

monthly payments, the cash passes through the servicing agent, to the loan pooler, and on to the holders of the Ginnie Mae certificates. Ginnie Mae guarantees the payment to holders of the certificates but not the individual mortgage loans.

Of the four underwriting agencies, Ginnie Mae is the only one authorized to issue a “government guarantee,” a commitment backed by the full faith and credit of the United States. For this commitment, Ginnie Mae charges a fee amounting to 6 basis points (six one hundredths of 1% of the commitment amount). A pooler who owns the right to service each individual mortgage in the pool is limited to a servicing fee of 44 basis points on Ginnie Mae I MBS and the same commitment fee of 6 basis points, and from as little as 25 basis points to as high as 75 basis points for servicing fees on Ginnie Mae II MBS. Application fees for the commitment guarantee are \$500 on the first \$1.5 million of mortgage pool purchase commitment and an additional \$200 on each additional increment of \$1 million.

A Ginnie Mae certificate, called a “Ginnie Mae” in financial markets, offers a powerful incentive for an investor. It carries the zero-risk equivalent of a government bond and offers up to 1 percentage point higher return than the bonds. While the smallest denomination of a Ginnie Mae is \$25,000, a number of mutual funds offer participation in much smaller denominations.

In the third quarter of 2014, Ginnie Mae’s MBS outstanding amounted to \$1.44 trillion, or 14.62% of the \$9.85 billion of residential mortgage debt in this country.

It has become more difficult in the last five years to meet Ginnie Mae’s eligibility requirements to be an issuer of MBS or HMBS. The requirements language below was taken directly from the Ginnie Mae website.

Ginnie Mae requires its Issuers to meet the following minimum criteria:

- Issuers must be approved FHA mortgagees in good standing. A mortgagee approved only as an FHA loan correspondent is not eligible to be a Ginnie Mae Issuer.
- Issuers must possess demonstrated experience and management capacity in the underwriting, origination, and servicing of mortgage loans. Issuers may utilize a Ginnie Mae approved sub-servicer; however, the Issuer must have an individual on its staff to oversee the sub-servicer’s performance. This individual must possess at least three years of broad servicing experience.

- Issuers must have fidelity bond and a “mortgagee errors and omissions” policy in effect.
- Issuers must have a quality control plan in place for underwriting, originating, and servicing mortgage loans as well as for secondary marketing.

Net Worth Requirement: For the Single-Family Program, Issuers must have a minimum net worth of \$2,500,000. For the HMBS programs, Issuers must have a minimum net worth of \$5,000,000. For the multifamily program, Issuers must have a minimum net worth of \$1,000,000. For the manufactured housing program, Issuers must have a minimum net worth of \$10,000,000.

Liquidity Requirement: For the Single-Family, Multifamily, and HMBS programs, Issuers must also have liquid assets totaling 20% of its Ginnie Mae net worth requirement.

Institution-wide Capital Requirement: Depository institutions must meet the regulatory definition of well-capitalized. Non-depository institutions, including credit unions, must hold equity capital of 6% of the institution’s total assets.³

Federal Home Loan Mortgage Corporation (Freddie Mac)

With a bit of imagination added, the acronym FHLMC becomes “Freddie Mac.” Freddie Mac is a federally chartered corporation owned primarily by the savings association industry. It functions in a similar manner to Fannie Mae with an 18-member board of directors and is subject to an oversight committee under HUD. HUD sets target goals for both Freddie and Fannie, including loan purchase requirements in central city areas and for low- and moderate-income families, which both agencies report meeting.

Prior to its being put into conservatorship by the federal government, Freddie Mac’s only remaining ties to the federal government existed around the fact that five of its directors were appointed by the president of the United States and it carried a \$2.25 billion line of credit with the U.S. Treasury. Congress sets limits from time to time on the maximum loan

³Ginnie Mae. “Eligibility Requirements.” Listed in the Doing Business with GinnieMae section of GinnieMae.gov. Accessed Dec. 29, 2014 at http://www.ginniemae.gov/doing-business-with-ginniemae/issuer_resources/how_to_become_an_issuer/Pages/eligibility_requirements.aspx

amount that all federal agencies may purchase. In late 2008, the Treasury agreed to fund up to \$810 billion in loans investments to shore up both Fannie Mae and Freddie Mac. At the time, it was announced that the huge combined portfolio of \$1.5 trillion was to be reduced by 10% a year. Neither Fannie Mae nor Freddie Mac has more than \$250 billion. (Note, this was later changed to a 15% annual reduction rate in 2012.)

