Conduits: Their Structure and Risk

by Peter J. Elmer*

One of the most important financial developments of the past two decades has been the growth of asset securitization. This growth has effectively created a new dimension of banking, simultaneously allowing banks to liquefy or sell financial assets more easily and opening new investment opportunities.

Two trends have combined to create these opportunities for banks. One is the spread of securitization to virtually all types of loans, leases, and financial contracts; the other is the increase in banks' securities brokerage, dealer, and other capital markets activities. Thus, banks now have new business opportunities involving the origination of loans for the purpose of packaging and selling them as securities, at the same time that the infrastructure to engage in these activities is more readily available. Securitization has not only changed investment and asset sale options but also created new types of businesses specializing in the acquisition of loans for the purpose of packaging them as securities.

Entities that focus on generating a profit by buying or originating loans at one price, then selling them through securitization at a higher price, have come to be called conduits (see sidebar). In this regard, their function is sometimes thought of as a type of arbitrage. However, the substantial time, resources, and risk required to execute the strategy suggest that conduits are more appropriately viewed as performing a business function than an arbitrage. Indeed, the host of problems encountered by conduits over the past two years suggests that their structure is relatively risky and difficult to manage.

The First Conduit

Rumor has it that the first conduit was conceived on a napkin over dinner by three major players in the mortgage markets of the early 1980s: Lew Ranieri of Salomon Brothers, David Beal of Banco Mortgage Company, and Bill Lacy of the Mortgage Guarantee Insurance Corporation (MGIC). The idea seemed simple: a firm could carve a niche for itself by buying loans from originators, then pooling and selling the loans as securities. The firm could have minimal assets as long as it maintained access to funding and could quickly bring together the many players needed to underwrite the loans, guarantee loan quality, then pool the loans and sell the pools as securities. Several government agencies, such as the Federal Home Loan Mortgage Corporation (Freddie Mac) and the Federal National Mortgage Association (Fannie Mae), had already proved that this could be done, so why not try it from a private base?

Given the growing importance of Freddie Mac and Fannie Mae, the first conduit initially focused on buying and securitizing single-family mortgages with loan balances above the purchasing authority of these two agencies—in other words, "jumbo" mortgages. This conduit was aptly named Residential Funding Corporation (RFC) because it targeted residential mortgages as its primary product line. It was formed in 1982 as a subsidiary of Banco Mortgage Company, an

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When Is a Conduit Not a Conduit?

Analysts new to securitization often encounter a confusing set of terms. This is especially true for "conduit."

In most cases, "conduit" refers to a financial organization or entity whose business purpose is to buy loans or other financial assets from correspondents, with the goal of earning a profit by repackaging and selling the assets as securities. That is, a conduit is a type of business that specializes in securitizing loans and other types of financial assets.

A "pure" conduit minimizes its involvement in complementary activities. For example, this type of structure can be found in the early development of RFC or, more recently, in Wall Street brokers and dealers. Conduits that expand by adding servicing or other functions to their core activities, such as GMAC–RFC during the 1990s, can be difficult to classify accurately, although in practice they may be referred to as conduits.

Unfortunately, the term conduit has also been used to describe other entities. For example, it has been used to describe bankruptcy-remote companies formed for the special purpose of issuing securities that are effectively collateralized by loans or other assets held by the companies, such as asset-backed commercial paper. These conduits act more like trusts or financial vehicles for issuing securities than independent organizations seeking a profit.

The 1986 Tax Reform Act added to the confusion by giving the name Real Estate Mortgage Investment Conduit (REMIC) to another type of vehicle for structuring securities. Unfortunately, while "conduit" appears in the REMIC acronym, the term REMIC has since been used to describe not only legal structures that elect to be REMICs but also the securities these structures issue. These legal structures are generally not taxed, and when their mortgage or MBS collateral is paid off, their life is over. Thus, REMICs are best thought of as a special class of securities rather than as ongoing business enterprises. That is, a REMIC is a conduit in name only, and should not be confused with conduits formed as business enterprises focused on buying and securitizing loans.

affiliate of Northwestern National Bank, the predecessor of Norwest Bank.[1]

RFC soon learned that buying and securitizing loans required many activities. As illustrated in figure 1, loan purchase programs must be set up with any of a variety of originators, such as banks, thrifts, and mortgage bankers, and a securities sales function must be established with securities brokers and dealers. However, even with the origination, servicing, and security-sale functions performed by others, a host of activities remain the responsibility of the conduit. For example, underwriting guidelines must be established, quality-control procedures implemented, funding secured, and interest-rate risk managed while the loans are held in portfolio. Long after the securities are sold, a variety of commitments may remain relating to representations (reps) and warranties, investor relations, and the maintenance of residual interests retained in the security.[2]

RFC began as a relatively simple, or "pure," conduit by purchasing jumbo mortgages from established originators, especially mortgage bankers. The existence of Freddie Mac and Fannie Mae proved useful because their loan underwriting and seller/servicer approval requirements were widely recognized standards that could be easily referenced in prospectuses and other documents. Moreover, originators approved to do business with Freddie Mac and Fannie Mae were typically familiar with selling loans to the secondary market, servicing securitized loans, and performing related functions.

In its formative years, RFC developed the primary relationships required of a pure conduit. Since it was initially affiliated with a mortgage company and a commercial bank, it had access to established origination, servicing, and funding relationships as well as to expertise in selling loans in the secondary market. RFC purchased mortgage insurance from mortgage insurers to cover default risk in the mortgage pools created.

[1] Banco and Northwestern changed their names to Norwest in 1983. As is often true of new firms, aspects of RFC existed in one form or another before 1982. For example, Brendsel (1985) points out that private firms began issuing mortgage-backed securities in 1977, and the number of such firms had grown to approximately 50 by 1982. Wholesale mortgage bankers were also established buyers of previously originated loans, for the purpose of reselling them in the secondary markets. However, RFC's focus on the wholesale acquisition of mortgages with an eye toward packaging and selling them as securities was unique and inspired the term "conduit."

[2] For a discussion of reps and warranties, see Moreland-Gunn, Elmer, and Curry (1995).

Salomon Brothers provided not only the investment banking expertise needed to pull together rating agency, legal, and other components required for securitization but also the dealer expertise required to sell the securities and support trading.

As RFC grew, its strategic options expanded along with a need for internal support functions. Elements of risk management and quality control had to be set in place. A strategic decision was made to begin performing master-servicer services.[3] As more investors held RFC securities, investor-relations personnel were added. Growth of internal staff implied a need for more extensive accounting and personnel functions. Thus, even a relatively simple conduit with a narrow product focus can quickly become a sizable operation.

