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Harvard University

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The Transformation of the U.S. Housing Finance System

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HOUSING FINANCE IN THE UNITED STATES:
THE TRANSFORMATION OF THE U.S. HOUSING FINANCE SYSTEM

Housing Finance in the United States:
The Transformation of the U.S. Housing Finance System

By many standards, the United States has the best housing finance system in the world. However, the system has seen many changes and modifications over the last fifty years and throughout the twentieth century, and one of its greatest certainties has been change. To understand where we are now, it is worth reflecting on the transformations that have taken place. Over the last century, the housing finance system has seen three major revolutions.

The first was a product of the Great Depression and the need to restructure a housing finance system that was in chaos. It included the creation of the fixed-rate mortgage, the development of a system of direct and indirect support from the federal government, and a linking of the public and the private sectors. The second revolution has taken place over the last twenty years. At the end of the 1970s and in the early 1980s, we once again faced a major disruption—a clear challenge to the nation's system of mortgage lending. Since then we have seen important changes and a phenomenal growth and development of the secondary market for housing finance. With this growth has also come a shift in the institutions that are originating and servicing mortgages, as well as a further evolution of the direct and indirect federal support surrounding housing finance in the United States. A third revolution is currently underway. It is tied directly to the rapid changes in technology taking place throughout society. Technology shifts and opportunities are driving numerous changes to the nation's housing finance system and will undoubtedly have a major impact on both the delivery system and the participants. It appears that the consumer will be a major beneficiary of the shifts; but because change brings uncertainty, there are also concerns about where this revolution will lead, who the winners and losers will be, and the ultimate balance between the private sector, the public sector, and the three housing-related "government sponsored enterprises" (GSEs).

The First Revolution: A Strong System of Housing Finance Rises From the Ashes of the Depression

The period from 1921 to 1928 witnessed a strong housing boom. Annual housing production accelerated from 449,000 units in 1921 to 937,000 units in 1925, the highest level recorded up to that point. In fact, given the challenges of record keeping at the time, 1925 might have been the first million-unit year for housing production, and 1926 the second. Production then declined slowly to 753,000 units in 1928, the last year of the post-World War

I boom.[1] Housing production then dropped sharply to 509,000 units in 1929, heralding one of the darkest periods in the history of the country. As a consequence of the depression, housing production declined drastically year by year from 509,000 units in 1929 to 134,000 units in 1932. The decline in housing production included the collapse of multifamily starts from 238,000 units in 1928 and 142,000 in 1929 to a mere 9,000 in 1932, the lowest level ever recorded.[2]

Housing and the Great Depression

The first few years of the depression saw a significant drop in housing production, but even more important, a drastic fall in demand. From 1929 to 1932, the housing stock is estimated to have increased by 2.5 million units, compared to an increase of only 1 million households. The relatively large increase in housing stock was due mainly to a lag in the completion of structures started before 1929, and to the net conversions of existing structures to provide additional small units to accommodate families with reduced incomes. This relative increase in the housing stock in a rapidly deteriorating housing market was compounded by deflationary pressure, and the gross vacancy level went from an already high 8 percent in 1928 to 13 percent by 1932.[3]

In addition, the early 1930s was a catastrophic period for mortgage finance. People were confronted with unemployment and a sudden and drastic drop in personal income. This led to intense pressure on the ability of people to pay for their housing. Extensive forbearance allowed many people with delinquent mortgages to remain in possession of their homes; between 1931 and 1935, thirty-three states actually passed laws providing some relief for delinquent mortgagors, including mortgage moratoria in twenty-eight states.[4] However, with no reserve funding sources available, mortgage lending institutions were unable to keep pace as borrowers defaulted on their loans, the value of housing assets continued to drop, and deposits were withdrawn in high volumes. Consequently, a large number of lending institutions failed. Outstanding nonfarm residential mortgage debt was squeezed down in what was the first recorded reduction, from a record $30.2 billion in 1930 to $27.4 billion in 1932. New lending came to a halt, and construction virtually ceased.[5]

The structure of mortgage debt that had developed during the 1920s contributed significantly to the disaster. The large majority of mortgage loans at the time were on a short-term, renewable basis, frequently also involving higher-interest-rate junior or second mortgages. When the mortgage was due, if the homeowner could not

[1] Doan, *American Housing Production*, 29-31.
[2] Ibid., 33.
[3] Ibid., 33-34.
[4] Colean, *American Housing: Problems and Prospects*, 258.

pay off the full amount of the mortgage, including interest, the mortgage was in default, and the homeowner would lose the home. To make matters worse, the mortgage finance industry was highly fragmented and lacked any backup or reserve capacity, and a secondary market for housing was essentially nonexistent. The nation's system of mortgage debt was in collapse, and the stage was set for the first revolution in housing finance—the development of a system including not only a new, longer-term mortgage instrument for the home buyer, but also a new structure of financial institutions to provide and support the financing of housing.

Efforts at Reform

The first effort to reform the system came in July of 1932, while Herbert Hoover was president, with the passage of the Federal Home Loan Bank Act. The intent of the act was to provide a reserve system to support housing finance that would bring relief to troubled homeowners and lending institutions. It established twelve regional Federal Home Loan Banks supervised by a Federal Home Loan Bank Board. It also provided authority to borrow up to $215 million from the U.S. Treasury and for the newly created Federal Home Loan Banks to issue tax-free bonds as a source of loan funds (which became known as "advances") for the benefit of member institutions, which were largely savings and loan associations. The capital stock of the regional banks was to be owned by member institutions, each of which were required to purchase stock. Given the magnitude of the crisis and the normal start-up time for new institutions, the first year of the Federal Home Loan Bank Act produced few results. Only five regional banks were organized before the end of 1932, and few loans were made to distressed institutions.

T*he Foundation for a New System of Housing Finance*

In March of 1933, when the Roosevelt administration took over, the banking and housing finance systems were virtually in collapse. To address the problems, two pieces of temporary legislation were enacted in June of 1933. The Home Owners Loan Act was meant to curtail the hemorrhage of mortgage debt, and Title II of the National Industrial Recovery Act was intended to provide federal financing for a program of low-cost housing and slum clearance, with the further purpose of stimulating employment in the depressed construction industry. The Home Owners Loan Act particularly focused on the housing finance system. It established the Home Owners Loan Corporation (HOLC) under the Federal Home Loan Bank System, created just the year before. The HOLC was capitalized with $200 million in treasury funds and the authority to issue bonds up to $2 billion to finance operations for three years. The HOLC was to be, in effect, the lender of last resort, and it was authorized to refinance the mortgages of home owners threatened with foreclosure and to make cash advances to pay taxes and to fund

[5] Doan, *American Housing Production*, 34.

necessary housing repairs. Owner-occupied properties with one-to-four units with a value up to $20,000 were eligible for HOLC loans, which were limited to 80 percent of appraised value, or $16,000. The maximum interest rate was 5 percent of the outstanding balance of the loan, and the loan was to be repaid in monthly installments for terms up to fifteen years (these terms were later increased to twenty years).

The Home Owners Loan Corporation (HOLC) pioneered, on a national basis, a long-term mortgage program with moderate interest rates and what were, for that period, high loan-to-value ratios. It not only played a key role in refinancing homes and slowing down foreclosures, but also set a precedent and a pattern for the remainder of the century. The HOLC received 1.9 million applications for loan assistance from June 1933 to June 1935, and it is estimated that this covered 40 percent of the approximate 4.8 million one-to-four-family properties that faced mortgage indebtedness at the time. Out of these applications, the HOLC made one million loans, aggregating $3.1 billion, so it refinanced about 20 percent of all outstanding mortgages on owner-occupied non-farm properties—at a time when private mortgage debt was shrinking.[6] By 1935—the peak of activity—for the HOLC held 12 percent of the country's outstanding residential mortgage debt, more than either life insurance companies or commercial banks.[7]

Approximately 20 percent of the HOLC borrowers defaulted, but this is not surprising in view of the fact that borrowers had to be threatened with foreclosure to be eligible for a loan. The HOLC was liquidated in 1951—actually with a small profit to the federal government. Based on far more than this small profit, though, the HOLC was a great success. It saved the homes of three-quarters of a million families, provided relief to a range of hard-pressed mortgage lending institutions and a beleaguered mortgage finance market, and helped pave the way for our current system of housing finance. It established precedents for a long-term fixed-rate mortgage, for a national system of mortgage lending, and for a federal role in providing support for housing finance. As Thomas B. Marvell wrote in his 1969 book on the Federal Home Loan Bank Board, "The management of the HOLC has probably been the most important accomplishment of the Federal Home Loan Bank Board."[8]

The Establishment of the Federal Housing Administration

By early 1934, the HOLC was providing relief to distressed home owners in existing housing, and the Federal Emergency Administration of Public Works (PWA) was beginning to use government funds to build public housing through a program of low-cost housing and slum clearance authorized through Title II of the National

[6] Ibid., 39.
[7] U.S. Census Bureau, *Historical Statistics*, 647.

Industry Recovery Act (the second piece of emergency legislation that was passed in June 1933). However, at that point private residential construction was still negligible. The Roosevelt Administration and Congress were anxious to stimulate the private economy, and yet President Roosevelt wanted to minimize direct federal outlays in housing. This led to the passage in June 1934 of a third piece of housing legislation, the National Housing Act, which created the Federal Housing Administration (FHA) and set forth the foundation for much of our nation's system of housing finance. The act established the FHA, backed by a mutual mortgage insurance fund; continued the HOLC precedent of a long-term mortgage with moderate interest rates; authorized nationally charted mortgage associations (mortgage bankers) to purchase FHA-insured mortgages in the secondary market; and authorized the insurance of deposits for savings and loan associations. A number of innovative features were included in the act. [9]

- Perhaps the most innovative principle of the legislation was the insurance of housing loans and mortgages against default in order to encourage lending institutions to make funds available in a very adverse housing market. Operations for the FHA were financed through insurance premiums, fees, and interest on invested reserves rather than by the Treasury of the United States.

- Title I provided for the insurance for unsecured loans for the repair and improvement of nonfarm residential real estate up to $2,000.

- Title II, provided for the insurance of the unpaid balance of mortgages on small homes and rental projects. For homes (Section 203), the HOLC precedent was followed with the authorization of insurance on twenty-year mortgage loans up to 80 percent of the appraised value of $20,000 and a maximum interest rate of 5 percent. Insured loans were required to be "economically sound." A mutual mortgage insurance fund was established to insure this part of the program and it was supported by a premium of 0.5 percent of the outstanding loan balance, paid by the person buying the home—the mortgagor—to help cover operating expenses and insurance liabilities. Surplus funds were to be returned to the mortgagors under the mutuality principle.

- For rental projects (Section 207), the original language of the act provided for the insurance and mortgages on rental structures intended for occupancy by persons of low income, owned by either public bodies or private limited dividend corporations.

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[8] Marvell, *The Federal Home Loan Bank Board*, 25.
[9] For a discussion of these features see Doan, *American Housing Production,* 40-41.

- The act also provided, in Title III, for the authorization of nationally chartered mortgage associations to purchase FHA-insured mortgages in the secondary market, which eventually became an important innovation (leading to the creation of the mortgage banking industry).
- Finally, the act authorized the insurance of deposits for savings and loan associations. This provision was only reluctantly agreed to by the Roosevelt administration in order to secure the support of the savings and loan industry for the passage of the National Housing Act.

Another piece of permanent housing legislation, part of the New Deal, was the United States Housing Act (PL 412). It was passed in 1937, following Roosevelt's landslide victory in the 1936 election and the abandonment of the PWA Public Housing Program, which had been passed in June of 1933 on a temporary basis. This act was the beginning of the public housing program. It authorized federal support for a system of low-rent public housing to be built, owned, and managed by local housing authorities under state legislation. The United States Housing Authority was created to administer the loans, and financing was provided through sixty-year federal loans at a rate a half percent above the long-term rate of money for the government, as well as an annual contribution from the federal government to cover the debt service.

In 1938, Congress created the Federal National Mortgage Association, now known as Fannie Mae. In the absence of private initiatives, it was originally chartered under the Reconstruction Finance Corporation (RFC) as the secondary market facility for FHA-insured (and later VA-guaranteed) mortgages. Fannie Mae will be discussed further later in this chapter, but at this time Fannie Mae was given the power to borrow funds to buy mortgages from originators on the theory that it could access funds from areas where savings were high relative to mortgage demand, then use those funds to buy mortgages in areas where savings were low.

The Impact of the New Deal Response

In the short term, the response in the marketplace to these New Deal programs was slow. The ongoing problems included a surplus of existing housing, continuing mortgage and rental delinquencies and foreclosures, high construction costs in relationship to existing property values, unemployment rates in excess of 20 percent, and slow population growth. All of these challenges therefore led to slow housing production throughout the remainder of the 1930s. Production crept up to 319,000 units in 1936, stagnated again in 1937, then advanced to 550,000 units in 1939. Nevertheless, the New Deal had provided the foundation for the housing finance system for the remainder of the twentieth century.

Once in place, these innovations provided the financing for the return of the veterans following World War II and for the tremendous burst of housing development and construction that took place over the next fifty years. Housing finance is the circulatory system for the housing delivery process, and without these changes to pump "new blood" into the system, the housing growth of the second half of the century would not have been possible.