From its creation as a part of the savings association system in 1970 for the purpose of purchasing mortgage loans, Freddie Mac has favored securitizing loans. Rather than purchasing loans for its portfolio, a practice initially followed by Fannie Mae, Freddie Mac elected to raise its money through the sale of mortgage participation certificates. These certificates, called "PCs" in the financial market, are backed by multimillion-dollar blocks of geographically diversified single-family (one- to four-family) loans that serve as collateral. The certificates are unconditionally guaranteed by Freddie Mac. This is an "agency" guarantee, which falls short of a federal government guarantee. What is meant by an agency guarantee is that, while the agency is not legally a part of the government, its ties are close enough that investors assume the government will not allow it to default on an obligation. But there is no legal obligation for the government to do so. Warning signs that an implicit guarantee was developing, along with the possibility of a housing finance crisis, were being openly discussed in 2003, and John Corzine (D-NJ) proposed legislation to put Fannie Mae and Freddie Mac under the supervision of the U.S. Treasury department as part of a new agency, to be responsive to direction from the Secretary of the Treasury—an agency that would be authorized and directed to regulate and supervise Fannie and Freddie as though they were insured banks. This would have included raising their capital requirements to levels currently deemed adequate for insured banks, and limiting their activities outside the secondary mortgage market. Unfortunately, Senate Bill 1508, written for the creation of a "Federal Enterprise Regulatory Reform Act of 2003," failed to gain enough support to pass. Ironically, it was opposed by Congressman Barney Frank, the ranking member of the Financial Services Committee, who described Fannie Mae and Freddie Mac as "not facing any kind of financial crisis."⁴ A similar bill of the same name was introduced by Senator Chuck Hagel (R-NE) in

⁴Labaton, Stephen. "New Agency Proposed to Oversee Freddie Mac and Fannie Mae." *The New York Times*, Sept. 11, 2003.

2005 with the support of such powerful co-sponsors as Senators Elizabeth Dole, John McCain, and John Sununu, but it too failed to pass.

Freddie Mac acquires its loans through purchases from its approved seller/servicers. While these have been mostly savings associations, the right to do business with Freddie Mac is open to any loan originator meeting its qualifications. However, as a part of the savings association system, its policies are more suitable for loan originators who hold deposit assets. Most of its purchases are conventional loans that must carry private mortgage insurance unless there is a 20% or more down payment. Freddie Mac may also acquire FHA and VA loans, but almost all of these loans are now handled through Ginnie Mae.

Even though Freddie Mac earns most of its money from fees charged for underwriting blocks of mortgage loans, it still holds a relatively small amount of mortgage loans in its own portfolio earning interest. On September 30, 2010, its loan portfolio amounted to a little over \$302 billion, while its mortgage-backed securities programs amounted to \$2.192 trillion, totaling a market share of 21% of all residential mortgage loans. This figure represents an increase from a 12% and 16% market share in 1989 and 1998, respectively.

Federal National Mortgage Association (Fannie Mae)

The oldest participant in the secondary mortgage loan market is Fannie Mae. Fannie Mae began its life in 1938 as a government agency responsible for purchasing only FHA loans. At that time, Congress correctly anticipated a rejection of the newly formed FHA-insured loan program by regulated lenders. The solution was to create another method of funding loans through their sale to secondary-market investors. Since this market was close to nonexistent in those days, Fannie Mae was established as a part of the original act creating the FHA for the purpose of purchasing FHA loans. Later, Fannie Mae was authorized to also buy VA loans.

In those early days, the loan originators willing to work with FHA loans were mostly mortgage companies. They were able to fund these loans through sale to Fannie Mae, thus bypassing depository institutions. Ever since, Fannie Mae has worked closely with mortgage companies by providing forward loan commitments that give good assurance of funding.

In 1968, Fannie Mae was converted from a government agency to a federally chartered private corporation with its stock listed on the New York Stock Exchange. However, through its federal charter, it retains close ties to the United States government. For example, five of its 18 directors are appointed by the president of the United States, and it can borrow up to \$225 billion from the U.S. Treasury. Fannie Mae is subject to an oversight committee under HUD, as is Freddie Mac, and its policies must conform to government requirements. After becoming a private corporation in 1968, Fannie Mae expanded its loan purchases from FHA and VA loans to include the much larger market for conventional loans.

Fannie Mae has long followed the policy of selling short-term securities, mostly debenture bonds, and using the proceeds to buy loans for its own portfolio. Its profits have come from the difference between what it paid its bondholders and what it earned on its mortgage loan portfolio. When this margin began to dry up in the early 1980s, Fannie Mae shifted to selling services for fees. In 1982, it undertook the guarantee of mortgage-backed securities for its seller/servicers. The guarantee is an “agency” guarantee, like Freddie Mac’s. In addition, Fannie Mae began assembling its own blocks of mortgage loans to use as collateral for other mortgage-backed securities.