Recent Conduits and Their Structures

As an industry matures, its members often merge with closely related institutions in an effort to reduce costs or otherwise enhance efficiency. In this regard, the acquisition of RFC by General Motors Acceptance Corp. (GMAC–RFC) in 1990 was a harbinger of change reflecting the expansion of conduits into many of the functions shown in figure 1 (although expansion often occurred through affiliate relationships within the GMAC holding company "family").[4]

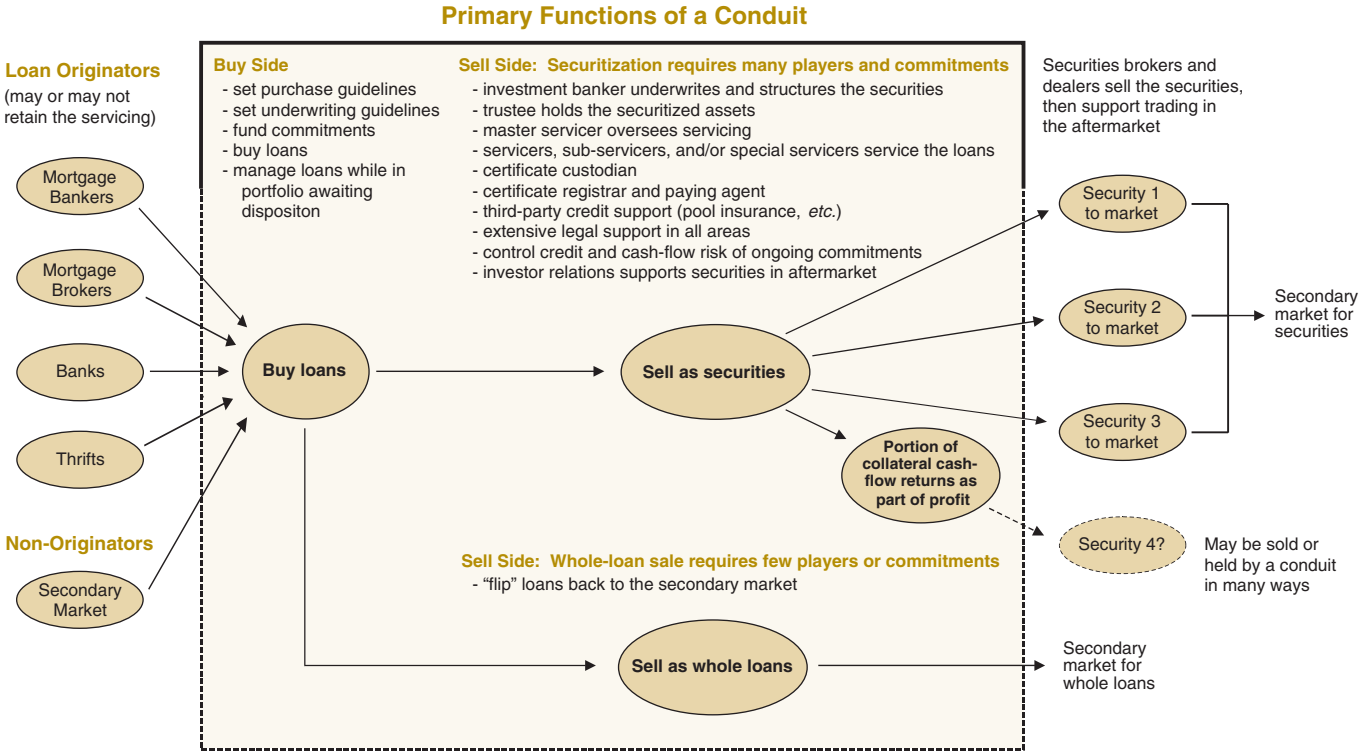
Conduit expansion can take many avenues. Since the lifeblood of a conduit is a steady supply of loans, the origination side of figure 1 offers one appealing avenue by allowing conduits to control and enhance the flow of incoming loans. Although some conduits have enhanced this flow by purchasing origination capabilities directly, GMAC–RFC expanded into a related function—warehouse lending.[5] To generate similar synergies, it started a construction finance division in 1992.

[3] As discussed by Fitch (1999b), master servicers are responsible for protecting the interests of security investors by overseeing primary servicers and otherwise ensuring that cash flows smoothly from servicing to trustees. Trustees ensure that the correct amounts are received from servicers; then they break the collected cash into the amounts promised investors, per the requirements of the security.

[4] For a more complete report on GMAC–RFC's current structure and operations, see Fitch (1999a).

[5] In 1991, GMAC–RFC purchased the Warehouse Lending Division of American Security Bank, thereby strengthening its ties to originators and the flow of incoming loans. Bear Stearns (1999) notes that conduits continue to place primary reliance on loans purchased either in bulk or on a flow basis. Even with loans ostensibly "originated" by conduits, substantial portions may be refinancings of loans that are serviced by the conduit or by an affiliated servicer.

Figure 1
Conduits and Securitization



A second cornerstone of loan activity representing a natural avenue for conduit expansion is servicing. Servicer affiliates enable conduits to expand their purchases to include acquisition of loans on either a servicing "released" or a servicing "retained" basis. That is, affiliating with a servicer allows a conduit to offer a premium for loans that are sold with their servicing, or pay a lower price and let the originator retain the servicing.[6] On the one hand, this flexibility appeals to sellers with little interest in servicing the loans after origination, such as loan brokers, while on the other hand it generates a flow of new servicing to servicer affiliates. Developing an extensive servicing network has other strategic advantages, such as providing opportunities to refinance loans and to cross-sell other products. These advantages have led GMAC–RFC to maintain a servicing operation that acquires "released" servicing for about two out of every three jumbo mortgages purchased.

Conduits can also expand by affiliating with securities-related firms. As shown in figure 1, conduits may sell some loans as whole loans while pooling and selling others as securities. For example, loans with exceptionally high quality may fetch a higher price if sold as whole loans, while loans with very poor quality, such as those with legal problems or unique characteristics, may be preempted from inclusion in a security. In this regard, conduit securitization activities constantly compete with whole-loan sales to achieve the highest possible value ("best" execution) for any package of loans. Indeed, the link between conduits and the capital markets is so close that Wall Street dealers often maintain their own conduits, which may be run in an independent fashion or alongside whole-loan or securities trading functions. This tie is illustrated by the central role of Salomon Brothers in RFC's formative years. More recently, GMAC–RFC counts two broker-dealer subsidiaries as affiliates in its holding company family.

Apart from expanding into complementary businesses, conduits throughout the 1990s expanded into complementary loan product lines. Given their start with jumbo mortgages, conduits were quick to begin other mortgage programs that lay outside the domain of Freddie Mac and Fannie Mae, such as home-equity loans and manufactured housing, as well as other types of consumer loans, such as credit cards and auto loans. From these roots in mortgage and consumer loans, conduits branched into all types of commercial loans and receivables.