In the revolution and housing growth that followed, the primary role of innovator was given to the FHA. Before the depression, the typical home mortgage ran for less than ten years, had a loan-to-value ratio of about 50 percent, and provided for repayment of interest only over the life of the mortgage, with a single "balloon payment" of the entire principal at expiration of the loan term. Built on the pattern of the HOLC, the FHA facilitated the use of a new type of mortgage loan: long-term, high loan-to-value ratio (and therefore low down payment), and self amortizing, with repayment of both principal and interest at a fixed amount each month over the life of the loan. FHA did this, as noted above, by insuring such mortgages and assuming the risk of any loss due to default. Funds to pay the losses on defaulted mortgages came from the insurance premium levied on the mortgage holder. The system was intended to be self-supporting, with the insurance premiums equal to outlays for defaults plus administrative expenses.[10] FHA mortgage insurance is widely viewed to be a great success. More than 30 percent of all new homes built in the 1930s had FHA insurance, and FHA has undoubtedly contributed to the national rise in home ownership. Homeownership rose from 44 percent of all households in 1940 to 65 percent in 1976 and to 68 percent at the end of 2001.[11]

After World War II, a parallel program to the FHA was established by the Veterans Administration (VA) for servicemen. The main difference between the two programs was that VA guaranteed only a fraction of the loan amount (up to 60 percent, subject to a maximum dollar loss, which has been raised from time to time to keep pace with inflation). In addition, the VA program required no down payment and no mortgage insurance premium, since it guaranteed the loan rather than insuring it, but in reality these differences are minor compared to the basic similarities and intents of the programs—to provide support for home buyers and veterans to obtain long-term, fixed-rate mortgages at moderate interest rates.[12]

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[10] Weicher, *Housing Federal Policies and Programs*, 111.
[11] For a further discussion of the role the FHA has played since it was established in the 1930s, see President's Commission on Housing, "Report of the Commission on Housing," 162.
[12] Weicher, *Housing, Federal Policies and Programs*, 112.

The Second Revolution: The Development and Growth of the Secondary Market

The Seeds of the Secondary Market

In the latter half of the 1960s, the country found itself in another period of challenge. With the war in Vietnam came civil disobedience, culminating in July 1967 with major riots in Newark and Detroit that involved federal and state troops. As a consequence of this unrest, President Lyndon Johnson established three commissions: the National Advisory Commission on Civil Disorder, which reported in March, 1968, the National Commission on Urban Problems (often called the Douglas Commission), which was established in 1967 and reported at the end of 1968; and the President's Committee on Urban Housing (often called the Kaiser Commission), which was appointed by the President in June of 1967 and concluded its work in December 1968. These three commissions provided the foundation for the Housing and Urban Development Act of 1968, enacted with virtually no opposition in the Senate and a wide margin in the House. Among other provisions, this act reaffirmed the policy set forth in 1949 Housing Act calling for "a decent home and a suitable living environment for every American family;" established the Section 235 program providing federal interest-rate subsidies for the production of one- and two-family properties for ownership by lower-income families; and established a series of provisions related to rental housing for low- and moderate-income families.

Almost hidden among the other provisions in the act was an important title, Title VIII, which planted one of several seeds related to a restructuring of the federal government's participation in the secondary mortgage market. As noted earlier, Fannie Mae (the Federal National Mortgage Association) had been created by Congress in 1938. As a part of the 1968 Housing and Urban Development Act, Fannie Mae was divided into two entities. The first, which retained the original name of Fannie Mae, was a government-sponsored private corporation (a government sponsored enterprise, or GSE) that held a government charter and a modest guarantee from the federal government but was also allowed to issue stock and trade as a private corporation. The second entity was a government corporation, the Government National Mortgage Association (Ginnie Mae). Its purpose was to operate some of the special assistance and liquidation functions of the former Fannie Mae, and also to provide an explicit government guarantee on mortgage-backed securities insured by FHA and VA. Fannie Mae, as a government sponsored enterprise, was authorized to issue securities backed by FHA and VA mortgages and guaranteed by Ginnie Mae.

In additional legislation passed in 1970, Congress created the Federal Home Loan Mortgage Corporation—for a time called the Mortgage Corporation and now called Freddie Mac. Freddie Mac was chartered by Congress to

help increase the availability of residential mortgage financing. Its board of directors was the Federal Home Loan Bank Board, and the organization provided a secondary market for conventional residential mortgages owned and sold primarily by the savings and loan industry. Freddie Mac developed the first private mortgage-backed security for conventional mortgages, known as the PC (participation certificate); and the purpose was to buy mortgages from lenders and to pool them together and sell them as mortgage backed securities. Thus, the seed for linking the mortgage markets with the broader capital markets were planted in 1968 and 1970 with the restructuring of Fannie Mae and Ginnie Mae, and the establishment of Freddie Mac.

A New Crisis: Rising Interest Rates

The system of housing finance established during the depression worked well after World War II and during the 1950s, 1960s and 1970s—periods that had relatively stable interest rates. As long as interest rates were stable, savings and loan associations were able to borrow money from depositors and lend money for mortgages, and they became the dominant provider for mortgage credit (see Figure 1). In 1950, savings and loan associations and mutual savings banks together accounted for 36 percent of all residential mortgage debt outstanding, and by 1977 this number had risen to 65 percent. Life insurance companies, on the other hand, went from a 20 percent share of mortgage debt outstanding in 1950 to only 4.37 percent in 1977 and to 3.17 percent in 1981. Commercial banks' share remained relatively constant, going from 18.87 percent in 1950 to 14.89 percent in 1977 and to 16.11 percent in 1981 (see Figure 2).

However, when interest rates began to gyrate significantly in the mid-1970s, S&Ls found themselves "borrowing short" from consumers through short-term certificates of deposit (CDs), generally for six months, one year, two years, or five years. At the same time, the S&Ls were using this money to "lend long" in the form of longer-term mortgages—say, twenty years. When short-term interest rates rose, they were therefore paying more in interest for the money they were using to finance mortgages than they were receiving from the mortgages, and this led to serious financial challenges for the S&Ls and for the housing finance system. In 1981, shortly after the election of Ronald Reagan as president, the President's Commission on Housing was created, and I was asked to serve as the staff director for the commission. One of the purposes of the commission was to examine the country's housing finance difficulties. After a year of deliberation, the commission reached the following conclusions:

> Since the mid-1960s, the ability of the housing finance system to meet the needs of borrowers has deteriorated markedly on several occasions, and this system currently is in a serious state of disrepair. The volume of residential mortgage lending naturally reflects changes in financial market conditions because

the sensitivity of demand for mortgage credit to changes in interest rates is high relative to interest rates sensitivity in other major sectors of the economy. However, the increasingly wide swings in residential mortgage and housing construction activity also are retraceable to structural shortcomings in the housing finance system.

As inflation accelerated and interest rates underwent unprecedented change, two major problem areas emerged in the housing finance system. First, the traditional process of mortgage lending and investment through primary and secondary market mechanisms began to deteriorate. Mortgage originators became less willing to write the types of loan agreements ordinarily offered to borrowers, and secondary market investors became reluctant to enter into traditional mortgage purchase contracts with originators. In addition, increasing proportions of real estate transactions were financed outside normal institutional lending channels, to the detriment of the health of the traditional mortgage finance institutions.[13]

Between 1960 and 1982, inflation, and the Federal Reserve's efforts to fight it, drove mortgage rates to unprecedented heights (see Figure 3). Mortgage rates were relatively low and quite stable until 1966, then high, volatile, and rising rates of inflation began to drive rates from one historic high to another with increasingly severe variations. During 1979 alone, mortgage rates fluctuated over a range of three percentage points. There were two major consequences of this increase in rates. First, households found it harder to sustain the cash flows necessary to pay for a house at market rates, and housing became less affordable. Second, thrift institutions (the dominant factor in financing housing) became less viable. Inflation outstripped expectations, and thrift institutions found that they had borrowed short and lent long, and they had loaned money for housing at rates that were insufficient to cover the costs of money they were borrowing from the savers at their institutions. Because they were forced to finance these mortgage loans by paying savers market rates reflecting the rate of inflation, the thrifts were caught in an earnings squeeze that hobbled them as a source of housing finance and threatened their long-term viability.

Due to this interest rate/institutional crisis, in 1982 the President's Commission on Housing concluded: "Inflation and unprecedented interest rate movements have fundamentally damaged the system of financial intermediation that so successfully supported American housing for more than forty years, and therefore a broader-based and more resilient system will be needed to supply the funds a strengthened housing finance industry will

[13] President's Commission on Housing, "Report of the Commission on Housing," 116.

require."[14] Thus, the stage was set for the second revolution in housing finance: the development and growth of the secondary market.

The Development of the Secondary Market

In the early 1980s, the key housing finance question, as articulated by the President's Commission on Housing and many others, was where the money would come from to finance America's housing needs in the future. As the commission noted, the housing finance system had, since the 1960s, suffered increasingly severe financial shocks, that had compromised its ability to serve the nation's housing credit needs.[15] The commission observed, "The nation can no longer rely so completely on a system of highly regulated and specialized mortgage investors and a single type of mortgage instrument if the strong underlying demand for housing credit is to be met." It called for a new legal and regulatory structure, and a broader-based and therefore more resilient housing finance system. In the future, it said, all mortgage lenders and borrowers should have unrestricted access to the money and capital markets, and mortgage-market participants should have reliable ways of managing interest-rate risk.[16]

The commission's report went on to point out that the efficiency of the secondary market had improved in recent years because of widespread use of standardized mortgage documents, growth of private mortgage insurance, development of mortgage-issued securities, and efforts by securities dealers to develop primary and secondary markets for these instruments. It also noted that the greatest improvements had been made in markets for federally underwritten mortgages and pass-through securities, which had been principally the domain of mortgage banking companies rather than thrift institutions. The report highlighted that the secondary market for the trading of conventional residential mortgages remained relatively underdeveloped compared with other capital markets. The commission therefore outlined a series of recommendations to allow for the efficient operation of the conventional mortgage-backed security market (see Figure 4).[17] The main premise was that mortgage-related securities issued for sale in the secondary market were disadvantaged from a legal, regulatory, and tax standpoint as compared with corporate debt obligations, unless the securities were covered by the guarantee of a federal or federally related agency. Recommendations were therefore set forth to exempt conventional mortgage-backed securities from taxation at the pool/issue level; to call on the Securities and Exchange Commission to promulgate regulations to provide specific streamlined self-registration procedures; for the Federal Reserve to amend Regulation T to allow for

[14] Ibid., xxix.
[15] Ibid., 119.
[16] Ibid., 120.
[17] Colton, "The Report of the President's Commission on Housing," 157.

the purchase of privately issued conventional mortgage-backed securities on margin; and for Congress to extend the provisions of the Federal Bankruptcy Code to all entities selling mortgages or mortgage-related products. In sum, the recommendations were intended to produce the tax, legal, and regulatory environment necessary for the development of a broad and active conventional mortgage-backed securities market.

The commission report highlighted that Fannie Mae and Freddie Mac should play important roles in the development of markets for conventional mortgage pass-through securities. The report also recommended that federal policies should encourage the operation of Fannie Mae and Freddie Mac as private corporations, retaining only limited benefits arising from congressionally mandated commitments to housing. However, given concerns about the financial condition of Fannie Mae at the time (Fannie Mae had also borrowed short and lent long and therefore had significant problems similar to those of the thrift industry), the commission report called for a transition phase in which both agencies would expand their efforts to support large amounts of newly issued pass through securities.[18] This report therefore set the stage for an expansion of Freddie Mac's and Fannie Mae's activities in the mortgage-backed securities area, while at the same time opening the door to future discussions about the appropriate balance between the private sector and these two government sponsored enterprises. In a decisive step to deal with its portfolio imbalance, Fannie Mae initiated a program in 1981 to buy loans and issue mortgage-backed securities similar to the program Freddie Mac had already established. These efforts, coupled with numerous other programs, proved to be extremely successful. Fannie Mae moved from a position of instability to one of strong financial capacity, and Freddie Mac grew from a small institution buying mortgages and selling PCs into a major financial institution in the nation's capital market.

Many of the recommendations made by the President's Commission on Housing were incorporated in the Secondary Mortgage Market Enhancement Act (SMMEA) of 1984, enacted on October 3, 1984. Title I of the act, which was designed to enhance the development of the private mortgage securities markets, amended federal securities laws and preempted certain state laws. The major provisions may be summarized as follows:[19]

- Statutory limitations on investment in private mortgage-backed securities by federally chartered depository institutions were removed, leaving it up to the regulators to specify investment limits.
- Sales contracts made by brokers and dealers for forward or delayed delivery (within 180 days) of private mortgage-backed securities were specified to not involve extensions of credit to or by the brokers/dealers.

[18] President's Commission on Housing, "Report of the Commission on Housing," 167-168.
[19] Seiders, "Residential Mortgage and Capital Markets."

This provision was intended to facilitate development of forward-delivery markets for fully private securities.

- State blue-sky and legal-investment statutes were preempted for high-grade, private mortgage-backed securities (those rated in one of the two highest categories by at least one nationally recognized statistical rating organization), subject to reversal by the states within seven years. Thus, such securities did not need to be registered with state supervisory agencies, and they could be purchased by state-regulated financial institutions (such as pension funds and insurance companies) as if they were federally issued or guaranteed securities.

Title II of the act dealt with the secondary market programs of Fannie Mae and Freddie Mac. Provisions important to the competitive relationship between issuers of private mortgage securities and the government sponsored enterprises included the following:

- Limits on sizes of single-family mortgages that could be purchased by Fannie Mae and Freddie Mac were to apply to the total loan size even if only a portion of a loan (i.e., a loan participation) was purchased.
- Freddie Mac was prohibited from guaranteeing mortgage-backed securities issued by others.