As of 1992, Fannie Mae was overseen by the Office of Federal Housing Enterprise Oversight (OFHEO), and the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 (FHEFSSA). These entities were created to reduce the risk of failure of Government-Sponsored Enterprises (GSEs) like Ginnie Mae, Fannie Mae, and Freddie Mac. The OFHEO used to issue regulations necessary to carrying out its function and purpose, examine and set risk-based capital levels for the GSEs, and initiate administrative and enforcement actions. These agencies proved to be less than effective, however,⁵ and the Federal Housing Finance Agency (FHFA) was created on July 30, 2008, when President George W. Bush signed into law the Housing and Economic Recovery Act of 2008. The act created a regulator with the authority necessary to oversee vital components of the United States secondary mortgage markets: Fannie Mae, Freddie Mac, and the Federal Home Loan Banks. In addition, this law combined the staffs of the Office of Federal Housing Enterprise Oversight (OFHEO), the Federal Housing Finance Board (FHFB), and the GSE

⁵Paisley, Edward. “The McCain Blame Game Misfires.” ThinkProgress.org, Sept. 19, 2008. Accessed Dec. 28, 2014 at <http://thinkprogress.org/economy/2008/09/19/172363/mccain-blame-game/>

mission office at the Department of Housing and Urban Development (HUD). With the very turbulent market facing the world, strengthening the regulatory and supervisory oversight of the 14 housing-related GSEs seemed imperative. The establishment of FHFA will hopefully promote a stronger, safer U.S. housing finance system. Fannie Mae is currently in conservatorship and under the oversight of the Federal Housing Finance Agency, and consequently not able to fully function independently, meaning it cannot fund loans or issue securities without intervention and support from the Federal Reserve Bank. In a very few years, Fannie Mae's MBS programs had exceeded its portfolio of loans. As of the 3rd quarter 2014, its loan portfolio and mortgage-backed securities programs amounted to \$2.86 trillion, totaling a market share of 29% of all residential mortgage loans. This figure represents an increase from a 17% and 4% market share in 2000 and 2010, respectively. Considering the importance of these GSEs on the U.S. economy and mortgage market, it is clear that an intensified focus must be placed on the oversight of Fannie Mae, Freddie Mac, and the Federal Home Loan Banks.

As of early 2015, there was still no final resolution of the conservatorship. Fannie Mae is still under the oversight of the FHFA, and how Fannie Mae might emerge from conservatorship has yet to be determined. This situation is still no closer to resolution than it was five years ago.

Federal Agricultural Mortgage Corporation (Farmer Mac)

To expand the source of funds for farm lenders, Congress passed the Agricultural Credit Act of 1987, creating the Federal Agricultural Mortgage Corporation under the supervision of the Farm Credit Administration. Farmer Mac was created by Congress to improve the ability of agricultural lenders to provide credit to America's farmers and ranchers as well as rural homeowners, businesses, and communities. Its initial capitalization was through a \$20 million subscription sale of common stock sold primarily to financial institutions that deal in agricultural loans. Farmer Mac, as it has become known, was originally patterned after Ginnie Mae as an underwriting agency for pools of farm loans. Farmer Mac could not purchase loans; rather, it granted approval for loan poolers and the loans that were permitted in its pools.

Farmer Mac originally had other restrictions. For instance, it could provide only a 90% guarantee for the timely repayment of its mortgage-backed securities. The other agencies could guarantee 100%. Furthermore,

its securities had to pass requirements of the Securities and Exchange Commission, which the other agencies did not, and poolers were required to establish a 10% reserve for each pool. These restrictions impeded the credit enhancement for agricultural loans. Another factor that hampered its growth was a substantially improving farm economy in the late 1980s, which did not need as much help with credit.

Limitations on Farmer Mac changed with Public Law 104-105, signed by President Clinton on February 10, 1996. Farmer Mac was thereby granted about the same powers as Fannie Mae and Freddie Mac. It can now purchase agricultural loans directly from originators and can issue its own 100% guaranteed, mortgage-backed securities based on its loan pools.

A *qualified agricultural real estate loan* is defined as one secured by land or structures that are used for the production of one or more agricultural commodities. In general, individual loans may not exceed \$2.5 million—a measure intended to preserve smaller, family-run farms. Loan pools may also consist of *rural housing loans*. Such loans are defined as those made to finance single-family residential dwellings in rural areas and communities with populations of no more than 2,500.

Farmer Mac did not issue its first guarantee certificates until 1992. These took the form of a \$233 million package of securities collateralized by agricultural loans that was originated by Travelers Insurance Company. Since the law passed in 1996, Farmer Mac has become America's secondary market for first-mortgage agricultural real estate loans, primarily by purchasing qualified loans from lenders, thereby replenishing its source of funds to make new loans. Farmer Mac funds its loan purchases by issuing debt or securities backed by pools of loans and selling them into the capital markets. In so doing, Farmer Mac facilitates the flow of lendable money from Wall Street to rural America, thus providing a stable supply of mortgage credit to lenders and borrowers. It has used three secondary funding programs to accomplish its mission. These are as follows:

- **The Farmer Mac I Program**, whereby Farmer Mac purchases qualified loans from lenders who are approved sellers, replenishing its source of funds to make new loans. Farmer Mac meets lenders' unique needs through structures that shift the credit risk to Farmer Mac, while leaving the loans with the originating institution.
- **The Farmer Mac II Program**, whereby Farmer Mac provides secondary-market funding to support USDA-guaranteed loans. Through

Farmer Mac II, lenders sell the guaranteed portions of USDA loans directly to Farmer Mac. Farmer Mac buys the guaranteed portions at attractive rates, allowing agricultural lenders to increase profits and provide better services to their borrowers and communities.