Somewhat surprisingly, bank and thrift conduit activities have been relatively limited. Banks and thrifts, either on their own or through subsidiaries, have always been among the largest originators and servicers of all types of mortgage, consumer, and commercial loans; banks are also the primary source of trustee services; and a number of larger banks have developed sophisticated securities sales capabilities. Nevertheless, as figure 2 shows, the bank and thrift share of private-label mortgage-backed securities is only 15 percent, whereas private conduits at 24 percent represent the largest single class of issuers. Figure 3 shows a similar pattern for the issuance shares of "asset-backed" securities (securities backed by credit-card, auto, home-equity, and other consumer loans outside the area of first mortgages). Although several large credit-card banks boost the bank and thrift share of asset-backed securities issued to almost one-quarter (23 percent) of the market, this share falls far below the 44 percent share claimed by finance and nonbank credit-card companies. And even in the area of commercial loans (figure 4), banks and thrifts claim only 13 percent of the market. Thus, bank and thrift direct participation in conduit operations appears relatively modest, although banks and thrifts remain primary providers of origination, servicing, warehouse lending, and trustee services.

In summary, after beginning as streamlined businesses focused on buying and securitizing loans, conduits expanded in structure and became more complex, affiliated and integrated with a variety of complementary businesses. Pure conduits may still exist, but they are commonly not independent organizations; rather, they tend to be narrowly defined affiliates or groups residing in larger organizations.

Despite the wide range of activities that conduits may engage in, their most basic economic function is defined by two characteristics:

- they are engaged in the business of buying or accumulating financial assets for the purpose of packaging and selling them as securities, and
- they maintain close ties to the many players required in assembling and securitizing financial assets.

[6] The idea that servicing has value is confusing outside of the area of mortgage finance, because servicers incur significant expense in collecting and managing loan cash flows. However, standard servicing fees paid to servicers tend to exceed the cost of servicing loans by a considerable margin, and this differential implies that the "right" to service loans has value. Selling loans on a servicing-released basis allows an originator to collect at least a portion of the value associated with servicing at the time the loan is sold.

Figure 2
Mortgage-Backed Securities, 1998

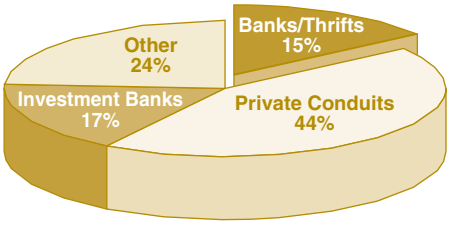


Figure 3
Asset-Backed Securities, 1998

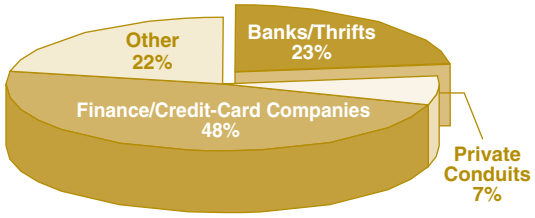
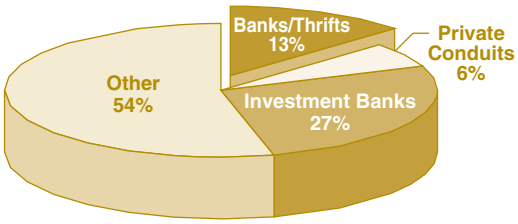


Figure 4
Commercial Loan-Backed Securities, 1998



Source: The Mortgage Market Statistical Annual for 1999.

These core activities generate two primary sources of income—the income that derives from holding performing loans in inventory and, especially, the income generated when loans are packaged and sold as securities.[7]

Conduit Economics (I): Inventory and the Value of Spread

The starting point of the value created by conduit activities is the accumulation of inventory in anticipation of packaging and sale as a security. The most common approach involves linking to a source of newly originated loans or receivables, then waiting for the flow of loans purchased to build an inventory sufficient to issue a security. The flow of loans can come either from internal originations or from a variety of external sources, such as networks of correspondent originators, a limited network of wholesalers, or Wall Street. Most commonly, conduits cultivate networks of originators in an effort to ensure a steady flow of product. Buying loans from Wall Street dealers is problematic because the dealer markets are very competitive and the flow of loans is erratic. Moreover, Wall Street dealers often use their own conduits to securitize blocks of whole loans purchased through the capital markets.

The level of loans in inventory traces a sawtooth pattern: inventory builds, then drops at each securitization or whole-loan sale. At any point the base inventory of loans may be substantial because not all loans may fit or work well in every securitization. The bulk of the loans are packaged in pools of at least $100 million to $200 million of relatively homogeneous loans. Unusual and heterogeneous loans are placed into securities with "miscellaneous" loans or are sold as whole loans.

The sawtooth pattern can vary considerably, depending on the types of loans accumulated and market lending trends. For example, in 1998 the GMAC–RFC pipeline of high-volume single-family "jumbo" mortgages produced an average of one new security every two weeks, whereas the same company's pipeline of low-volume home-equity loans produced an average of one new security only every three months. Generic loans that are easily acquired and securitized tend to offer less opportunity for profit than unusual loans that are difficult to acquire and securitize. At the end of quarterly or yearly accounting cycles, a special effort may be made to reduce inventory by either securitizing or selling the excess loans.

Loans in inventory give rise to one source of conduit income, which is the interest-rate spread, or "carry," from loans held in portfolio. This income varies directly with the length of time the loans are held. Since most loans held by conduits are newly originated, there

[7] The two sources of income discussed in this article are the primary—but not necessarily the only—sources of income arising from conduit activities. Conduits involved in other activities will generate other types of income. For example, conduits that directly originate loans earn income from origination fees, while those involved in warehouse lending, servicing, or other activities generate income from these endeavors. It is also possible for conduits to simplify their operations to the point that they earn income from only one source, for example, by not holding loans in portfolio before securitization.

is little likelihood of default during the several months they may be held in the conduit's inventory "pipeline" awaiting securitization. During this period of low credit risk, conduits earn the difference between the interest income received from loans held in portfolio and the interest expense paid to fund those loans, net of hedge costs.

