financial markets. The MBS/conduit model, the Bowie/financial intermediation model, and the traditional portfolio lender model can all work. All of the structures do much the same thing, and MM suggests there need not be strong a priori for supporting any one in particular. All the structures allow the institution that originates and manages the loans to take on the initial credit risk and pass through the interest-rate risk to bond market investors.

IV. Prospects for Community Development Lending

While it is clear that CED loans can be securitized, there is no compelling reason to expect securitization to be as attractive a form of funding as it appears to be in the mortgage market. Recall the basic stylized facts from Section I:

1. There is a great deal of heterogeneity across CED programs and loan types.
2. Information about individual CED loans is poor and the loans are perceived as risky by investors.
3. Scale is small.
4. The loans require more work by lenders in the areas of technical assistance and servicing than do most loans.
5. The loans will probably have to be sold at a discount to cover transaction costs and the present value of subsidies attached to the loans.

The least important item, in terms of economics, is the last one. The costs that get capitalized (either transaction or subsidy) are there no matter how they are realized, up front or over time. The first four do raise real barriers that restrict the scope of securitization. In particular, CED loans are information and servicing intensive, and their volume is small, which makes the cost per loan high. These items are areas of concern because they suggest greater potential for adverse selection and higher transactions costs than is the case in the mortgage market. So the question is: Why not have lenders hold the loans, mix them with other loans in their portfolio, avoid the cost of setting up a debt issue, and eliminate the agency costs of securitization?

One possible reason is to get long-term funding for long-term assets; another is to get the loans off the agency's or lender's balance sheet. As discussed above, the former is a fair reason, but the latter may or may not be depending on the risk retained by the seller. This is a close call because, as discussed above, banks can hedge interest-rate risk.

If loans are to be securitized, a reasonable structure is one that makes the loans as transparent as possible, which suggests something like the Bowie structure, where the originator keeps the servicing, keeps the "senior" part of the risk by overcollateralization (perhaps with a government guarantee), and sells homogeneous debt as a way of managing the heterogeneity of the assets. Again, this is not much different from keeping the loans and funding them with debt.

Experience So Far

As was discussed in Section I, there has been some, but not much, experience with securitizing CED loans. In general, the deals appear to be set up with a “Bowie” model in mind, where heterogeneous loans are used as collateral and homogeneous assets are sold to the public. For instance, SBA’s 504 program regularly issues twenty-year bonds backed by SBA-guaranteed loans of varying terms and parameters. The Community Reinvestment Fund, mentioned above, acts as a loan conduit. It sells debt backed by the loans, as well as shares in pools of loans, to institutional investors, mainly as private placements.

The following observations can be made about the experience so far:

1. The deals tend to have a “Bowie Bond” structure, tapping the debt market.
2. The deals have generally had credit enhancement either through direct government guarantees or outside enhancement.
3. The loans tend to be long term.
4. The interest-rate risk is generally passed through, but the transformation of heterogeneous assets into homogeneous liabilities probably leaves open some residual risk, like prepayment risk.
5. There is little liquidity in the market.

This is what one would expect, from the analysis above, as devices for handling heterogeneity and asymmetric information. But it is not clear that it offers major advantages over the portfolio lender model.

Conclusion

Prospects for securitization of community economic development loans on any sort of large scale are not bright. This is primarily because the things that seem to be important for securitization in other markets (especially the mortgage market) do not appear to characterize CED loans, which are rife with adverse selection problems, are expensive to securitize, and exhibit a volume likely to be limited by the size of government programs. There is a niche for conduits that buy loans from small lenders, but as yet there does not appear to be a large volume of such loans.

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