- **The Farmer Mac III Program**, which offers the option of combining both Farmer Mac I and II by purchasing first-lien mortgage loans that are senior to loans guaranteed via state or federal programs. Farmer Mac's greater powers granted in 2008 have not had sufficient time for analysts to be able to judge whether Farmer Mac III new limits impact the farm credit markets.

By June 30, 2014, Farmer Mac held \$5.1 billion in securitizations as investments and over \$13.7 billion in outstanding securitizations.

MORTGAGE PARTNERSHIP FINANCE PROGRAM® (MPF®)

In 1997, the Federal Home Loan Bank System started the Mortgage Partnership Finance program to fund mortgage loans through the Chicago FHL Bank to its member institutions in Illinois and Wisconsin. Within its first 12 months, the MPF program had funded \$195 million in MPF loans. The program was well received, and in 1999, the Federal Housing Finance Board, which oversees the FHL Banks, authorized an expansion of the program to all six FHL Banks and raised the funding limit from \$750 million to \$9 billion system-wide.

At that time, \$9 billion represented only about 1% of the annual mortgage market in this country, the initial expansion coming from a huge financial resource. However, within the first six months of 2010, the MPF program funded 1,291,650 loans totaling \$182.9 billion, and funding limits for this program have continued to expand.

Congress created the FHLB System during the Depression years to help banks finance housing, in one effort to restore the nation's economy. In the 1930s, banks were not particularly interested in making more mortgage loans, as they had experienced substantial defaults. The FHL Banks found other kinds of investments and grew in manifold ways during subsequent years of operation. Today, in net assets, the FHLB System ranks second only to Fannie Mae.

The MPF represents an important incentive to regulated lenders to expand their efforts in the mortgage loan origination market. Over a

number of years, mortgage companies have expanded their market share of the residential mortgage market to well over 50%, dealing primarily through nonbank lenders and the sale of mortgages to federal agencies and private lenders to be securitized.

The MPF program allows the FHL Bank to purchase mortgages from, or fund them through, its participating member institutions. The program is limited to fixed-rate mortgages on one- to four-family residences originated by these member institutions. The size of eligible loans is limited to conforming loan limits, generally up to \$417,000 as of 2014.

The program is an alternative to selling these loans to a secondary-market agency and paying a guarantee fee. The FHL Bank manages the funding, interest rate, liquidity, and prepayment risks associated with the loans. Participating lenders eliminate the interest rate risk of their fixed-rate loans while fully maintaining their customer relationships.

Where Are We Now?

What You Should Know About GSEs

A Government-Sponsored Enterprise (GSE) is:

- a financial services corporation created by the United States Congress
- used to enhance the flow of credit to targeted sectors of the economy and make those segments of the capital market more efficient and transparent
- used to enhance the availability and reduce the cost of credit to the targeted borrowing sectors (agriculture, home finance, and education)

The following are the major GSEs:

- Federal Farm Credit Banks (FCBanks) (1916)
- The 12 Federal Home Loan Banks (FHLBanks) (1932)
- Federal National Mortgage Association (Fannie Mae) (1938–2008*)
- Government National Mortgage Association (Ginnie Mae) (1968)

- Federal Home Loan Mortgage Corporation (Freddie Mac) (1970–2008*)
- Student Loan Marketing Association (Sallie Mae) (1972–2004**)
- Federal Agricultural Mortgage Corporation (Farmer Mac) (1987)
- Financing Corporation (FICO) (1987)
- Resolution Funding Corporation (REFCORP) (1989)
- National Veteran Business Development Corporation (1999)

*Taken over by the federal government in 2008.

**Privatized in 2004; no longer a GSE.

LOAN POOLS

Assembling a block of loans into a loan pool can be arranged by a number of different types of companies: investment bankers, commercial banks, finance companies, large real estate brokerages, Fannie Mae, Freddie Mac, and even home builders. Loan pools serve as the collateral for a class of securities generally identified as mortgage-backed securities. Three of the federal underwriters, Fannie Mae, Freddie Mac, and Farmer Mac, serve a dual function. They may form their own pools and issue guarantee certificates for themselves, or they may approve pools assembled by others and issue guarantees covering other pools. Either way, the guarantee enables those who pool loans to sell the securities more readily and at slightly lower interest rates. The guarantee, of course, provides credit enhancement that reduces the risk of the security.