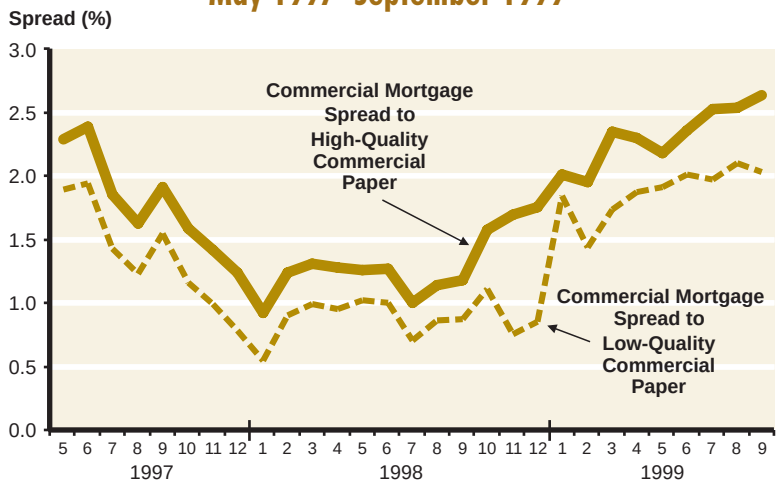
$$\text{Carry} = \text{Interest Inc.} - \text{Interest Exp.} - \text{Hedge Cost} \quad (1)$$

To further simplify, one can reasonably assume that the cost of hedging some types of risks, such as the risk of a general rise in interest rates, is relatively small, so these risks can be ignored for this analysis. Other risks that are difficult or expensive to hedge will be considered below in a discussion of conduit risks.

Figure 5 illustrates spreads earned during the 1997–1999 period by conduits carrying commercial mortgages. That is, the spreads reflect the difference between the interest income earned on long-term fixed-rate commercial mortgages and the interest expense paid on three-month commercial paper, net of 20 basis points for servicing, hedging, or administrative expenses. The two series reflect the different net yields earned by conduits with relatively high *versus* low commercial paper funding costs.

The spreads in figure 5 suggest that over the past two years, the carry earned by commercial mortgage conduits with relatively low funding costs fell in the 1.0–2.0 percent range, averaging approximately 1.50 percent. This translates to a value of approximately 50 basis points (0.50 percent) when the loan is carried for four months, or a value of one-eighth point (0.125 percent) if it is carried for only one month. The spreads were approximately 50 basis points lower for conduits that funded at the more expensive end of the commercial paper market. However, the 50 basis points of higher interest expense appear modest, given the fact that the total carry remained positive throughout the past two years and that the carry represents only one of two sources of conduit income. Moreover, funding expenses should not significantly limit competition, as hundreds of firms can fund within the high- and low-cost ends of the commercial paper market.

Figure 5
Spreads from "Carrying" Commercial Mortgages, May 1997–September 1999



Note: The spread between the commercial mortgage and commercial paper rates is calculated as the difference between the Levy commercial mortgage rate and either the high- or low-quality commercial paper rate, net of twenty basis points servicing fee. The Levy commercial mortgage rate is reported monthly by *Barron's*. Commercial paper rates are reported by Bloomberg Financial Markets. All yields are computed on a bond yield basis.

Conduit Economics (II): The Value of the Deal

The primary source of conduit income is the value of the "deals" created by packaging loans and selling them as securities. What often makes this value seem anomalous is that securitization represents simply a repackaging of cash flows. In fact, some securities, known as "pass-throughs," are structured to have almost no effect on the cash flows of the underlying loans. Nevertheless, the additional liquidity and other advantages of securitized pools enhance value to the point that the value of the securities and other assets created from a pool exceeds the value of the corresponding loans; if it does not, the pool will be either held in portfolio or sold as whole loans.

Securitization deals have two basic structures. The most commonly used structure grants security investors an interest in the *specific assets* placed in a securitization "trust," which is administered by the trustee. This structure is used for "closed-end" loans, such as mortgages or auto loans, because their maturates and payments are well defined. As the principal balance of the loans in the trust is paid down, so is the principal of the securities created by the trust. When the initial assets are paid off, the securities must also be paid off and the trust is dissolved. The second type of securitization structure grants investors an interest in a *pool of assets* without listing the specific assets

that will be in the pool throughout its life. This structure is designed to hold loans with loosely defined maturates and/or highly variable characteristics, such as credit cards. This structure permits a "revolving asset" arrangement whereby paid-off loans are replaced with new loans possessing similar characteristics. Generally speaking, the total balance of the loans is maintained even though the specific loans in the pool change. Since the payoff of the initial collateral bears no particular relation to the payoff of the securities, the principal balance of the corresponding securities remains relatively stable until the trust permits the payoff of principal.

Regardless of the differences between structures, the generation of value is relatively consistent. That is, in both structures the value created by securitization is the difference between the value of the securities ("classes," or "tranches") and other assets created by the deal, and the value of the loans or receivables placed in the deal, net of underwriting and sale-relate.

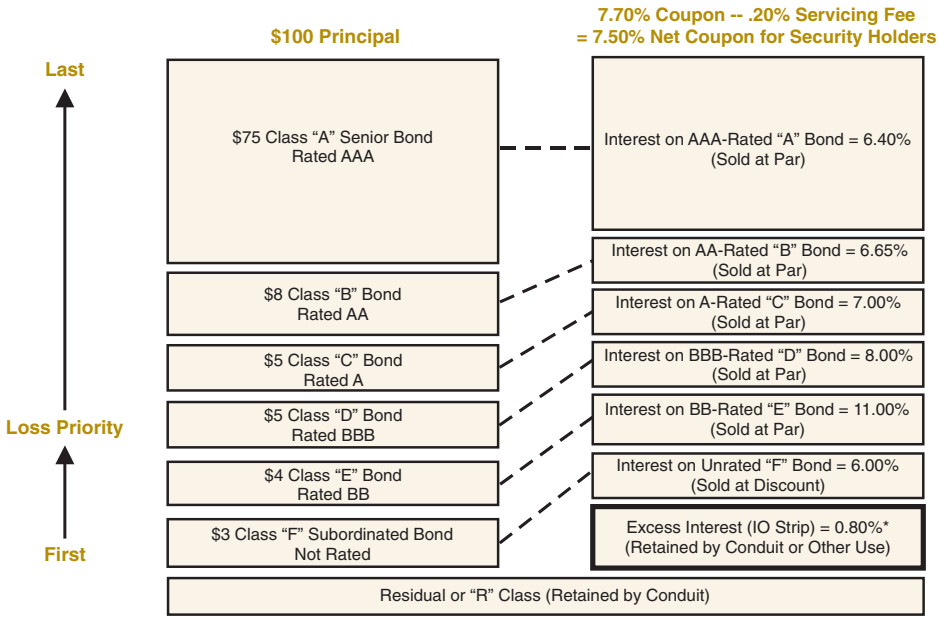
Value of Securitization = Value of Class A + Value of Class B + ...
+ Value of Excess Interest
+ Value of Excess Servicing
+ Value of the Residual (or Seller's Interest) Class
– Cost of Assets
– Underwriting/Sale Expenses (2)

It is common to create in one deal several or more classes of securities with different credit ratings, because doing so broadens the market for the securities and therefore enhances the total value of the package. Unfortunately, however, some cash flows in a deal cannot be incorporated into easily sold securities because of their higher risk. Therefore, the higher-risk cash flows are used to produce several other types of assets, such as excess interest, excess servicing, and residuals. A deal makes economic sense when the total value of the securities and other assets created exceeds a minimum threshold required to compensate a conduit for its various expenses, including equity.