The Growth of the Secondary Market

Based on these reforms, we have seen a major shift in the role and importance of the secondary market, as well as a shift in the role of lenders originating mortgage loans. Today, the availability of mortgage credit for home loans is no longer a major concern. Rather, the key questions are the affordability of the credit to the home buyer and how to qualify more people to buy homes. In addition, over the last ten years, a number of innovations, coupled with market forces and a strong economy, have helped lower the costs of mortgage finance for the home buyer. The nation's homeownership rate stagnated in the early 1980s due to the recession and problems in the housing finance system, but in the 1990s, with the support of a revitalized housing finance system and a strong secondary market, the homeownership rate swelled to record levels. In 1998, the mortgage market experienced its best year so far, with $1.45 trillion in new mortgage originations despite serious problems in the global financial markets. In 1999 the industry saw $1.3 trillion in new mortgage originations, and in 2000 $1 trillion in new mortgages were originated. In 2001 new mortgage originations rose again sharply to over $1.7 trillion (see Figure 5).

The nation's current, robust housing finance system is a result of the second revolution in housing finance, the development and growth of the secondary mortgage market. Two important indications demonstrate how the housing finance system has changed over the last two decades. First, the changing role of the thrift industry and

other mortgage finance originators, and second, the actual growth of the secondary mortgage market and the importance of mortgage-backed securities.

Thrift institutions, once the primary source of housing credit, no longer dominate the housing finance marketplace. The thrifts' share of mortgage origination fell from a high of 60 percent in 1976 to 21 percent in 2000, while mortgage banking companies' share grew from 14 percent in 1976 to 58 percent in 2000 (see Figures 6 and 7). Thrift industry problems with borrowing short and lending long, which started in the high and volatile interest-rate environment of the late 1970s and early 1980s, led to deregulation. But, without adequate examination and regulation, deregulation caused a severe crisis for the deposit insurance fund and in August of 1989 brought about government intervention through the Financial Institutions Reform, Recovery and Enforcement Act (FIRREA). The remaining thrift institutions are strong financially, but FIRREA and subsequent regulatory actions have restricted their housing lending, particularly for acquisition, development, and construction (AD&C) financing, and have weakened the housing focus of the thrift charter. Mortgage bankers stepped in to fill the void, and the growth of the mortgage banking industry since the early 1980s, both in terms of absolute volume and market share, has been phenomenal.

As a part of FIRREA, the Federal Home Loan Bank Board was dissolved and replaced by the Office of Thrift Supervision (OTS), which was located in the Treasury Department. The OTS was given the power to charter federal savings and loan institutions and savings banks and to set capital standards for both federally and state-chartered institutions. With the Federal Home Loan Bank Board no longer in existence, a new governing structure needed to be established for the twelve Federal Home Loan Banks and Freddie Mac. FIRREA therefore created a new agency, the Federal Housing Finance Board (FHFB), to oversee the operations of the banks. In turn, Freddie Mac was given a federal charter almost identical to Fannie Mae's, with five members of the board appointed by the president of the United States, and the remaining thirteen board members selected by the Freddie Mac shareholders. Freddie Mac, which had been managed quite closely by the Federal Home Loan Bank Board, was now more independent, with the chief executive officer (CEO) also serving as the chairman of the new Freddie Mac board.

Juxtaposed against these developments in the thrift industry, the secondary mortgage market has matured in a way that has forever changed the U.S. housing finance system. The secondary mortgage market linked housing to the world's financial markets and filled the credit gap left by the declining role of thrifts. The share of mortgages funded through the secondary market has more than doubled from 27 percent in 1984 to 59.3 percent in 2001 (see Figure 8). Legislation enhancing the secondary mortgage market, coupled with a shifting regulatory structure, has

played a key role in the development and growth of the secondary mortgage market, particularly through the activities of Fannie Mae and Freddie Mac, which have themselves grown remarkably since the early 1980s. At that time, Fannie Mae was experiencing financial instability, and Freddie Mac was focused primarily on buying mortgages from savings and loan associations to help the liquidity of the thrift industry. However, Fannie Mae initiated a mortgage-backed securities (MBS) program and Freddie Mac dropped its nonmember fee (fifty basis points charged to institutions that were not members of the Federal Home Loan Bank system), and neither organization has looked back. (See Figure 9 for the recent growth of Fannie Mae and Freddie Mac's mortgage purchases.) They have fostered product and technological innovations that have expanded home ownership opportunities for a wide range of borrowers. The maturation of the secondary market has transformed the mortgage market from one dominated by portfolio lenders to one dominated by entities with close ties to the secondary market, such as mortgage banking companies, savings and loan associations acting as mortgage bankers, and the GSEs.

Further, the development of innovative securities structures has broadened the investor base, allowing more funds to flow into the mortgage market from the capital market and ultimately reducing mortgage rates for home buyers. The volume of mortgage-backed securities issued has increased dramatically, from $62 billion in 1984 to $1.2 trillion in 2001 (see Figures 10 and 11). All this secondary-market activity has benefited consumers through lower interest rates—mortgage rates are generally thirty to fifty basis points lower on loans eligible for purchase by Fannie Mae and Freddie Mac than they are for "jumbo" loans that are above the "conforming" loan limits for Fannie Mae and Freddie Mac (see Figure 12).

Perhaps most important, the secondary market has maintained liquidity in the mortgage market in good economic times and bad. For example, during the liquidity crunch in the fall of 1998, when the bond market in Russia collapsed and numerous sources of credit around the world and the United States dried up, the volume of activity by Fannie Mae and Freddie Mac increased significantly in November and December. This is reflected in the more than doubling of Freddie Mac and Fannie Mae's purchase activity between 1997 and 1998 (see Figure 9), and the result was essentially no disruption in the flow of credit to housing despite major liquidity problems in other financial markets.

With the active expansion of the secondary market, the housing finance system, which was in serious challenge in the early 1980s, is now robust and vital. Indeed, it is a finance system that is by many standards the best in the world. The broader-based, more resilient system described in the President's Commission on Housing has

been achieved. Figure 5 highlights single-family mortgage loan originations from 1985 through 2001, including both conventional and FHA/VA mortgages. It shows dramatic growth, from $290 billion in mortgage originations in 1985 to a high of $1.7 trillion in mortgage originations in 2001. Figure 13 outlines the total mortgages outstanding between 1991 and 2001. It shows significant growth from $3.95 trillion in 1991 to $7.39 trillion at the end of 2001. And finally, Figure 14 shows the institutions which hold this outstanding residential mortgage debt and how the share has shifted over time. In 1985, 48 percent was held by thrifts, with 15 percent held by banks, and only 5 percent held by Fannie Mae and 1 percent held by Freddie Mac. By 2000 the thrift share had fallen to 19 percent, with banks rising to 27 percent, and the share held by Fannie Mae growing to 11 percent and the share held by Freddie Mac rising to 7 percent.

As an interesting note of comparison, it is worthwhile to look at the flow of dollars in Treasury debt compared to outstanding residential mortgages. Figure 15 highlights residential mortgage and treasury debt outstanding from 1945 to the third quarter of 2001. In 1945, mortgage debt was only 9.36 percent of total Treasury debt, but with the growth of housing activity following World War II, mortgage debt grew rapidly from $23.5 billion in 1945 to $273.3 billion in 1966. In 1966, mortgage debt surpassed Treasury debt, reaching 105.4 percent of Treasury debt. Since then, mortgage debt has remained above Treasury debt. In the 1980s, the federal deficit grew and the dollars needed to finance this deficit increased, so by the early 1990s mortgage debt as a percentage of Treasury debt actually fell as low as 103 percent. However, in the later part of the 1990s, total Treasury debt began to drop while mortgage debt continued to rise, so by 2001, mortgage debt as a percent of Treasury debt had risen to a high of 184 percent.

Figures 5 through 15 show a robust mortgage finance market, one that is truly broad-based and resilient. Although questions have been raised by some as to whether the federal government and the government sponsored enterprises (GSEs) play too great a role, the overall housing finance system is strong, and mortgage rates have been reduced. Home buyers, then, have been one of the primary beneficiaries of the second revolution in the nation's housing finance system. A plethora of mortgage product innovations have given home buyers the tools to respond to a variety of interest rate environments. Adjustable-rate mortgages (ARMs), for example, provide a safety valve on loan qualifications and lower monthly mortgage costs when interest rates are higher. Conversely, when rates fall, no-cost refinancing programs save borrowers out-of-pocket transaction costs, enabling them to lower overall mortgage costs by refinancing into a lower-rate mortgage (either a fixed-rate mortgage or an adjustable-rate mortgage).

More recently, the market has developed a range of products to address one of the largest stumbling blocks to home ownership, the lack of a down payment. Following the lead of FHA, Fannie Mae and Freddie Mac now offer loans that reduce down payments and other front-end closing costs. For example, the Fannie Mae Flex 97 and Freddie Mac Alt 97 products require a down payment of only 3 percent, similar to the cash requirements in the FHA program, and these products can be combined with a grant or second mortgage to cover closing costs. Further, experimentation is underway with no-down-payment loans and 100 percent loan-to-value (LTV) ratios. All of these products allow more buyers to qualify for a mortgage.

It is also worth noting that in the last few years there has been a significant consolidation of financial institutions and of the institutions that are originating and servicing mortgages. With the various stages of bank reform, and with the desire of financial institutions to achieve greater efficiencies and consolidation through growth, the number of banks and savings and loan associations has plummeted. In 1984 there were 3,418 S&Ls, but by 2000, there were only 1,590 (see Figure 16). The same pattern is true for commercial banks. In 1984 there were 14,496 banks, and by 2000 the number had dropped to 8,315 (see Figure 16).

Consolidation has also occurred in the mortgage banking business related to mortgage originations (see Figure 17). In 1990, the top twenty-five originators of mortgage loans among mortgage bankers had a 28 percent share of the market, but eleven years later, they had a 72 percent share. The same is true in mortgage servicing (see Figure 17). In 1990, the top twenty-five servicers held 21 percent of the market, and by 2002 they held 67 percent.[20] This consolidation is likely to continue due to the greater efficiencies and lower overhead that come with size, and due to the ability through technology to process large volumes of mortgage loan activity. Publicly traded companies like these are expected to grow, and the technology facilitates, and in some ways drives, the growth. (See Figure 18 for a listing of the top ten originators and servicers in the mortgage industry at the end of 2001.)

The Third Revolution: Technology and Housing Finance of the Twenty-First Century

The last few years have seen dramatic changes in technology and housing finance. Technology has had a major impact on the way that mortgages are originated, underwritten, processed, and serviced. The tremendous growth in mortgage originations and transactions in both the primary and the secondary market would have been extremely difficult without the processing capacities of new technology. Further, the Internet has expanded consumer knowledge, and offers opportunities that continue to impact and improve the housing finance system.

[20] For a further discussion of this phenomenon see Muolo, 'Top 10 Servicers Pass 50% Share," *National Mortgage News*.

Borrowers have benefited from technological innovations. Automated underwriting systems have resulted in faster loan qualifications and processing—the time from mortgage application to approval has been reduced from months to minutes. New credit and mortgage scoring systems have allowed the mortgage market to serve some of those with weaker credit histories. Fannie Mae and Freddie Mac have played an increasing role in developing this technology, and they have therefore expanded their points of entry when buying loans for the secondary market. Both Fannie Mae and Freddie Mac are quick to point out that because of charter and regulatory restrictions, they have no intention to become lenders. But there is no question that technology will bring change, both in the ways mortgages are originated and serviced and in the changing roles of everyone involved in the housing finance process.

There are questions as to how quickly this technological revolution will take place and what form it will take. Who will be the winners? The losers? Change is clearly underway, and the pace is fast, but there is a tendency to exaggerate the actual level of implementation. Twenty-five years ago, it was common to predict that by the turn of the century we would be living in a "checkless, cashless society." There are more checks now than there were twenty-five years ago, but at the same time, most people are now closely tied to some form of financial technology, such as Automated Teller Machines (ATMs), credit card processing, and electronic banking. Reading the newspaper or listening to selected consumer advertising, one might assume that electronic lending for mortgages is widespread. Undoubtedly it is growing and will continue to grow, but it is also clear that it will take time, and consumer acceptance will influence how rapidly change unfolds. Still, a third revolution in the nation's housing finance system is underway, and the ultimate impact will be profound.

The Status of Technological Change in Housing Finance

Depending on your perspective, electronic lending and e-commerce is either moving faster than expected or is slow to be adopted. Two headlines tell the story. The first on the front-page of the *Washington Post* real-estate section on January 1, 2000 reads: "Online loans slow to build a following, ease of loan application process not enough for most buyers." The second, in a special section of the *National Mortgage News* twelve days later, states: "E-commerce continues to gain a foothold in the mortgage industry." The latter story goes on to explain that over the last few years there has been a greater "comfort level" with the Internet and electronic communication. According to a study released at the beginning of 1999 by Forrester Research, about 1 percent of all mortgages were originated online. Further, the study estimated, less than 10 percent of all mortgage loans will be originated online

by 2003. By comparison, a year earlier, Forrester Research had predicted that more than 25 percent of all student loans would be originated online in 2003.[21]

Online originations generally rose from the second quarter of 2000 to the first quarter of 2002. As Figure 19 shows, in the second quarter of 2000 the top ten online lenders originated $1.19 billion of mortgages, and the total market was $1.25 billion of online originations. By the first quarter of 2002 the number of originations for the top ten online lenders had risen to $77.7 billion and the total market for online originations climbed to $86.88 billion. Interestingly, over half of the online origination volume in the first quarter of 2002 was from two lenders – Countrywide and Washington Mutual – both of whom are also major "brick and mortar" lenders that are using on-line lending as another way of serving the consumer. Online lending will undoubtedly continue to grow, but just because online lending is available, it does not mean that the consumer will shift instantly to such mortgage products. If consumers are to move to online lending, they will need to see a clear advantage, either in terms of cost advantages, more rapid and efficient processing, or personal preference. Further, in the future it is likely that the majority of online lending will continue to be done by large lenders who are already well established in the mortgage business and provide both "brick and mortar" and online services. Certainly new online lenders will emerge, such as E-trade whose volume rose from $316 million to $2.83 billion between the second quarter of 2000 and the first quarter of 2002, and they will continue to provide the consumer an electronic alternative to more traditional lending. But the dominate force in mortgage lending will continue to be the top lenders listed in Figure 17 who will offer both online and more traditional mortgage services.