However, not all loan pools are guaranteed by a federal agency, nor are all mortgage loans assigned to pools. Many mortgage loans are held by individual investors and by institutions as part of their portfolios. Some pools that are not federally underwritten are assembled by large financial institutions that issue their own mortgage-backed securities collateralized by their pools. This is particularly true of jumbo residential loans (those that exceed conforming loan limits), nonconforming residential mortgages referred to as Alternate A or *subprime mortgages*, and some limited types of commercial loans. Such securities are sold on the strength of the issuing institution and are generally not guaranteed. These securities have often been issued by **private mortgage conduits** that have emerged in a new

loan origination model referred to as the **originate-to-distribute model**. In the originate-to-distribute model, the originator of the loan often does not have the incentive to act fully in the interest of the ultimate holder of the loan (in most cases, a REMIC, CMO, RMBS, or CDO). Often the banks, mortgage companies, and other financial firms embraced the originate-to-distribute model when the development of securities products allowed them to escape any significant retained exposure to losses for loans they originated; it had the added bonus of allowing them to eliminate the expense of keeping the employees specialized in loan workouts who could properly deal with creditor discussions with mortgagees. As a result, nearly all delinquent mortgage workout responsibilities went to those firms specializing in mortgage loan servicing. Since there was insufficient staffing of mortgage workout specialists when the mortgage crisis broke, there was a lack of sufficiently trained mortgage workout specialists available to deal with the sheer volume of delinquencies. Studies by the Federal Reserve, mortgage trade groups, and academics have shown that it takes not months but years to adequately train a mortgage workout specialist. This fact alone explains a great deal about the recent problems that financial institutions are encountering as they attempt to deal with the volume of delinquent mortgages. Loan originators had every incentive to maintain origination volume because that would allow them to earn substantial fees while not retaining any ownership interests in the mortgage itself. Once these types of loans were accepted by the market, many originators had to face the moral hazard of no or weak incentives to maintain loan underwriting quality. The sheer volume of these issues in 2005 and 2006—\$1.2 trillion of subprime alone⁶—and the importance of the profits that they created not only for the originate-to-distribute lenders but for the investment banking firms, led to an overheated expansion of the subprime mortgage market. Later in this chapter, we will discuss the structure of CMOs and CDOs, and the moral hazards of the originate-to-distribute model will become clearer.

Assembling a Loan Pool

A pool can be assembled by two different methods: One is to acquire the loans first; the other is to first sell the securities that provide cash for the purchase of loans. If the chosen method is to acquire the loans first, this

⁶“Inside Mortgage Finance.” *The 2007 Mortgage Market Statistical Annual*. Key Data (2006). Joint Economic Committee (October 2007). Inside Mortgage Finance Publications, 2007.

may be accomplished through either outright purchase or by internal origination of the loans. For example, the purchasing of loans from loan originators throughout the country may be handled by an investment banker, such as Credit Suisse Securities LLC. Alternatively, a commercial bank such as Bank of America or JPMorgan Chase may generate its own block of loans through its retail branch offices.

The other method of assembling a loan pool is to first sell securities, and then use the proceeds of the sale to purchase those mortgage loans that meet the requirements of the issuer of the securities. This method is most commonly implemented through the sale of tax-exempt bonds. It is often used by states and municipalities to fund various housing agency programs for low- and moderate-income families.

If the origin of the pool is not by one of the federal underwriters but is to be so underwritten if the originator would want to later sell or securitize them, the assembled loans must comply with that federal underwriter's requirements. Once underwriting approval is obtained, a fee is paid to the federal agency underwriter for the guarantee certificate. With the underwritten loan pool serving as collateral, a series of securities can be issued and sold to investors throughout the world, thus recovering the initial investment made in acquiring the loans.

Following is a more detailed explanation of the two methods. First, we will examine the tax-exempt bond procedure that raises money before the loans are acquired. Then we will review the alternative method, which consists of assembling a pool of loans first and then issuing mortgage-backed securities. Finally, we will cover some of the variations in mortgage-backed securities.

TAX-EXEMPT BONDS

The most effective way of bringing lower-cost money into the mortgage market has been through the sale of **tax-exempt bonds**. A tax-exempt bond is a type of security sold by states and municipalities paying interest that is not subject to federal income taxes. The federal government does not tax states or municipalities. Whether or not this freedom from taxation should extend to funds used to assist an individual purchasing a house, or for entrepreneurial industrial development, has been a question debated for many years. However, the procedure has proven beneficial to home buyers and other community development projects, so it carries substantial political support.

Approval by Congress allowing the tax exemption for private use of municipal bonds was made permanent on August 10, 1993. However, since any claim of tax exemption falls under the scrutiny of the U.S. Treasury and its IRS arm, some qualifying requirements have been issued. For instance, properties financed with tax-exempt bond money may be subject to a recapture tax if sold during the early years of ownership. Almost every year, changes have been made in what states and municipalities may do in qualifying tax-exempt issues when the proceeds are used to make mortgage loans. Generally, the total of such issues is limited by an allocation of dollar amounts to each state.

“Bond money” is available to consumers at lower cost because the associated tax savings are generally passed on to the borrower. People in upper tax brackets are generally the ones attracted to tax-exempt bonds because they can benefit from a lower interest rate not subject to income taxes. For example, a corporate bond paying a 10% rate subject to tax would yield only about a 6.1% return to a taxpayer if he or she is in the 39.6% tax bracket.⁷ Thus, a tax-exempt bond yielding an investor 6.1% would be roughly an equivalent return to the investor and of substantial benefit to the home buyer.