Figure 6 depicts the creation of value that arises when the two primary components of a package of commercial-loan cash flows—principal and interest—are split.[8] The total principal balance of all loans

[8] Figure 6 represents a security created from a specific pool of commercial-loan assets. However, securities created for revolving loan products, such as credit cards, tend to produce many of the same unusual assets, such as excess interest and excess servicing. One asset unique to a revolving loan deal, the "seller's interest," is similar to the residual in a specific asset structure.

Figure 6
Sample Principal and Interest Distribution for Commercial Mortgage Senior/Subordinated Securitization



*Excess interest = net coupon (7.50%) less the combined interest expense of the bonds, ((0.75*6.40)+(0.08*6.65)+(0.05*7.00)+(0.05*8.00)+(0.04*11.00)+(0.03*6.0)).

in the pool is allocated to at least one class of bonds. Typically the principal is divided into one or more large pieces with AAA or AA credit ratings and the highest seniority in loss priority. Several intermediate or "mezzanine" classes may be created with ratings in the BBB-AAA range, followed by other classes with lower loss priority and lower credit ratings. For example, figure 6 shows a $75 AAA-rated senior security created by subordinating 25 percent of the principal among five mezzanine and other classes of securities with varying sizes and credit ratings. The residual, or "R," class claims bits and pieces of cash flows that are not claimed by any other class.

Subordinated bonds have lower ratings than senior bonds because they stand ready to absorb default-related losses before those losses can be applied to bonds with senior priority. The subordinated bonds are often sliced into several classes with varying credit ratings that depend on the level of subordination supporting each bond. Bonds in the BBB and higher "investment grade" rating range are normally easier to price and sell. The bond with the lowest priority has the highest risk of loss and, if rated, has the lowest credit rating. However, the highest-risk bonds may not be rated because they are either retained by a conduit affiliate or are privately placed to sophisticated investors. Since only a limited number of buyers purchase the highest-risk bonds, selling these components of the securitization can be the pivotal factor in consummating a deal.

The level of credit support or subordination varies with the risk of the underlying loan collateral. Securitizing loans with higher levels of default risk results in higher levels of subordination and therefore a smaller senior class of AAA-rated securities. Similarly, loans with lower default risk require lower levels of subordination, leaving a larger senior class. Thus, the risk of the underlying loans is directly related to the level of subordination required to secure the senior class.[9] In this regard, it is a mistake to interpret relatively high levels of subordination as suggesting a lower-risk security, as they actually indicate higher-risk loans in the underlying collateral.

Splitting the interest component of the cash flows is distinct from splitting the principal cash flows. Whereas all principal is allocated to the bonds, all interest may not be. In essence, the coupon rate on the loan collateral, net of servicing fees, tends to exceed the weighted average interest rate required by the market on the securities backed by the loans, and this generates "excess interest." Excess interest can be lumped into servicing contracts to generate excess servicing; it can be formally structured as an interest-only (IO) strip; it can be used to cover losses; or it can be allocated in a variety of ways to the residual. Portions of the excess interest may be held by a conduit, in which case accounting and valuation issues arise (see below).[10] Thus, excess interest is central to an understanding of the most problematic issues associated with securitization.

Figure 6 illustrates the creation of excess interest in a deal that allocates the excess to a separate claim retained by the conduit. In the example, the AAA-rated class pays a rate of only 6.40 percent, which represents an interest savings of 110 basis points *vis-à-vis* the 7.50 percent net coupon received from the loan collateral. The AA-rated class pays 6.65 percent for an interest savings of 85 basis points. Bond yields do not rise above the net loan coupon until the class "D" bond, rated BBB. This and other lower-rated bonds use up some, but not all, of the interest savings associated with the higher-rated bonds. The end result of receiving 7.50 percent net interest from the loan, then paying between 6 and 11 percent on the bonds, is an IO strip equaling 80 basis points (0.80 percent).

As we have said, excess interest may be formally structured as an IO strip, in which case the value of the IO strip represents most of the profit available to compensate conduits for their efforts. For example, in figure 6 the value of the 0.80 percent IO strip is approximately 3.10–4.50 points, which is much larger than the 0.12–0.50 points estimated above as the value of the pipeline "carry."

* * *

[9] Since the credit risk of other types of loans differs significantly from the risk of commercial mortgages, the subordination levels of securities backed by other types of loans may be very different from those shown in figure 6. For example, single-family mortgages have very low credit risk, to the point that only 5 percent subordination of principal may be required to create an AAA-rated senior class security. High-risk commercial mortgages may require 30 percent or more subordination to create an AAA-rated class.

[10] The IO strip adds significant complexity to a deal because it can be structured in many ways. For example, the IO strip may be formed into a separate security (as suggested by figure 6); used as first-loss credit support; included as a portion of the residual; or made a part of excess servicing. The easiest way to use the strip is simply to sell it and collect its value up front. However, since the strip often has very high risk, especially before the underlying pool has established a payment history, its market value tends to be relatively low when the security is created. Holding either all or a portion of the strip avoids a deep market discount while generating cash flow and assuring investors that the conduit retains an interest in the deal.

We can now estimate the value that securitization creates. To simplify matters, assume that (1) the carry is used to cover sale expenses, (2) the rated classes ("A" through "E") are sold at par, and (3) the class with no rating (class "F") is sold at 50 percent of its face value. Given these assumptions, the value created by the securitization shown in figure 6 falls in the range of 1.60–3.00 percent of the original balance of the securitized loans.[11] This estimate suggests that the profit margin accruing to the securitization of mortgage-related assets is surprisingly "thin."

The tendency to hold, in one form or another, significant portions of excess interest adds a layer of complexity to conduit operations. That is, conduits often become involved in the investment and management of unusual cash flows, residuals, and other remnants of the securitization process. During periods of stability these unusual arrangements can generate a rewarding flow of income that can be valued and accounted for in an acceptable fashion. During times of stress, however, cash flow, accounting, valuation, and other issues can quickly overwhelm conduits.