Every day, new ideas, new opportunities, and new examples of technology in housing finance are introduced to the marketplace. For example, on March 16, 2000, Microsoft announced that it was establishing a new corporation, HomeAdvisor Technologies Inc. (HTI). It was also announced that four companies would receive minority investments in the company, including Chase Manhattan Corporation, Bank of America Corporation, GMAC-Residential Funding Corporation, and Wells Fargo's Norwest Mortgage Unit. Freddie Mac also entered into a strategic agreement with HTI to provide HTI and the mortgage lenders using HTIs "front end" services with a host of mortgage-related products, including Freddie Mac's automated underwriting system, known as Loan Prospector. The new venture was supposed to have three components: a real estate transaction platform, a mortgage finance component, and a real estate listing service. The real estate transaction platform was intended to allow borrowers, as well as lenders, realtors, home builders, and other participants in the real estate transaction, to monitor the home

[21] Forester Research, "E-Commerce Continues to Gain" *National Mortgage News*..

buying and mortgage financing process from start to finish and to process the loan. Because it was over the Internet, it would have been accessible, through security codes, to all of the participants so everyone would have access to the same information. The mortgage component, through Freddie Mac's loan prospector would have allowed the home buyer to secure a firm commitment for the loan within a matter of minutes, and even seconds, after the appropriate data was entered into the computer. It was hoped that the new system would lead to reductions in the closing cost for the loan—even up to $1,000 or $1,500 per loan. To achieve these savings, HTI would automate and streamline credit checks, appraisals, and other aspects of the loan process. The third component of the system was a real estate listing service intended to allow home buyers to review and examine, on the Internet, homes for sale throughout the country.

The HTI system was never implemented with its full array of products, although several components did become operational. But it is one example of what is taking place or being talked about in the market, and it illustrates the effort to move the mortgage origination process to the point of sale, where the home buyer purchases the house, whether it is an existing home or a new home. Freddie Mac, the secondary-market entity involved in this situation, would not have been lending the money—that would have taken place through traditional lenders, whether mortgage bankers, commercial banks, saving and loan associations, or mortgage brokers. However, any time a commitment is made up front for Fannie Mae or Freddie Mac to buy a loan in the secondary market, it both speeds the process and reduces the costs for the consumer. Essentially, all of the processing takes place automatically, and the new technology drives the information flow and the timing.

Technology Impacts

What are the potential impacts of technology in the housing finance system to the consumer, to the lender, and to government policy and regulation?

Consumer Impacts

The United States may have the best housing finance system in the world, but for a beginning home buyer, the process of obtaining a mortgage can still be a challenging, sometimes bewildering experience. It requires a myriad of forms and information, and often includes a back-and-forth trek between lender and borrower to exchange tax forms, background information, credit analysis, etcetera. Closing a loan is also very expensive, often 2 percent to 3 percent of the cost of the loan, depending on the state. For a $100,000 loan, that's $2,000 to $3,000. Further, the origination process is often splintered into numerous steps that require the efforts of many players—title companies, appraisers, credit bureaus, and other third-party service providers. Data systems are often separate from company to

company, and so the same information is often required over and over again. Incompatibility among different computer systems makes collective data transfers cumbersome and sometimes impossible.

Technology has the potential to improve the home buying process for the consumer in a variety of ways. First, it can simplify and speed the process; second, it can make the process less expensive; and third, it can provide quick access to information and greater choice, at least for those consumers who are technologically literate.

For the borrower, as well as the lender, the mortgage origination process usually involves five steps: (1) filling out an application, (2) obtaining approval, (3) verifying information related to the mortgage, (4) for the lender, hedging the loan amount and interest rate, and (5) closing the loan. New information technology should simplify both the flow of information, and the time required to process it. If the consumer fills out the application once, the same information can be used with one lender or five throughout the process. This should greatly simplify the process for the home buyer and give the computer-literate consumer on the Internet additional opportunities to be more independent and to influence and understand the process. It used to take days and often weeks for home buyers to find out if a loan was approved. Now buyers can find out in minutes and even seconds. Home buyers can also be preapproved for a loan up to a certain amount, so they will know their price range.

Although it is widely believed that technology will reduce costs for the consumer, to date it is unclear to what extent this has actually materialized. The hope is that there will be a reduction in processing and closing costs, and perhaps even a reduction in the overall rate of mortgage loans. As noted earlier, closing costs are often 2 percent to 3 percent of the overall value of the mortgage. They fall into three areas: core costs, transaction cost, and loan program design cost (see Figure 20). According to Danforth, the core costs—the basic costs—for processing the loan, such as legal fees or fees for appraisers—account for 45 percent of the cost of closing a loan. The transaction costs—which include the money spent to gather, receive, order, and file paper documents—account for 43 percent, and the loan program design costs for the lenders and investors are another 12 percent.[22] These cost components, according to Danforth, can then be further broken down as they relate to the five steps in originating a mortgage: application, approval, verification, hedging, and closing (see Figure 21). Nineteen percent of the costs relate to application, 14 percent to approval, 23 percent to verification, 14 percent to hedging, and 31 percent to closing.[23] Danforth proposes that costs can be saved in each of these areas, and if this is done, huge shifts will ripple through the market as lenders compete to offer faster and cheaper options. Overall, he believes that costs might be brought

[22] Danforth, "Online Mortgage Business," 4.
[23] Ibid., 7-8.

down by as much as 69 percent. Even a 50 percent reduction could mean savings of $1,000 to $1,500 on a $100,000 house; a "mere" 25 percent reduction could mean savings of $500 to $750. Although the specific elements of this type of cost model will obviously vary, it seems reasonable to conclude that over time technology can bring significant mortgage cost reductions to the consumer.

A third benefit to the consumer is greater access to information, and thereby greater understanding of competitive pricing on loan products and the nature and timing of the mortgage origination process.

However, the story is not all positive for the consumer. Some believe that a completely automated underwriting system becomes a "black box" that makes it hard for the consumer to understand why his or her application is turned down. If the loan is approved in minutes, everyone is happy. If the loan is not approved, then the potential home buyer may be confused and frustrated. Further, for the consumer who is not computer literate, trying to process a loan over the Internet can be intimidating. Finally, too many options can be overwhelming. One or two mortgage products with different rates and terms can be confusing enough. If consumers are offered a menu of dozens of mortgages from different lenders with different terms, rates, and prices, it will be difficult for some to make a choice.

Impact on the Lenders and Other Mortgage Finance Players

Technology increases the productivity of lenders and enhances their ability to provide expanded services at lower costs. Once the technological infrastructure is developed by the lender or other players in the housing finance market, with relatively low additional costs the number of loans originated can increase substantially. In theory, these savings can be passed on to the consumer. Along this same vein, technology helps reduce the need for additional physical facilities or--"clicks" can be substituted for "bricks." However, the costs of marketing on the Internet can be high. One review of online lenders by Sandler O'Neill and Partners found that when it comes to spending money to generate loan applications, there are wide differences among lenders and the costs for some – especially those that are not established – can be high.[24]

Technology's greatest impact on mortgage lenders and other players in the housing finance process may be the shift that will occur related to roles and process. Technology will make some players in the market obsolete. For example, a variety of new systems automate or partially automate the appraisal process, possible leading to reduced costs for the home buyer. However, with such systems, the role of the appraiser may shift over time, and there may be a diminished need for human appraisers. As GSE technology moves closer to the point of sale, lenders will face

additional competition, perhaps from real estate agents who desire to be mortgage brokers or from home builders who are dealing with customers directly when they sell a new home and are therefore in a prime position to serve as the first point of contact in an electronic lending process. (Recognizing this advantage, a number of home builders have already established mortgage banking companies or affiliates.) Title companies currently play an essential role in buying a home. However, with nationwide automation, title companies will need to think carefully about their role if they are to preserve a position in the new world of electronic housing finance.

Another area in which technology will reduce costs is servicing. At a technology conference in 2000, as reported in the *National Mortgage News*, Richard Beidl of Tow Group, Needham, Massachusetts, indicated that "best of breed" servicers have already raised eyebrows by reducing the cost of servicing to between $40 and $50 per loan annually. However, he expects that within five years, the best mortgage servicers will reduce the cost of loan administration by even more—to $20 to $22 per loan.[25] The Internet and other technology advances in record keeping, information, and communication will allow the most efficient servicers to capture significant cost savings, he said. This will add to the consolidation noted earlier. Large-scale companies that have developed efficient technologies will continue to lower servicing costs, and therefore will compete very effectively with other companies. In turn, servicing is likely to become increasingly important as the housing finance process evolves. Large servicers will have large customer databases, which they will be able to use in a variety of "cross selling" situations. Large servicers will also be in a prime position to go directly to the home owner with a variety of products. When rates drop and refinancing demand rises, large servicers will go to home buyers and offer to refinance their loans at a minimum cost, or no cost, to assure that owners keep their mortgages with the servicer. Companies not in a position to compete because they do not have the technology to rapidly and inexpensively process new loans will find themselves at a disadvantage.

Government Policy and Regulatory Impacts

Government policies and regulations have become well established as a framework for the traditional loan origination and housing finance process. The new world of electronic lending creates new challenges for government policy and regulation. Issues related to Internet policy and electronic lending often transcend traditional

[24] Sandler O'Neill Research as reported in the *National Mortgage News*, 23.
[25] Beidle, as reported in *National Mortgage News*.

industry boundaries. If regulations and statutes do not transfer easily to the electronic business environment, they may hinder progress toward electronic lending and its potential benefits. A few examples illustrate the challenge.[26]

Borrower Disclosure Federal laws such as the Real Estate Settlement Procedures Act (RESPA), the Truth in Lending Act (TILA), and the Equal Credit Opportunity Act (ECOA) mandate disclosure of transaction costs, mortgage terms, and other information in order to protect home buyers. As a part of this, RESPA requires borrowers to sign documents attesting that they have received and reviewed these disclosures. The traditional system provides for disclosure through paper and ink documents. The Internet now offers alternatives, for example through posting documents on a website or delivering them via e-mail. The question is how far will the regulators, such as the Federal Reserve Board and the Department of Housing and Urban Development, go in allowing lenders to use online methods to meet RESPA disclosure requirements.

RESPA in an Online Environment When RESPA was enacted twenty-five years ago, its purpose was to assure full disclosure and to protect consumers from abuses related to high settlement charges. The statute, for example, prohibits referral fees. Confusion over the years about exactly what this rule intends has fueled a long-running controversy between lenders and realtors. Electronic lending contributes additional questions as to how RESPA can work in an online environment. For example, the RESPA referral fee prohibition could inhibit online service providers from bundling closing services and fees paid by borrowers into one less-expensive package. The challenge from a regulatory perspective will be to protect the consumer while allowing the new technology to provide alternatives that will be more effective and less expensive for the home buyer.

Community Reinvestment Act Under the 1977 Community Reinvestment Act (CRA)—in order to get regulatory approval for mergers and acquisitions—financial institutions must serve the local community before they expand their services in other areas, a principle that although controversial has been considered essential by community groups. What does this mean in a world of online lending in which the Internet transcends geographic boundaries? A growing number of financial institutions provide online banking services to people living outside the normal geographic areas served by their branches. One of the benefits of the Internet is that banking services can be provided nationwide without "brick" facilities. This creates challenges for both regulatory and depository institutions. Consumers may benefit from cheaper services provided by an online lender, but is it fair to give online and traditional lenders different sets of regulatory requirements?

[26] For a further discussion of government policy and regulatory impacts see Thomas, "Policy Thicket Complicates Efforts," *Secondary Mortgage Markets*, 9-15.

State Licensing Once again, the Internet poses fascinating challenges as it enables a lender located in one state to serve borrowers in the other forty-nine states without establishing a local office with costly overhead. However, forty-eight states and the District of Columbia license mortgage lenders and mortgage brokers that do business within their state. Ten of those states require a physical office within the state. State licensing allows authorities to defend consumers and curtail scams and illegal practices. However, the requirements of multiple registration may negate some of the savings lenders realize online. Maintaining a physical facility is particularly expensive. In the new electronic environment, the question is whether such a requirement should remain.

Privacy As the Internet expands, more and more personal information is captured—credit histories, buying habits, medical histories, personal financial data, etcetera. What should the rules be regarding the protection of such information, or circulating it to third parties without consumer knowledge or consent? The information is valuable for marketing purposes and fundamental to providing customized online services. These are challenging issues. Electronic listing services have placed what used to be highly classified information at the hands of Internet users. But serious questions arise regarding the protection of this information from theft and reuse. Issues of privacy will be ongoing for many years and require careful government policy and regulatory consideration.

Taxation in an Electronic World The amount of business and commerce conducted over the Internet is growing and is expected to skyrocket. Local and state governments are now able to tax a variety of business activities that take place within their jurisdictions. These governments could lose a significant portion of retail sales-tax revenues as more and more sales occur over the Internet. Yet, electronic businesses are concerned that if state and local jurisdictions start levying taxes, it will mean increased costs to the consumer. However, businesses that are not on the Internet say that it is unfair to force them and their customers to pay taxes, when those on the Internet do not. Although Internet users would like to avoid any taxes, it is unlikely that complete laissez-faire will prevail. Over time the question remains, though, as to exactly what type of taxes will be enacted, and at what level. The answer will obviously have an impact on electronically generated mortgage business.