Almost all states and many municipalities have entered this market to raise lower-cost money through the sale of various kinds of securities. In some cases, the money raised from the sale is used to buy mortgage loans from approved lenders within the state or community. Thus, tax-exempt bond money becomes another source of secondary-market funding. In some cases, however, housing authorities use this money to make direct loans to qualified borrowers. Almost always, there is an upper-income limitation for home buyers so as to direct the money primarily to lower- and middle-income families.

Another use of tax-exempt bonds is in financing industrial development projects. Sometimes a single developer may be the beneficiary of the low-cost money, or the money may be used to finance a project open to any qualified commercial development. The basic purpose of these bond issues is to attract business to a community or state, thus increasing available jobs and the tax base.

⁷A simple formula to determine comparative yields for investors is as follows: Divide the municipal bond rate offered by the result of 100% less the taxpayer's tax bracket. The result is the yield equivalent for an investment subject to tax. For example, consider a municipal bond offering 7% for a taxpayer in the 39.6% tax bracket. Seven divided by .6040 equals 11.59%, the equivalent taxable yield.

MORTGAGE-BACKED SECURITIES (MBS)

The growth of the secondary market indicates the success that lenders and investors have had in developing practical procedures and uniform instruments for mortgage loans. Yet, as investments, mortgage loans carry certain problems, such as the need for long-term supervision of each individual loan and an uncertain return caused by unpredictable prepayments. Furthermore, most major investors are more comfortable dealing in securities, a type of investment that can be bought and sold with greater ease than mortgage loans. By packaging a block of mortgage loans to be held as collateral for an issue of securities, mortgage loans are in effect converted to securities and become more acceptable to investors.

While both Freddie Mac and Ginnie Mae have offered mortgage-backed securities since the early 1970s, it has only been since the early 1980s that other institutions and companies began entering this field. One reason for the surge of activity in mortgage-backed securities was the losses sustained by traditional mortgage lenders beginning in the late 1970s as interest rates escalated. Holding long-term, fixed-rate investments inevitably lost some of its appeal. Another reason was the climb in mortgage interest rates to levels of or above other long-term investments, particularly government bonds. The higher rates proved attractive to investors and allowed those packaging the blocks of mortgages a profitable margin for their work. Securities are a far more attractive investment vehicle than mortgage loans in the big financial markets. The new originate-to-distribute model discussed earlier allowed the shift of risk to the investor in a way not available in earlier periods of the development of more sophisticated mortgage-backed securities products. In 2001, subprime mortgage originations represented only 8.6% of total mortgage originations, and only 50% of that volume ended in securitized debt obligations with full risk transfer to the investor. By 2006, however, subprime mortgage origination had grown to 20.1% of total mortgage originations, with over 80% of that volume ending up in full transference of risk through subprime mortgage securitization. The shift to the securities market to raise mortgage money proved to be a more than adequate replacement for the loss of passbook savings money, but at a somewhat initial higher cost. As the market expanded, competition reduced the interest rates charged so that it became a cost-saving method for home buyers. In the growth of securities as a source of funding, a number of variations have developed. Two of the most popular types are mortgage pass-throughs and collateralized mortgage obligations (CMOs), as described in the following section.

Mortgage Pass-Through

The original concept of a mortgage-backed security was to assemble a diversified block of mortgage loans—generally identified as a “pool” of loans—and then issue a series of securities collateralized by that block of loans. The issuer of the securities may or may not guarantee them. If the securities are issued by a private institution or company, they are seldom guaranteed, and they are more difficult to sell. As the popularity of a government agency underwriter dominated the market, the guarantee certificate became the security that is sold.

At first, the purpose behind this strategy was to simply pass on the risk of a fluctuating interest rate to other investors more familiar with the risks involved. The income derived from the underlying block of loans in pro rata shares was simply passed on to the security holders. If a loan was paid off prematurely, the additional principal was passed through to the security holder, thus repaying a portion of the principal itself. If interest rates increased, the payments on the underlying block of loans remained unaffected. In such an instance, security holders would suffer a loss of value in the security, but that was a risk they understood.