Elements of Risk

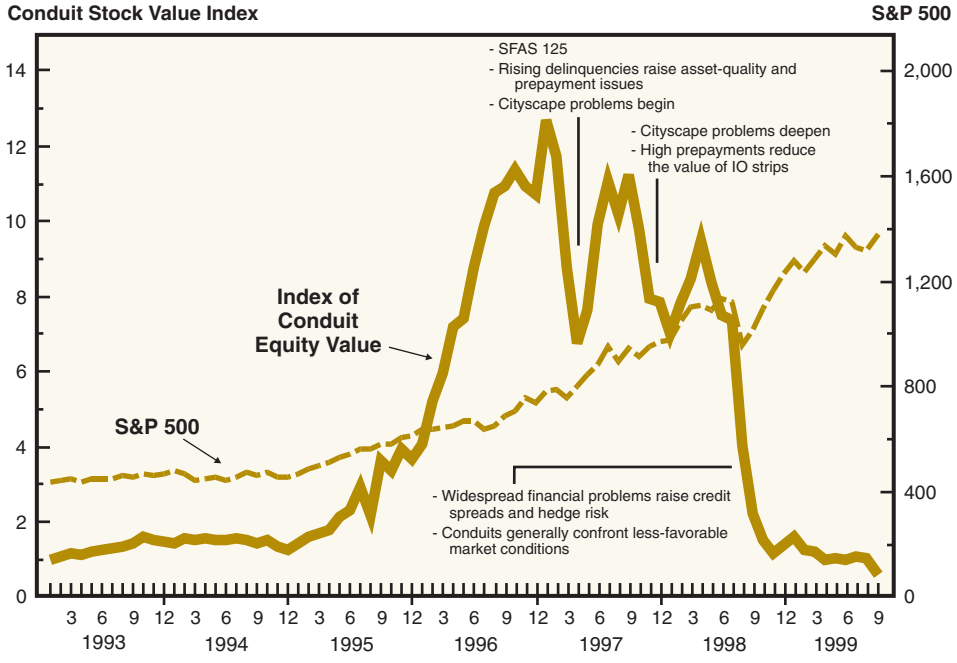
Conduits enjoyed remarkable success during much of the 1990s. As shown in figure 7, the value of publicly traded conduit equity increased much faster than the value of the stock market until early 1997. This conduit success was attributable to a robust economic environment, a relatively stable financial environment, and a broadening range of financial products securitized by conduits. During the mid-1990s, conduits quickly carved niches for themselves by learning to securitize new loan products, such as commercial mortgages, mobile home loans, and home-equity loans. As securitization brought new funds to well-established loan products, some conduits ventured into riskier types of loans, thereby setting the stage for additional securitizations, but at the cost of additional risk.

The stock index shown in figure 7 suggests that conduits began encountering problems in early 1997, followed by a nearly complete recovery. A second round of problems developed in the latter half of 1997, but this was followed by only a modest recovery. The industry has yet to recover from a third, disastrous drop in the second half of 1998. The problems encountered by conduits during the 1997–1998 period serve to illustrate nine elements of conduit risk.[12]

[11] This calculation values an 0.80 percent strip from a commercial mortgage with a 30-year amortization schedule, a balloon at the end of 15 years, a gross coupon of 7.70 percent, and a prepayment rate that begins at 0 and then rises to 5 percent at the 30th and following months. For this scenario, the strip value equals 4.49 and 3.07 points at discount rates of 10 and 20 percent, respectively. Subtracting 1.50 points for a 50 percent discount on class "F" results in an approximate range of 1.60–3.00 points.

[12] Comments about the risk-related problems of individual financial institutions were gathered from news articles reported on Bloomberg Financial Markets. The elements of risk presented here provide an overview of the topic, with special emphasis on problems observed in the 1997–1998 period. Thus, this list of risks is by no means comprehensive.

Figure 7
Value of Public Conduit Equity *versus* S&P 500, January 1993–September 1999



Note: The index of conduit equity, set with January 1993 = 1, is calculated by summing the value of public equity of 7 public conduits listed in the top 25 conduits by *The Mortgage Market Statistical Annual* for 1998: Firstplus Financial Group, Advanta Corp., Aames Financial Corporation, AMRESCO, Cityscape Financial Corporation, IMC Mortgage, and Southern Pacific. Two other public conduits in this listing, Greentree Financial Corp. and the Money Store, Inc., were omitted from the index because they were purchased by other institutions in 1998 before the decline in the stock market in July 1998.

Accounting Risk

At the start of 1997, conduits had to confront a fundamental change in their accounting practices because of a new accounting rule, Statement of Financial Accounting Standards No. 125 (SFAS 125). SFAS 125 requires that entities recognize, or "book," the value of financial and servicing assets and liabilities that remain under their control after a securitization. In particular, conduits are required to estimate and record as a gain-on-sale the value of excess servicing fees and related IO strips. IO strips are treated like marketable equity securities, so they must be carried at fair market value throughout their lives—a requirement that implies the possibility of adjusting entries in the event the value of the asset changes.

SFAS 125 affected conduit financial reporting in two ways. First, conduits began recognizing the value of IO strips as gains-on-sale.[13] The ramifications of this are noteworthy. Although this reporting necessarily improves the transparency of conduit financial statements with respect to the types of assets held, it significantly raises reported earnings and equity at the issuance date of each securitization. In addition, the reported gains reflect projections of uncertain cash flows. The fact that the cash flows are often irregular and may not begin until several years after a securitization is completed gives rise to financial management problems. Second, the need to recognize changes in IO strip values often results in profit adjustments that bear little relation to operating performance during the same period. Because benchmark market values are often not available on IO strips and other related assets, the only way to determine IO strip value is to perform present-value calculations. But these estimates are notoriously sensitive to a variety of underlying assumptions (ranging from loan payoff and default rates to the present-value discount rate), and considerable discretion exists in the setting of these assumptions. Thus, interpreting reported values is difficult. Even modest changes in the assumptions can produce significant adjustments to earnings and capital—adjustments that bear little relation to current operating cash flows.

Asset-Quality Risk

A spate of unexpected credit-card losses reported in early 1997 helped fuel the first downturn in conduit stock prices. Although portfolio lenders continued to more than cover their losses with the high interest rates received on loans, the asset-quality problems that had surfaced raised special issues for conduits.[14] The IO strips, residuals, and other remnants of a securitization are often exposed to much higher levels of credit risk than are found in traditional portfolio structures. Conduits that elect to hold subordinated and other remnants used as credit support probably carry much more credit risk in a given level of assets than does a traditional lender holding a comparable level of loans. Moreover, the value of other remnants that ostensibly have no credit risk can also be adversely affected by credit problems. For example, a rise in delinquencies can squeeze the excess interest generated by a pool, thereby reducing the value of IO strips that might otherwise have no credit risk. Per SFAS 125, a drop in excess interest can force a downward adjustment of IO asset values and of a firm's capital.