Conclusions

By most standards, the United States has the best housing finance system in the world. It has evolved over the last seventy-five years, and the constant in this evolution has been change. The system collapsed in the late 1920s and early 1930s due to the pressures of the depression, but a new system rose from the ashes of economic turmoil. Federal depository insurance for financial institutions, the Federal Home Loan Bank System, the Federal

Housing Administration, as well as Fannie Mae, Ginnie Mae, and Freddie Mac were all established over a forty-year period.

When interest rates skyrocketed in the late 1970s and early 1980s, the savings and loan industry found itself caught in an environment of rising interest rates where they had borrowed short and lent long. Change was essential, and a housing finance system largely dependent on thrift institutions evolved into a broader-based, more resilient system that linked housing to the broader capital markets through the secondary market. In the early 1980s, the primary question related to our housing finance system was where the credit would come from to finance the nation's housing. The main answer was through the secondary market, mortgage-backed securities, and a wide range of secondary-market instruments.

New technology is now at the forefront of the third housing finance revolution. New technology often brings new opportunities and the potential to reduce costs and provide new instruments and programs to make housing more affordable. But it also brings new policy questions, market uncertainties, and possible shifts in the providers of housing finance. Two key perspectives in evaluating this transformation are whether this change will benefit the home buyer and whether it is safe and sound.

During the time I worked at Freddie Mac as an Executive Vice President (1982-1984), Ken Thygerson, the President, Leland Brendsel, then the Chief Financial Officer (and now the Chairman and CEO), and I were summoned to California to meet with some of the top savings and loan executives in the state. They were interested in promoting an adjustable rate mortgage (ARM) which was based on the cost of funds in their Federal Home Loan Bank District (the Eleventh District). With this mortgage, the interest rate to the home buyer would adjust based on the cost of funds for the Eleventh Federal Home Loan Bank District, and it would allow them to balance their assets and liabilities.

They wanted Freddie Mac to agree to buy these mortgages in order to provide a secondary market and therefore greater liquidity for the ARMs. In addition, though, they wanted Freddie Mac to stop buying thirty-year, fixed-rate mortgages. From their perspective, the thirty-year, fixed-rate mortgage was a major competitor to the Eleventh District ARM they wanted to promote, and the secondary market allowed thirty-year mortgages to thrive and compete.

After careful consideration, Freddie Mac agreed to buy the Eleventh District ARM. However, fortunately for the consumer, they did not agree to stop buying thirty-year fixed-rate mortgages. As this experience illustrates, thirty-year fixed-rate mortgages still exist because of the secondary mortgage market, and the United States is

essentially the only country in the world with such a consumer friendly mortgage product. Also, because of the growth and development of the secondary market, mortgage rates have been lowered due to a variety of market efficiencies. This is demonstrated by the difference in mortgage rates for conforming loans purchased by Freddie Mac and Fannie Mae compared with non-conforming mortgage loans (see Figure 12). One of the first considerations in evaluating new policy questions, market uncertainties, and provider competition should be the impact on the home buyer. The secondary mortgage market and new technology have certainly helped lower the costs and improve the access to mortgages for the buyer. As we look to the future, public policy should continue to encourage these benefits – especially for home buyers that are in the greatest need.

Today, a unique system of public and private institutions provides the nation's housing finance needs. Some agencies are part of the federal government like the FHA and the VA. Others are quasi-public in the form of government sponsored enterprises (GSEs); still others are private but insured by the federal government and therefore closely tied to the federal deposit insurance fund. Finally, many institutions are primarily private. For the institutions that have at least some link to the federal government, questions of safety and soundness are paramount. The second major consideration in evaluating new policies or products, then, is that the federal government and the tax payer should be protected by sound regulation while at the same time encouraging innovation and a focus on the consumer.

The housing finance system sometimes leads to tension between the various players as institutions compete for products and market share, but overall it works remarkably well. Homeownership rates have risen dramatically over the last fifty years, and people travel from throughout the world to examine and try to emulate our housing finance system. Still, some would argue that the federal presence in housing finance is too great—that public institutions (such as FHA and VA) should be curtailed and the government sponsored enterprises (Fannie Mae, Freddie Mac, and the Federal Home Loan Banks) limited in their role or cut loose from their federal financial tie. This debate will undoubtedly continue into the twenty-first century. However, as we search for the delicate balance between the public and private roles in our system of housing finance, we should remember that it is impossible to turn back the clock. Further, issues of competition and tough debates will exist, but the key factors in evaluating policy choices should be the benefits to the consumer while assuring appropriate safety and soundness. Continued change is inevitable, but as we look to the future, it is important to build on the foundation of the past and to not let concerns over increased competition limit the potential benefits of our revitalized housing finance system to the home buyer.

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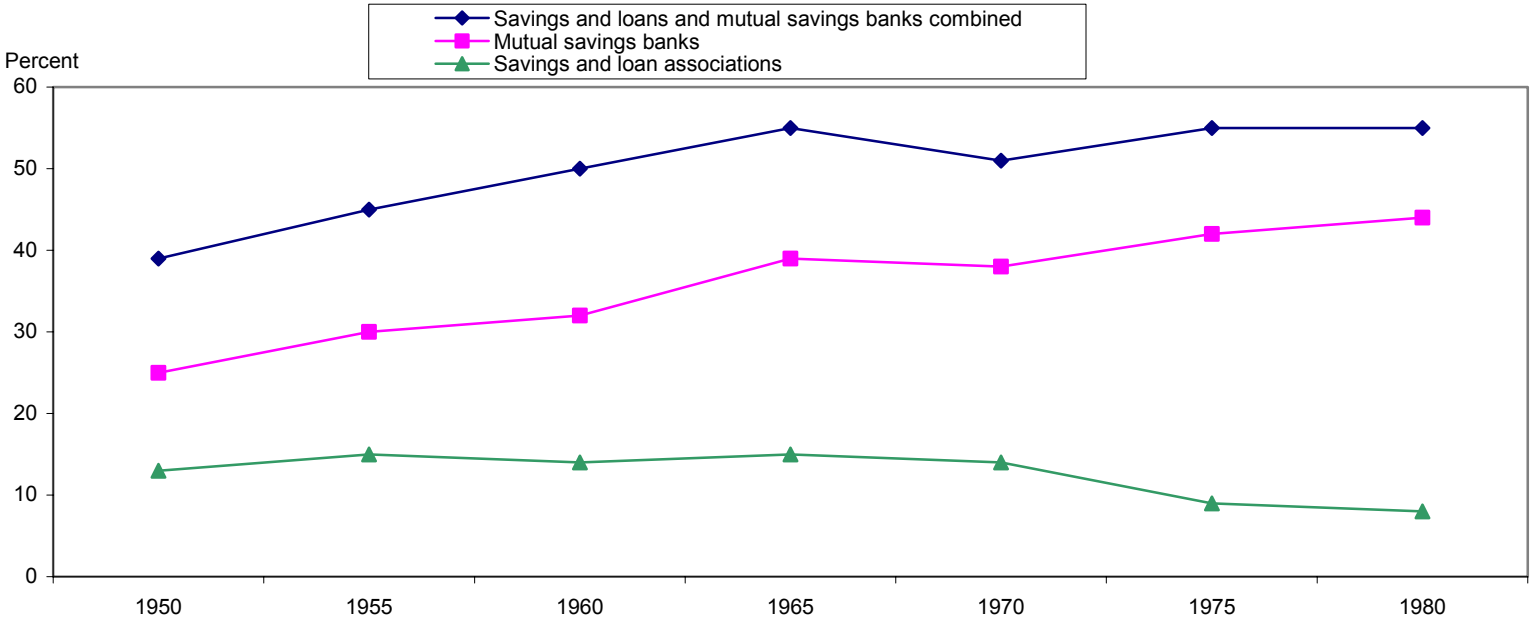
Figure 1
Residential Mortgages at Thrift Institutions as a Percent of Total Mortgages Outstanding



Sources: Federal Home Loan Bank Board; National Association of Mutual Savings Banks; and Board of Governors of the Federal Reserve System, Flow of Funds Accounts.
Source: Figure 9.1 found in *President's Commission on Housing*,"Report of the Commission on Housing," 115.
Note: Federally related pass-through securities are included in both residential mortgages at thrift institutions and total mortgages outstanding.

Figure 2
Percent of Total Residential Mortgage Debt Outstanding by Type of Institution

End of Period	Depository Institutions: Savings and Loan Assns	Depository Institutions: Mutual Savings Banks	Depository Institutions: Commer-cial Banks	Life Insurance Companies	Federal and Related Agencies	Mortgage Pools[a]	All Others[b]
1950	24.14%	12.76%	18.87%	20.06%	2.73%	0.00%	21.45%
1955	29.85	15.18	15.49	20.68	3.31	0.00	15.48
1960	35.47	14.98	12.55	17.71	5.03	0.00	14.26
1965	39.72	15.56	12.57	14.90	2.90	0.02	14.33
1970	38.75	13.94	12.74	11.92	7.03	0.72	14.90
1975	42.19	10.79	14.03	6.29	8.49	4.96	13.25
1976	43.76	10.18	14.27	5.34	7.24	6.66	12.57
1977	44.70	9.51	14.89	4.37	6.27	8.29	11.97
1978	44.22	8.93	15.72	3.77	6.40	9.11	11.85
1979	42.83	8.20	15.93	3.52	6.60	10.77	12.15
1980	41.69	7.61	15.77	3.41	6.95	11.84	12.73
1981	40.53	7.23	16.11	3.17	7.02	12.67	13.27

Association, Federal Home Loan Mortgage Corporation, and Farmers Home Administration.

Government credit agencies and retirement funds, credit unions, and individuals.

Source: Table 9.2 found in *President's Commission on Housing*, "Report of the Commission on Housing," 114.

Figure 3
Inflation Drives Up Mortgage Interest Rates

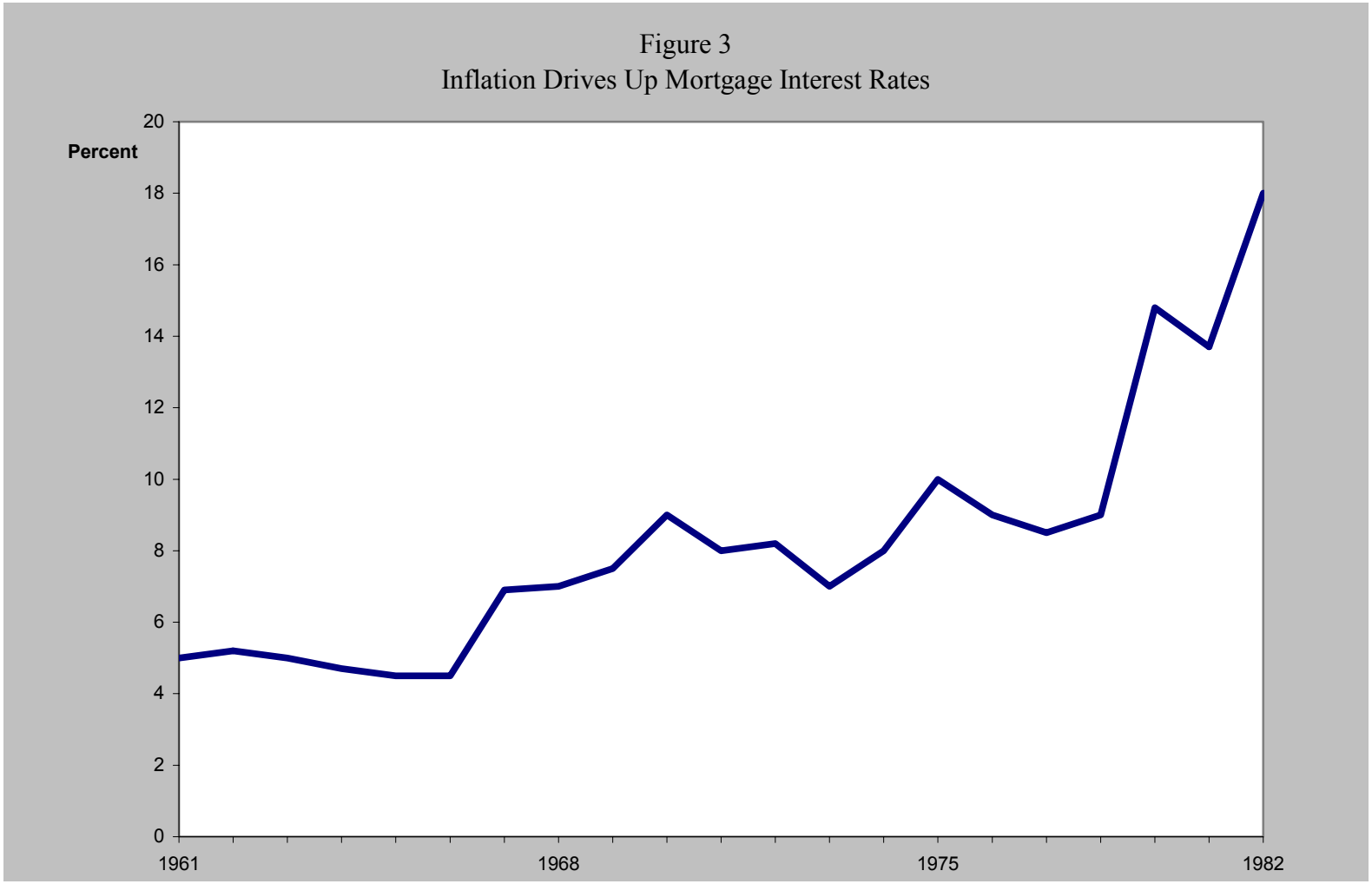


Figure 4
Recommendations of the President's Commission on Housing Related to the Secondary Market

- The Internal Revenue Code should be amended to provide an exemption for conventional mortgage-backed securities (CMBSs) from taxation at the pool/issuer level, provided CMBSs meet minimum criteria.
- The Internal Revenue Code also should be amended to treat the recovery of market discounts on CMBSs on the basis as such discounts are treated on corporate securities.
- The Securities and Exchange Commission should promulgate regulations to provide specific and streamlined shelf-registration procedures designed for conventional mortgage-backed security issues.
- CMBS issuers should be permitted, but not required, to register as regulated investment companies.
- The Federal Reserve Board should amend Regulation T to allow for the purchase of privately issued conventional mortgage-backed securities on margin.
- Congress should extend the current provisions of the Federal Bankruptcy Code to all entities that sell mortgage loans, mortgage participations, or conventional mortgage-backed securities.
- The National Conference of Commissioners on Uniform State Laws should recommend amendments to relevant state blue-sky laws to exempt qualified conventional mortgage-backed security issuers from state registration requirements, and should recommend changes
- States should be encouraged to create public conduit CMBS issuers that draw on the capacity and experience of their existing state housing finance agencies.