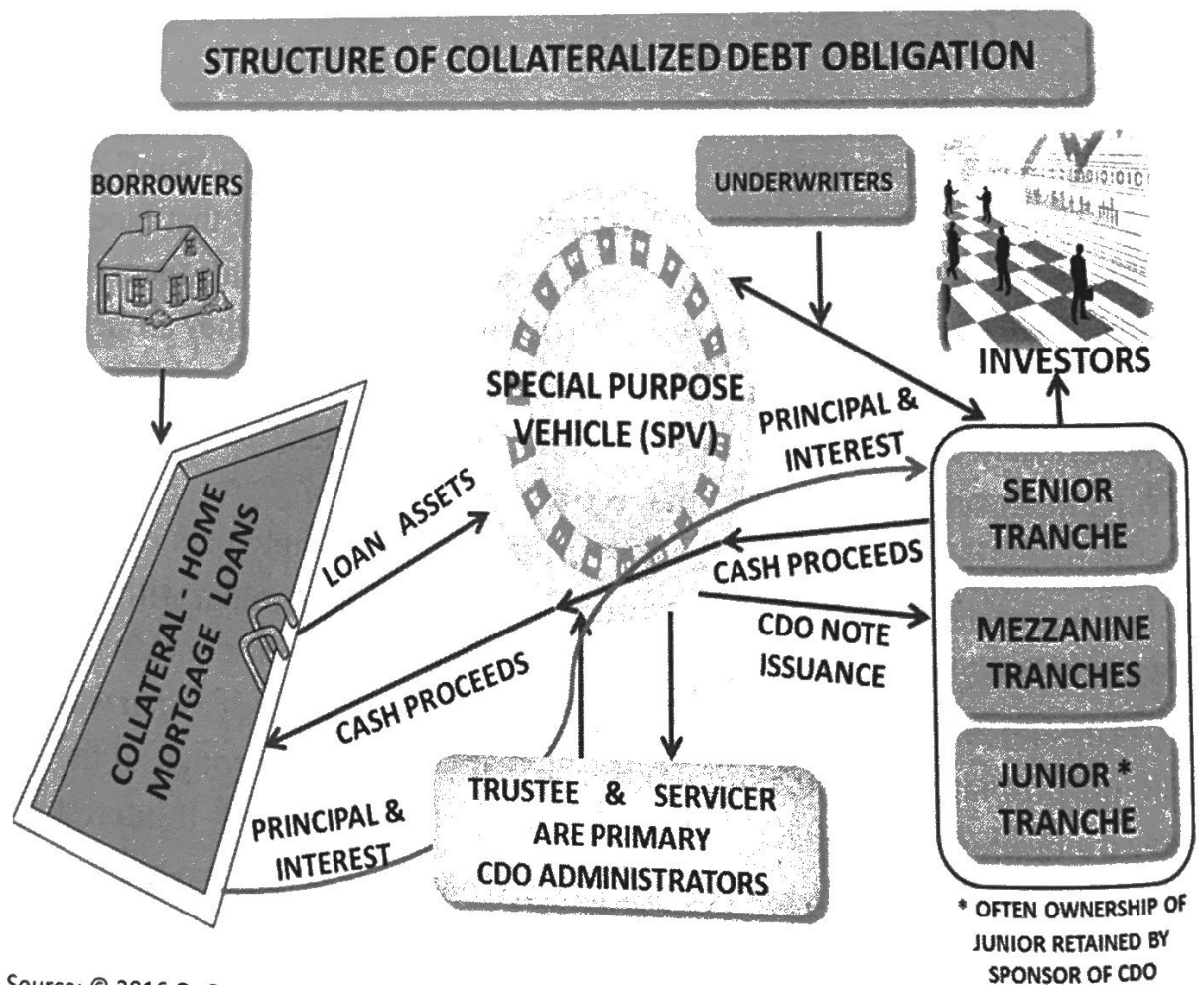
The **pass-through** type of payment created some uncertainty in its cash flows and thus in the true yield on the investment itself. To overcome this inherent problem, the financial market issuers of these securities developed an alternative method of handling cash flows to investors. This method was the collateralized mortgage obligation.

Collateralized Mortgage Obligations

Another variation on the mortgage-backed security is the **collateralized mortgage obligation (CMO)**. The first CMO was issued by the Federal Home Loan Mortgage Corporation in June 1983. It has several advantages over the mortgage pass-throughs that are attractive to traditional investors in corporate-type bonds. By early 1986, securities dealers (investment bankers), home builders, mortgage bankers, thrift institutions, commercial banks, and insurance companies had also begun issuing CMOs.

Differences between CMOs and Mortgage Pass-Throughs

The innovation of the CMO structure lies in its segmentation of the mortgage cash flows. The older pass-through type of mortgage-backed security offers its holders an irregular cash flow since it includes the repayment of



Source: © 2016 OnCourse Learning

principal whenever a home buyer prepays a loan or refinances to achieve a lower interest rate. This happens because holders of mortgage pass-throughs own undivided interest in a pool of mortgages. Whatever the particular pool of mortgages produces in principal payments and interest is then passed directly through to the security holders.

In contrast to this procedure, the CMO investor owns bonds that are collateralized by a pool of mortgages or by a portfolio of mortgage-backed securities. The variability and unpredictability of the underlying cash flows remain, but since the CMO substitutes a sequential distribution process instead of the pass-through's pro rata distribution of these cash flows, the stream of payments received by the CMO bondholder differs dramatically from that of the holder of a pass-through security.

Structure of a CMO

The CMO structure creates a series of bonds with varying maturities that appeal to a wider range of investors than do mortgage pass-throughs. While all CMOs follow the same basic structure, significant variations have developed in how their segmentation is set up. Both CMOs and

collateralized debt obligations (CDOs), which may have other asset classes beyond single-family residential mortgages (such as credit card receivables, automobile loans, and second mortgages), have followed the basic pattern outlined below in order to attract different investors who have varying risk, liquidity, and interest earning objectives.