Servicing Risk

In the spring of 1997 asset-quality problems at Cityscape Financial Corp. (Cityscape) highlighted another dimension of risk. In April of that year Moody's downgraded Cityscape's bonds, citing asset-quality problems and the fear that Cityscape's servicing capabilities were not prepared to deal with higher levels of problem assets.[15] As noted earlier, there are sound business reasons for conduits to integrate servicing into their internal operations. Nevertheless, servicing is a distinct business function with its own risks and efficiencies. For example, significant economies of scale accrue to larger servicing operations, and the quality of the assets serviced plays an important role in the determination of servicing expenses. Delinquent and defaulted loans are much more expensive to service than performing loans, especially for smaller and inexperienced servicers in nontraditional loan products. High-cost servicing can directly reduce excess interest, and inefficient servicing can raise default rates. Conduits that service the loans backing the securities they issued risk higher expenses and, if delinquencies rise above the expected levels, these higher expenses will coincide with a drop in the value of IO strips and other assets.

[13] *See* Duff & Phelps (1997) and Baskin and Gregoire (1997) for more discussion of SFAS 125 and its effect on entities that securitize assets. Moody's Investors Service (1997) points out that gain-on-sale accounting can result in significantly higher earnings without materially changing the economics of the underlying risk.

[14] Credit-card losses at Advanta Corp. in March 1997 were responsible for a decline in Advanta's stock price and a bond downgrade by Fitch Investors Service.

[15] As reported by Bloomberg News, April 21, 1997.

Regulatory Risk

In mid-1997 Cityscape encountered a second round of problems, this time with a regulatory and political origin in the United Kingdom.[16] Several years earlier Cityscape had grown its operations in the United Kingdom through loans to individuals with high credit risk (sub-prime loans). In addition to requiring high interest rates, these loans also imposed high penalties for delinquency. As delinquencies rose so did the penalties, along with political pressure in the United Kingdom for consumer relief. Cityscape finally acquiesced by reducing its penalties, but these reductions cut into Cityscape's anticipated income. In the end, uncertainty enveloped earnings from loans originated in the United Kingdom, forcing write-downs of IO strips and similar assets per SFAS 125.

Cityscape's problems in the United Kingdom illustrate the influences that political and regulatory factors may have on the management and value of outstanding loans. Sovereign authorities always retain the ability to change or otherwise affect a variety of elements in the lending and loan-management environment, ranging from fair lending practices to bankruptcy laws. This intervention is especially likely in high-risk consumer lending, an activity embraced by many conduits in the 1990s but nevertheless a relatively new area and one where regulatory concerns were uncharted.

Originator (Rep and Warranty) Risk

Fraud by originators is an especially sensitive issue for conduits because their core business involves purchasing loans originated by other entities. Association with inappropriate origination procedures not only reflects badly on a conduit's ability to control the quality of the loans it has securitized but also raises questions about the quality of loans in any of its securities. Of course, conduits rely on the reps and warranties made by originators before they make similar reps and warranties on the loans they place in securities, so they have recourse to originators if problems are detected. However, this recourse has little value if the originator is small or otherwise unable to repurchase problem loans. Moreover, smaller conduits may have little capacity either to deal with legal problems related to bad loans or to manage the bad loans themselves. SFAS 125 may enter the picture as well by requiring write-downs to IO strip and similar asset values.

Prepayment Risk

Falling interest rates during the second half of 1997 raised concerns about prepayment risk. The decline in interest rates inevitably raised prepayment rates for many types of consumer loans and, accordingly, raised the possibility of adjusting IO strip, excess servicing, and other related asset values, per SFAS 125. However, prepayment risk was especially uncertain for home-equity, sub-prime, and other types of consumer loans that had been originated in volume, and through conduit channels, for only a few years. The prepayment characteristics of borrowers found through direct mail, borrowers with credit problems, and borrowers having no ongoing relation with the originating lender could simply not be known until a cycle of prepayments had run its course.[17] Complicating matters was the fact that after years of increasing competition for home-equity and high-risk borrowers, market interest rates for these types of consumer loans fell, thereby increasing the potential savings to these borrowers from refinancing. In the end, several types of consumer loans securitized by conduits responded to falling rates with substantial refinancing activity, and this activity generated write-downs of IO strip-related assets, per SFAS 125.[18]

Hedge Risk

Global financial stress and the stock market meltdown in mid-1998 marked the start of new problems for conduits. The financial problems of mid-1998 helped motivate a rise in the market cost of credit risk, causing spreads-to-Treasuries to rise, even as the general level of interest rates fell. This market anomaly exposed the true meaning of "hedge risk." For most changes in interest rates, standard hedging practices mitigate risk for a reasonable cost. However, when spreads-to-Treasuries widen, hedging activities often fail to mitigate interest-rate risk. In such cases, holding substantial amounts of loans can result in losses many times greater than the modest "carry" that carrying loans with lower-cost financing earns. For example, figure 8 shows commercial mortgage spreads increasing over 100 basis points (1.0 percent) in the fall of 1998, an increase that could easily cause hedge losses to exceed the full benefit expected from a securitization. This problem of hedge losses was encountered by conduits

[16] As reported by Bloomberg News, July 14, 1997.

[17] Higher prepayment speeds for loans originated by loan brokers and other third-party originators have only recently been formally documented (see Lacour-Little and Chung [1999]).

[18] Unexpected prepayments caused Aames Financial to write down sub-prime loans in September 1997, and Green Tree Financial to write down mobile-home loans in November 1997.

with many types of loans, including products such as commercial loans that had largely escaped the consumer finance trials of 1997.

Market Risk

Figure 8 also illustrates the less-favorable market conditions conduits confronted after the jump in spreads in October 1998. One can see this by comparing the spread between the two lines in figure 8 before October 1998 with the spread after that date. Before October 1998, commercial mortgage rates were very close to the rates on securities created from loans in the AAA to BBB range, but after that date the spreads between the rates were much wider. Wider spreads imply that conduits will probably find it harder to securitize loans profitably. They will have to earn a larger profit from each deal to compensate them for the higher risk that is effectively assessed by financial markets, especially after a period of substantial hedge-related losses. The immediate effect is that conduits need to make a higher profit on each securitization to justify continued activity. Moreover, higher spreads for investment-grade securities are often associated with much higher spreads for non-investment-grade securities, as well as greater difficulty finding buyers for the non- investment-grade classes of each deal. In short, conduits' close proximity to the financial markets makes them especially susceptible to financial ebbs and flows, even apart from the hedge risk associated with an isolated spike in spreads.