Source: Colton, "Report of the President's Commission on Housing," 157.

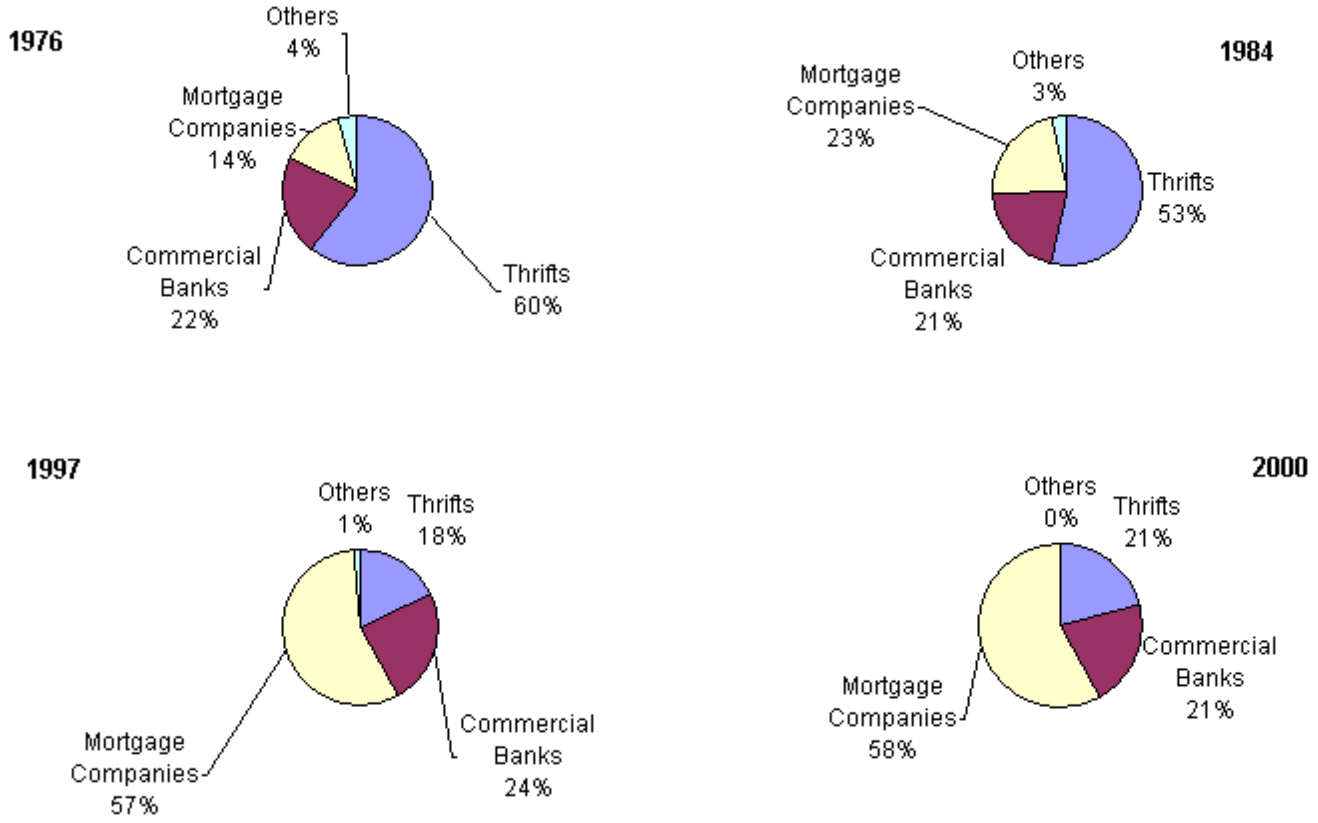
Figure 5
Single-Family Mortgage Loan Originations by Type of Loan

	CONVENTIONAL		FHA/VA		TOTAL	
YEAR	($MIL)	(% DIST)	($MIL)	(% DIST)	($MIL)	(% DIST)
1985	$245,771	84.81%	$44,013	15.19%	$289,784	100.00%
1986	$411,493	82.40%	$87,919	17.60%	$499,412	100.00%
1987	$399,232	78.71%	$107,998	21.29%	$507,230	100.00%
1988	$383,733	85.99%	$62,530	14.01%	$446,263	100.00%
1989	$394,118	87.02%	$58,789	12.98%	$452,907	100.00%
1990	$376,700	82.18%	$81,704	17.82%	$458,404	100.00%
1991	$499,875	88.93%	$62,199	11.07%	$562,074	100.00%
1992	$818,863	91.63%	$74,818	8.37%	$893,681	100.00%
1993	$895,381	87.79%	$124,480	12.21%	$1,019,861	100.00%
1994	$625,645	81.38%	$143,103	18.62%	$768,748	100.00%
1995	$564,750	88.32%	$74,686	11.68%	$639,436	100.00%
1996	$677,295	86.25%	$107,938	13.75%	$785,233	100.00%
1997	$756,882	88.10%	$102,242	11.90%	$859,124	100.00%
*1998	$1,297,500	89.48%	$152,500	10.52%	$1,450,000	100.00%
*1999	$1,138,800	87.01%	$170,050	12.99%	$1,308,850	100.00%
*2000	$896,000	88.60%	$115,320	11.40%	$1,011,320	100.00%
*2001	$1,578,000	90.45%	$166,670	9.55%	$1,744,670	100.00%

Source: HUD Survey of Mortgage Lending Activity, 1985-1997, compiled by the National Association of Home Builders,

* Fannie Mae and Freddie Mac Estimates of total Single-Family Market, 1998-2001.

Figure 6
Single-Family Mortgage Loan Originations by Lender Type



Source: US Department of Housing and Urban Development, Survey of Mortgage Lending Activity,

Figure 7

Single-Family Mortgage Loan Originations by Lender Type

	THRIFTS		COMMERCIAL BANKS		MORTGAGE COS		OTHERS		TOTAL	
YEAR	($MIL)	(%DIST)	($MIL)	(%DIST)	($MIL)	(%DIST)	($MIL)	(%DIST)	($MIL)	(%DIST)
1970	$16,961	47.66%	$7,797	21.91%	$8,906	25.03%	$1,922	5.40%	$35,586	100.%
1971	$30,144	52.16%	$12,598	21.80%	$12,487	21.61%	$2,559	4.43%	$57,788	100%
1972	$41,793	55.09%	$17,710	23.34%	$13,326	17.57%	$3,036	4.00%	$75,865	100%
1973	$44,353	56.05%	$18,783	23.74%	$12,658	16.00%	$3,335	4.21%	$79,129	100%
1974	$34,861	51.64%	$16,128	23.89%	$13,026	19.30%	$3,493	5.17%	$67,508	100%
1975	$45,574	58.49%	$14,450	18.55%	$13,992	17.96%	$3,896	5.00%	$77,912	100%
1976	$68,328	60.58%	$24,501	21.72%	$15,744	13.96%	$4,212	3.73%	$112,785	100%
1977	$94,964	58.63%	$36,675	22.64%	$25,650	15.84%	$4,684	2.89%	$161,973	100%
1978	$99,331	53.68%	$43,924	23.74%	$34,448	18.62%	$7,333	3.96%	$185,036	100%
1979	$91,787	49.19%	$40,655	21.79%	$45,260	24.26%	$8,892	4.77%	$186,594	100%
1980	$66,530	49.74%	$28,778	21.51%	$29,419	21.99%	$9,035	6.75%	$133,762	100%
1981	$46,003	46.84%	$21,689	22.08%	$23,958	24.39%	$6,566	6.69%	$98,216	100%
1982	$38,784	40.00%	$25,188	25.98%	$27,995	28.88%	$4,983	5.14%	$96,950	100%
1983	$92,299	45.72%	$44,830	22.21%	$59,762	29.61%	$4,972	2.46%	$201,863	100%
1984	$108,872	53.45%	$41,941	20.59%	$47,589	23.36%	$5,304	2.60%	$203,706	100%
1985	$116,753	40.29%	$57,031	19.68%	$110,004	37.96%	$5,995	2.07%	$289,783	100%
1986	$207,182	41.49%	$108,613	21.75%	$175,986	35.24%	$7,632	1.53%	$499,413	100%
1987	$208,781	41.16%	$124,551	24.56%	$167,053	32.93%	$6,846	1.35%	$507,231	100%
1988	$188,871	42.32%	$101,863	22.83%	$148,004	33.17%	$7,525	1.69%	$446,263	100%
1989	$157,676	34.81%	$123,193	27.20%	$166,494	36.76%	$5,544	1.22%	$452,907	100%
1990	$138,990	30.32%	$153,285	33.44%	$161,153	35.15%	$5,010	1.09%	$458,438	100%
1991	$140,416	24.98%	$153,323	27.28%	$263,917	46.95%	$4,418	0.79%	$562,074	100%
1992	$218,792	24.48%	$232,065	25.97%	$437,604	48.97%	$5,220	0.58%	$893,681	100%
1993	$218,750	21.45%	$268,985	26.37%	$526,502	51.62%	$5,624	0.55%	$1,019,861	100%
1994	$152,381	19.82%	$199,996	26.02%	$408,141	53.09%	$8,230	1.07%	$768,748	100%
1995	$118,856	18.59%	$155,359	24.30%	$358,705	56.10%	$6,516	1.02%	$639,436	100%
1996	$155,611	19.82%	$178,548	22.74%	$445,739	56.77%	$5,335	0.68%	$785,233	100%
1997	$152,725	17.78%	$206,591	24.05%	$494,530	57.56%	$5,278	0.61%	$859,124	100%
1998	$311,129	23.66%	$200,932	15.28%	$802,939	61.06%	n.s.	n.s.	$1,315,000	100%
1999	$236,407	21.57%	$212,076	19.35%	$647,517	59.08%	n.s.	n.s.	$1,096,000	100%
2000	$185,445	20.72%	$191,172	21.36%	$518,385	57.92%	n.s.	n.s.	$895,000	100%

*Starting with 1985 data, mortgage origination and holdings data are not comparable to previous years' data because

of a change in HUD's survey methodology, which now captures greater mortgage origination activity by mortgage companies.

* Starting with 1998 data, mortgage originations are from the Home Mortgage Disclosure Act (HMDA), which represents

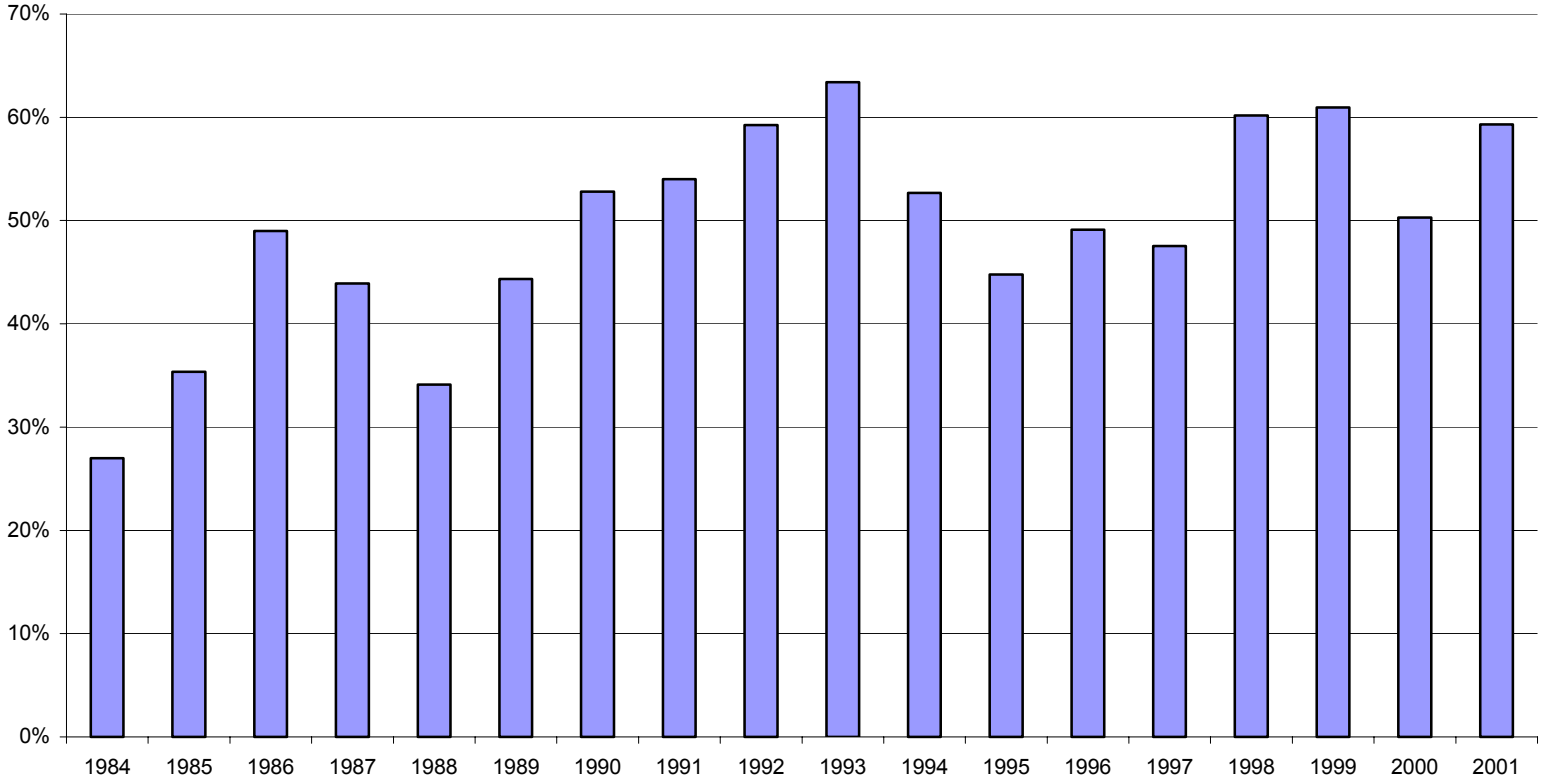
about 75% of all originations. The use of this data explains the difference between the numbers in this Figure and Figure 4.5

* n.s. refers to "not significant". Number was not readily available, however the amount is insignificant.