1. Several classes of bonds are issued against a pool of mortgage collateral or other collateral in the case of a CDO. The most common CMO structure contains four classes of bonds. The first three pay interest at their stated rates from date of issue; the final one is usually an accrual-class bond.
2. The cash flows from the underlying mortgages or other collateral in the case of a CDO are applied first to pay interest and then to retire bonds.
3. The classes of bonds are retired sequentially. All principal payments are directed first to the shortest-maturity Class A bonds. When these bonds are completely retired, all principal payments are then directed to the next shortest-maturity bonds—the B class. This process continues until all the classes of bonds have been paid off.

One of the attractions of CMOs for investors is that some of the bonds offer shorter maturities. Many investors prefer to make short-term investments. For the issuers of the securities, tapping the short-term money market means they can pay a lower interest rate for the money used to buy mortgage loans, thus increasing the margin that can be earned in such a transaction. Short-term money almost always receives lower interest rates than long-term money.

The first-priority Class A bonds may offer maturities as short as two years. Class B and C bonds may offer maturities from four to ten years. The interest rate offered on these bonds is usually measured against U.S. Treasury securities of similar maturities, only at a slightly higher rate to attract investors. Following is a general description of the basic bond classes.⁸

Class A Bonds

The shortest-maturity class of bonds receives all principal payments and any prepayments from the entire pool of mortgage collateral until the entire Class A issue is paid off. Holders of Class A bonds begin to receive significant principal payments from the first payment date.

⁸In the financial community, these bond classes are also identified as “tranches,” as in first tranche, second tranche, and so on. *Tranche* is the French word for “slice.”

Class B and C Bonds

The intermediate classes receive only interest payments until each of the prior bond classes has been retired. The interest payment is a known, fixed amount, but the principal repayment will depend on how quickly the mortgage collateral—or other collateral in the case of a CDO—pays down.

Class Z Bonds

Class Z bondholders receive no principal or interest payments until all earlier classes have been retired. However, the interest earned by the Class Z bond is added to the principal balance (compounded), accruing additional interest. During this accrual period, the cash that would otherwise be used to pay interest on the Z bonds is used to accelerate the retirement of the shorter maturity classes. When all the earlier classes are retired, the accrual period ends, and principal and interest payments to Z bondholders commence.

The purpose of CMOs was to broaden the market for mortgage-backed securities and thus assure a sufficient flow of capital into the mortgage market. They attract investors by offering higher returns than Treasury securities of similar maturities, albeit with a greater risk. This kind of financing—that is, a variety of mortgage-backed securities deriving income from huge, multimillion-dollar pools of loans—became practical with the advent of high-grade computer technology. The process simply would not be possible without recent advances in investor accounting software, telecommunications, and other computer capabilities.

REAL ESTATE MORTGAGE INVESTMENT CONDUITS (REMIC)

Tax liabilities of the various handlers and holders of mortgage-backed securities created some confusion. For instance, does the issuer of a mortgage-backed security owe income taxes on the interest income that is passed through to a security holder? To clarify the situation and avoid double taxation that might diminish the availability of mortgage money, Congress approved the **Real Estate Mortgage Investment Conduit** concept in 1986. A REMIC is a tax device that allows cash flows from an underlying block of mortgages to be passed through to security holders without being subject to income taxes at that level. Thus, the interest income is taxed only to the security holder, not to the trustee or agent handling the pass-through of cash. Various requirements must be met to establish a REMIC, and reports on its activities, which are handled by the issuer of the security

involved, must be made to the IRS. As a result, most residential mortgage-backed securities adopt either the pass-through or REMIC status, and by default most CMOs are generally structured for tax purposes as REMICs. Effective January 1, 2005, Sections 860A and 860O of the IRS regulations allow REMICs to buy interest in reverse mortgages as well.

Where Are We Now?

Commercial Mortgage-Backed Securities

Commercial mortgage-backed securities (CMBS) are a type of mortgage-backed security that is secured by the loan on a commercial property. CMBS can provide liquidity to real estate investors and to commercial lenders. As with other types of MBS, the increased use of CMBS can be attributable to the rapid rise in real estate prices over the years.

CMBS are usually issued in tranches where several classes of bonds are issued against a pool of commercial mortgage collateral. The most common CMBS structure contains multiple classes of bonds. The first classes will pay interest at their stated rates from date of issue; the final one is often an accrual-class bond. The cash flows from the underlying commercial real estate mortgages that serve as collateral are applied first to pay interest and then to retire bonds. Ultimately the classes or tranches of CMBS securities are retired sequentially. All principal payments are directed first to the shortest-maturity Class A bonds. When these bonds are completely retired, all principal payments are then directed to the next shortest-maturity bonds—the B class. This process continues until all the classes of bonds have been paid off. Investors typically like this type of structure as the tax benefits of a CMBS are generally structured like REMIC's so that the interest is passed through without taxation at the security; rather, it is passed to the security holder.

CMBS have less prepayment risks and often contain lockout provisions after which they can be subject to “defeasance, yield maintenance, and prepayment penalties to protect bondholders.”⁹

⁹Fabozzi, Frank. *Bond Markets, Analysis, and Strategies*. Prentice Hall, 2011. Chapter 14, p. 311.