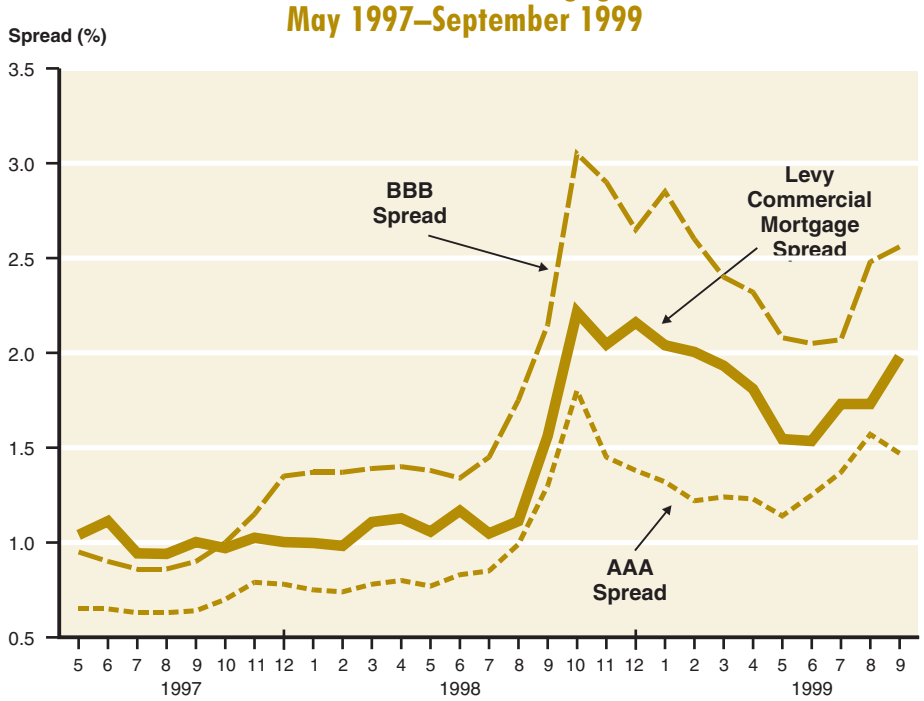
New-Product Risk

Once a conduit has drawn together the many players needed to securitize assets, it can often apply its experience easily to other loan products. As conduits matured in the 1990s, established firms gained control over origination networks, and profit margins for established and lower-risk loan products thinned. Accordingly, many conduits began to securitize higher-risk loan products that had never been originated on a nationwide scale, such as "B/C" quality loans and mortgages with loan-to-value ratios as high as 125 percent. Even if the credit risk of these new products is ignored, the refinancing and other payoff characteristics of these products remain largely unknown. Because a significant portion of the value of securitization can be traced to the value of the excess interest and because this value is heavily influenced by loan payoff patterns, an additional level of risk arises for conduits in new loan products with unknown payoff characteristics.

* * *

The experiences of 1997–1998 underscore many (not all) of the risks faced by conduits. These risks seem especially problematic for independent conduits because of the complex nature of the conduit business. Conduits that affiliate with larger institutions seem better suited to focus on the core "middleman" role they were initially intended to play. Affiliating with larger organizations also increases the possibility of synergies with affiliates, provides a steadier source of funding, and ensures a degree of insulation from the market during periods of stress. For these reasons it is not surprising that, as table 1 shows, large

Figure 8
Spreads-to-Treasury Rates for Commercial Mortgages *versus* AAA and BBB Commercial Mortgage Securities, May 1997–September 1999



Note: AAA and BBB spreads are calculated relative to ten-year Treasury rates by Morgan Stanley for conduit commercial mortgage securities, as reported by Bloomberg Financial Markets. The Levy commercial mortgage rate is spread to ten-year Treasury rates, net of twenty basis points servicing fee.

conduits affiliated with larger institutions have survived the stress of the past several years, whereas independent conduits have fared poorly.

Conclusions

In many respects, conduits have been remarkably successful. They now function as a small industry, operating in a variety of forms ranging from independent to affiliated entities. Conduits have grown throughout the 1990s, to the point that their operations account for a large proportion of the private-label securitization market. Conduits have also led the way in securitizing commercial loans as well as many other popular products that lie outside the domain of Freddie Mac and Fannie Mae, and they have done so without federal intervention.

For banks and thrifts conduits also offer new strategic options in the form of securitization, which represents an alternative to traditional forms of financing for the institutions' many types of loan products. The new technology also facilitates the ability of banks and thrifts to specialize in component activities, thereby enhancing their strategic flexibility. If credit risk and loan default become problems for institutions, securitization also offers innovative options for disposing of troubled assets.

Nevertheless, although conduits were very successful in the early and mid-1990s and the benefits of securitization were considerable, recent experience has illustrated many risks. In particular, the 1997–1998 period exposed risks ranging from regulatory and accounting problems to prepayment and market issues. During this period almost every independent conduit had severe problems, as evidenced by stock prices languishing at small fractions of the values that had been observed only one and two years earlier. This experience suggests that conduits are more successful when they are affiliated with larger entities engaged in related activities, such as securities-brokerage or banking-related enterprises. In these institutional contexts conduits appear sufficiently viable that they can be counted on to play a central role in securitization well into the next century.

Table 1
Transformation of Affiliated versus Independent Conduits, 1997–1999

Name	Rank in 1997	Rank in 1998	Status in 1999
Top 5 Affiliated Conduits in 1997			
GMAC–RFC	1	1	Continuing operations.
Norwest Asset Securities Corp.	2	2	Continuing operations.
GE Capital Mortgage Services	4	3	Continuing operations.
Salomon Brothers	8	10	Continuing operations.
Countrywide Mortgage Securities	9	5	Continuing operations.
Top 5 Independent Public Conduits in 1997			
ContiMortgage	3	8	Severe financial problems in 1998. Proposed buyout by GMAC in 1999 never consummated. Seventy percent decline in stock price in year before proposed merger.
IMC Mortgage	5	9	Severe financial problems in 1998 motivate agreement to merge with Greenwich Street Capital Partners. Stock price declined over 95 percent during year before merger.
The Money Store	6	14	Purchased by First Union 6/30/98 (before market fallout). Before merger, stock price was trading near the year's high.
Firstplus Financial	7	19	Severe problems; portions placed in Chapter 11 in 3/99. Stock price trading below $1 as of 5/99.
Advanta Corp.	11	13	1998 earnings dropped but remained positive. Revised business strategy by selling core credit-card business in 2/99. Stock price rose in 5/99 to 50 percent of previous year's high.

Note: 1997 and 1998 conduit rankings are from *The Mortgage Market Statistical Annual* for 1998 and 1999, respectively.

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