Source: 1970-1997, U.S. Department of Housing and Urban Development; 1998-2000 estimates from Freddie Mac Research based on HMDA data.

Note: These estimates vary from the numbers in Figure 4.5 due to the fact that HMDA data only encompasses approximately 75% of the entire single-family mortgage market.

Figure 8
Share of New Mortgages Funded by the Secondary Market, 1984-2001



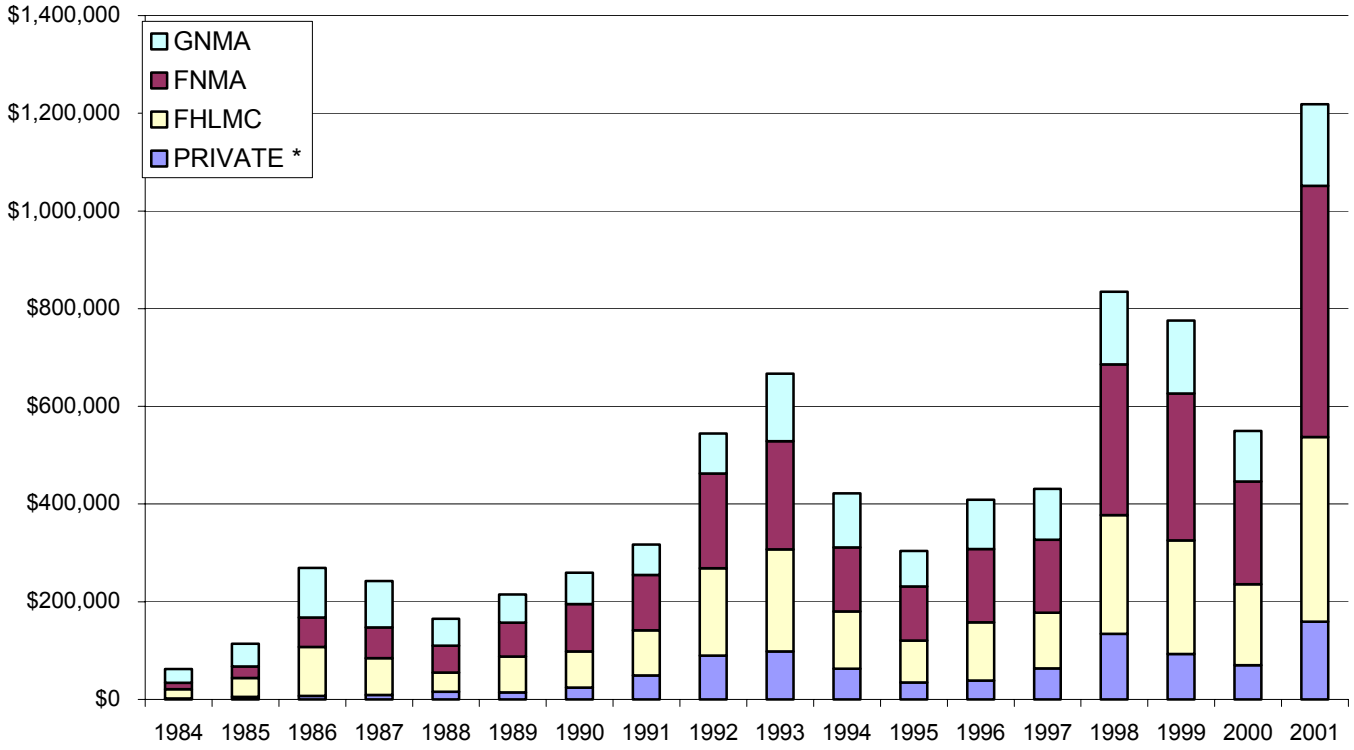
Source: HUD, FNMA, FHLMC, GNMA, as compiled by NAHB. 1999-2001 estimates from Freddie Mac Research.

Figure 9
Fannie Mae and Freddie Mac Mortgage Purchases, 1997-2001

In

Source: 1997 and 1998 data--U.S. Department of Housing and Urban Development, compiled by NAHB. 1999-2001 data--Freddie Mac, Financial Research Department

Figure 10
New Issues of Residential Mortgage-Backed Securities, 1984-2001



Source: GNMA, FNMA, FHLMC, Salomon Brothers, Inside Mortgage Securities. 2000/2001: "Inside MBS and ABS", Issue 2002:5, February 8, 2002.

* Private securities data include non-agency whole loan CMOs and REMICS.

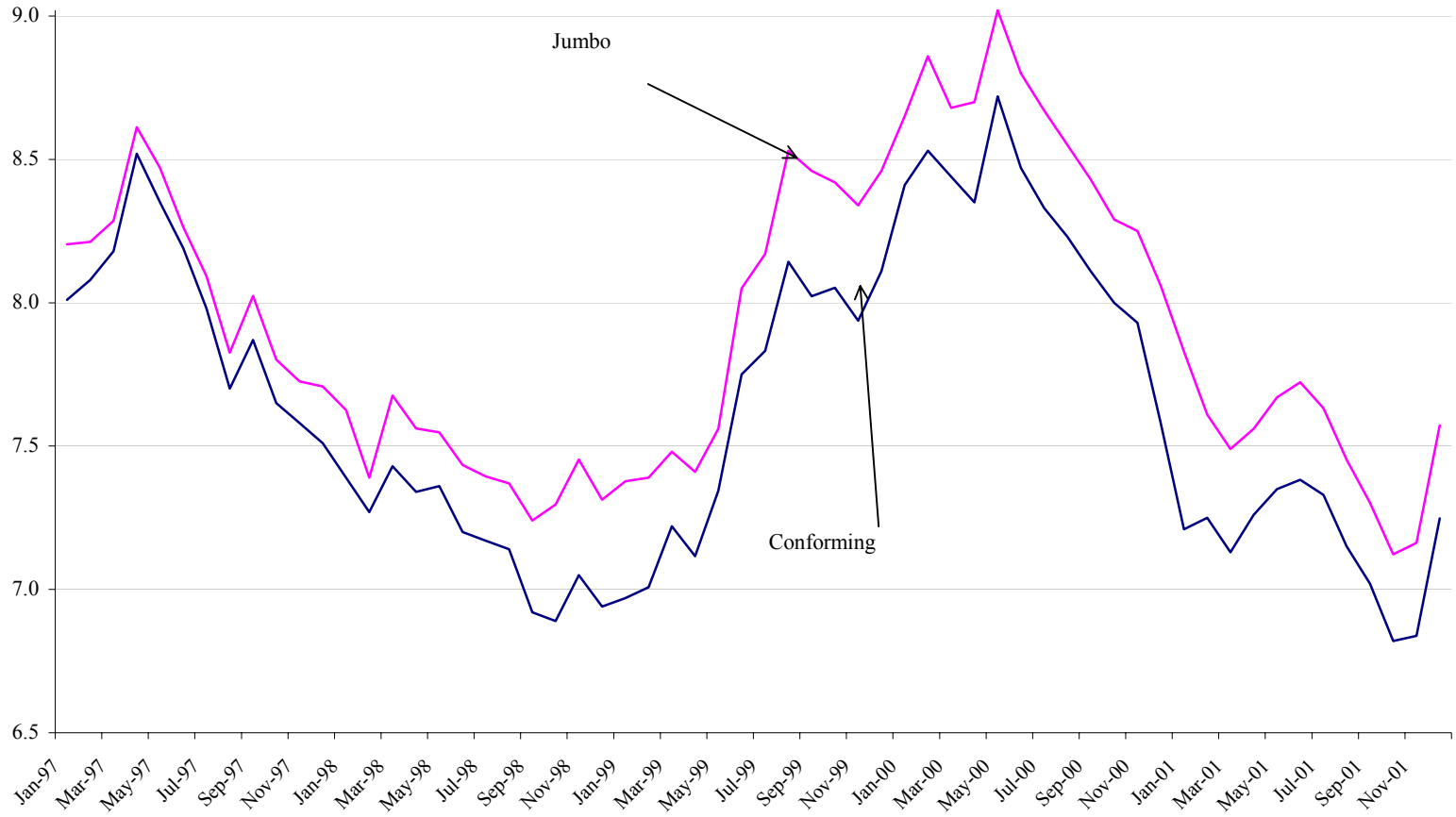
Figure 11
New Issues of Residential Mortgage-Backed Securities, 1970-2001

	GNMA		FNMA		FHLMC		FHLMC & FNMA		PRIVATE *		TOTAL	
YEAR	($MIL)	(% DIST)	($MIL)	(% DIST)	($MIL)	(% DIST)	($MIL)	(% DIST)	($MIL)	(% DIST)	($MIL)	(% DIST)
1970	$452	100.00%	$0	0.00%	$0	0.00%	$0	0.00%	$0	0.00%	$452	100%
1971	$2,702	97.65%	$0	0.00%	$65	2.35%	$65	2.35%	$0	0.00%	$2,767	100%
1972	$2,662	84.35%	$0	0.00%	$494	15.65%	$494	15.65%	$0	0.00%	$3,156	100%
1973	$2,953	90.14%	$0	0.00%	$323	9.86%	$323	9.86%	$0	0.00%	$3,276	100%
1974	$4,553	99.00%	$0	0.00%	$46	1.00%	$46	1.00%	$0	0.00%	$4,599	100%
1975	$7,447	88.69%	$0	0.00%	$950	11.31%	$950	11.31%	$0	0.00%	$8,397	100%
1976	$13,764	90.85%	$0	0.00%	$1,360	8.98%	$1,360	8.98%	$27	0.18%	$15,151	100%
1977	$17,440	78.02%	$0	0.00%	$4,657	20.83%	$4,657	20.83%	$255	1.14%	$22,352	100%
1978	$15,358	67.53%	$0	0.00%	$6,412	28.20%	$6,412	28.20%	$971	4.27%	$22,741	100%
1979	$24,940	79.95%	$0	0.00%	$4,546	14.57%	$4,546	14.57%	$1,708	5.48%	$31,194	100%
1980	$20,647	85.01%	$0	0.00%	$2,526	10.40%	$2,526	10.40%	$1,115	4.59%	$24,288	100%
1981	$14,257	72.41%	$717	3.64%	$3,529	17.92%	$4,246	21.57%	$1,185	6.02%	$19,688	100%
1982	$15,607	27.96%	$13,970	25.02%	$24,169	43.29%	$38,139	68.32%	$2,081	3.73%	$55,827	100%
1983	$50,736	58.64%	$13,340	15.42%	$19,691	22.76%	$33,031	38.18%	$2,754	3.18%	$86,521	100%
1984	$28,097	45.03%	$13,546	21.71%	$18,684	29.94%	$32,230	51.65%	$2,069	3.32%	$62,396	100%
1985	$45,980	40.42%	$23,649	20.79%	$38,829	34.13%	$62,478	54.92%	$5,301	4.66%	$113,759	100%
1986	$101,433	37.69%	$60,566	22.50%	$100,198	37.23%	$160,764	59.73%	$6,960	2.59%	$269,157	100%
1987	$94,890	39.13%	$63,229	26.07%	$75,018	30.94%	$138,247	57.01%	$9,360	3.86%	$242,497	100%
1988	$55,182	33.39%	$54,878	33.21%	$39,777	24.07%	$94,655	57.28%	$15,421	9.33%	$165,258	100%
1989	$57,067	26.59%	$69,764	32.51%	$73,518	34.26%	$143,282	66.77%	$14,238	6.64%	$214,587	100%
1990	$64,344	24.82%	$96,695	37.29%	$73,815	28.47%	$170,510	65.76%	$24,430	9.42%	$259,284	100%
1991	$62,630	19.73%	$112,933	35.58%	$92,479	29.14%	$205,412	64.72%	$49,350	15.55%	$317,392	100%
1992	$81,917	15.04%	$194,037	35.63%	$179,207	32.90%	$373,244	68.53%	$89,466	16.43%	$544,627	100%
1993	$137,989	20.70%	$221,444	33.22%	$208,724	31.31%	$430,168	64.53%	$98,493	14.77%	$666,650	100%
1994	$111,185	26.34%	$130,622	30.95%	$117,110	27.74%	$247,732	58.69%	$63,181	14.97%	$422,098	100%
1995	$72,765	23.94%	$110,456	36.34%	$85,877	28.26%	$196,333	64.60%	$34,826	11.46%	$303,924	100%
1996	$100,899	24.67%	$149,869	36.65%	$119,702	29.27%	$269,571	65.92%	$38,467	9.41%	$408,937	100%
1997	$104,091	24.15%	$149,429	34.66%	$114,258	26.51%	$263,687	61.17%	$63,291	14.68%	$431,069	100%
1998	$149,106	17.86%	$308,539	36.96%	$242,740	29.08%	$551,279	66.03%	$134,474	16.11%	$834,859	100%
1999	$149,285	19.24%	$300,689	38.76%	$233,031	30.03%	$533,720	68.79%	$92,866	11.97%	$775,871	100%
2000	$103,695	18.86%	$210,205	38.23%	$165,624	30.12%	$375,829	68.36%	$70,294	12.78%	$549,818	100%
2001	$167,029	13.71%	$513,717	42.17%	$378,079	31.03%	$891,796	73.20%	$159,422	13.09%	$1,218,247	100%

* Private securities data include non-agency whole loan CMOs and REMICS.

SOURCE: GNMA, FNMA, FHLMC, Salomon Brothers, Inside Mortgage Securities. 2000/2001: "Inside MBS and ABS", Issue 2002:5, February 8, 2002.

Figure 12
Conforming Mortgage Rates for Freddie Mac and Fannie Mae are Consistently Below the Rates for Jumbo Loans
The 1998 global financial crisis caused jumbo and commercial mortgage rates to rise



Source: Fannie Mae and Freddie Mac.

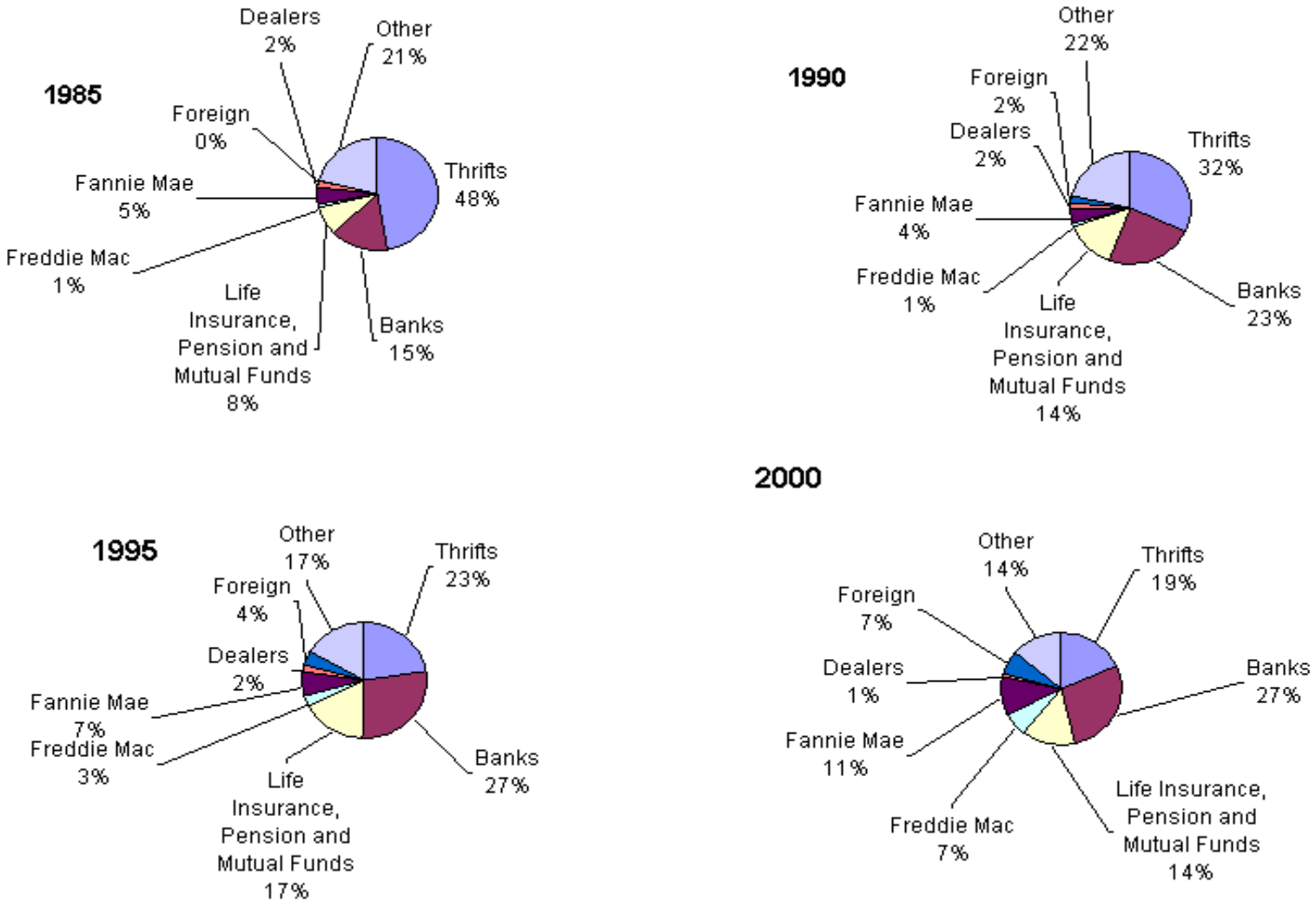
Figure 13
Billions of Dollars; Amounts Outstanding End of Period, Not Seasonally Adjusted

		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	
1	**Total Mortgages**	**3951.8**	**4066**	**4206.1**	**4393**	**4604**	**4901.6**	**5216.7**	**5728.2**	**6283.3**	**6854.5**	**7391.9**	1
2	Home	2814.5	2984.1	3146.5	3330	3510.4	3721.9	3959.5	4327.5	4803.4	5225.9	5623.1	2
3	Multifamily residential	282.3	269.1	266.6	267.7	277	294.8	310.5	341	350.2	387.2	425.3	3
4	Commercial	775.8	733.1	712.3	712.3	732.1	797.7	856.5	963.2	1027.3	1132.5	1228.9	4
5	Farm	79.2	79.7	80.7	83	84.6	87.1	90.3	96.5	102.3	108.8	114.6	5
6	**Total liabilities**	**3951.8**	**4066**	**4206.1**	**4393**	**4604**	**4901.6**	**5216.7**	**5728.2**	**6283.3**	**6854.5**	**7391.9**	**6**
7	Household sector	2714.6	2863.1	3001.1	3171.7	3344	3560.9	3801.7	4174.4	4558.9	4941.5	5305.9	7
8	Non-financial business	1232.4	1197.6	1196.1	1202.5	1236	1308.8	1368.3	1482.2	1609.4	1794.9	1957	8
9	Corporate	245.9	225.6	224.7	242.6	270.1	287.1	296.4	336.5	378.8	441.1	501	9
10	Non-farm non-corporate	907.3	892.2	890.7	876.9	881.4	934.6	981.6	1049.2	1128.3	1245	1341.4	10
11	Farm	79.2	79.7	80.7	83	84.6	87.1	90.3	96.5	102.3	108.8	114.6	11
2	Federal government	0	0	0	0	0	0	0	0	0	0	0	12
13	REITs	4.8	5.4	8.9	18.7	24.1	31.9	46.8	71.6	76.7	82.9	83	13
14	**Total Assets**	**3951.8**	**4066**	**4206.1**	**4393**	**4604**	**4901.6**	**5216.7**	**5728.2**	**6283.3**	**6854.5**	**7391.9**	**14**
15	Household sector	145.2	136.8	126.3	115.6	109.5	109.4	108.9	109.2	110.2	111.3	112	15
16	Non-financial corporate business	59	60	52.3	56.4	57.9	54.4	50.4	46.4	60.3	55.3	51.5	16
17	Non-farm non-corporate business	26	25.2	23.7	23.6	26.7	23.5	23.8	24.4	40.7	48.6	53.2	17
18	State and local governments	113.7	113.7	108.3	110.5	113.8	117.6	121.3	125.4	129.8	134.3	137.8	18
19	Federal government	98.3	86.4	85	71	57.8	50.3	45.7	44.9	77.7	76.9	75.3	19
20	Commercial banking	881.3	900.5	947.8	1012.7	1090.2	1145.4	1245.3	1337	1495.2	1659.3	1736.1	20
21	Savings institutions (1)	705.4	628	598.4	596.2	596.8	628.3	631.8	644.2	668.6	723.8	758.6	21
22	Credit unions	52.8	53.8	56	62.1	66.5	76	86	96.9	111	127.4	140.2	22
23	Bank personal trusts and estates	4	3.9	3.6	3.4	3.3	3.6	3	2.8	2.2	2.1	2	23
24	Life insurance companies	259.5	242	223.9	215.8	213.1	208.2	206.8	213.6	230.8	235.9	237.9	24
25	Other insurance companies	6.5	5.9	4.5	3.8	2.8	2.4	2.2	2	1.9	1.6	1.7	25
26	Private pension funds	18.2	14.5	14.5	18	19.4	21.2	23.6	27.2	13.5	15.1	15.9	26
27	State and local govt. retirement funds	16.9	16.5	14.5	15.2	15.9	16.7	17.6	18.6	21.5	21.5	23.7	27
28	Government-Sponsored enterprises (1)	167.7	199.7	241	244.6	251	244.9	240.4	247.7	244.4	267.1	285.6	28
29	Federally related mortgage pools	1156.5	1272	1356.8	1472.1	1570.3	1711.4	1825.8	2018.4	2292.2	2491.6	2759	29
30	ABS issuers	110.3	172.9	217.8	255.3	289.4	350.6	441	605.5	655.5	740.7	844.4	30
31	Finance companies	63.3	65.8	62.7	66.9	72.4	82.7	87.9	102.3	145.8	172.3	187.4	31
32	Mortgage companies	60.3	60.5	60.4	36.5	33	41.2	32.1	35.3	35.6	35.9	36.9	32
33	REITs	7	8.1	8.6	13.3	14.1	13.8	22.9	26.3	23	16.8	15.6	33

(1) FHLB loans to savings institutions are included in other loans and advances.

Source: U.S. Department of Housing and Urban Development. Fed. Flow of Funds, 3Q 2001.

Figure 14
Share of Residential Mortgage Debt Outstanding



Source: Freddie Mac, Financial Research Department

Figure 15
Residential Mortgage and Treasury Debt Outstanding (Billions of Dollars)

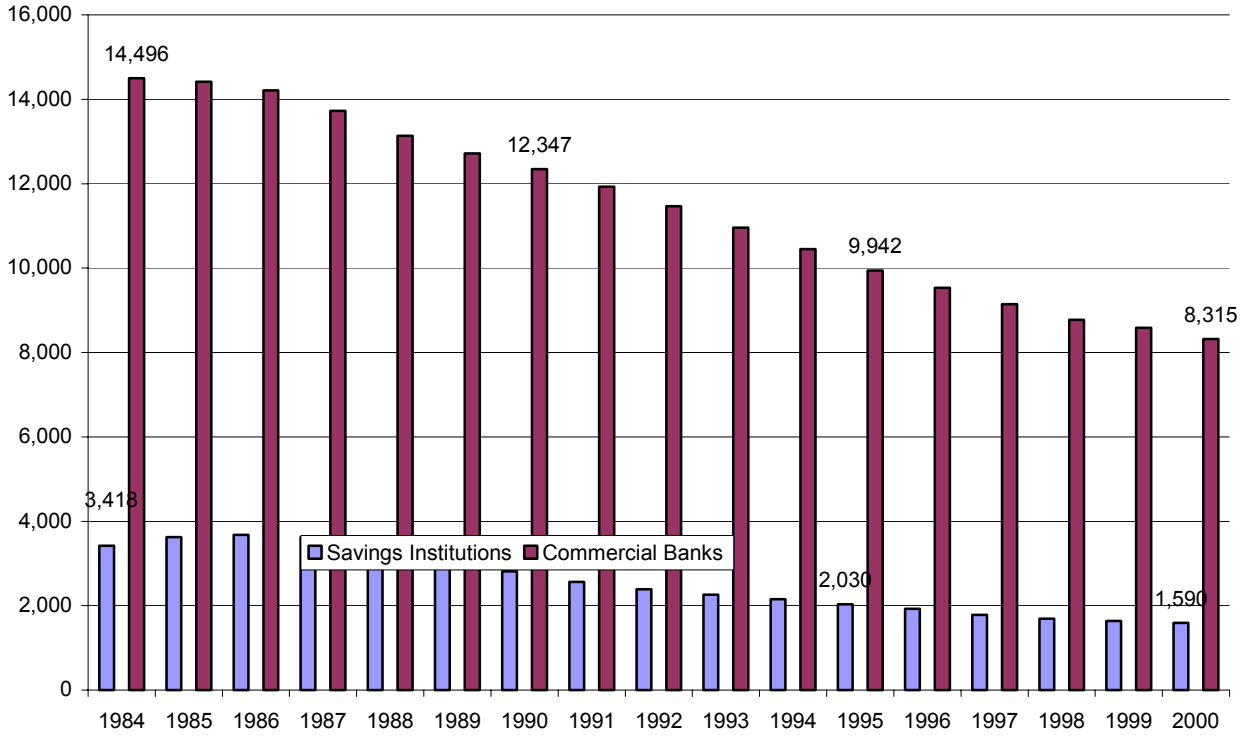
	Residential Mortgage Debt							
	Single-Family		Multifamily		Total Residential		Total Treasury Debt	Mortgage Debt as % of Treasury Debt
PERIOD	($Bil)	(%Dist)	($Bil)	(% Dist)	($Bil)	(% Dist)	($Bil)	
1945	$18.60	79.15%	$4.90	20.85%	$23.50	100.00%	$251.20	9.36%
1946	$22.90	81.21%	$5.30	18.79%	$28.20	100.00%	$227.90	12.37%
1947	$28.00	82.84%	$5.80	17.16%	$33.80	100.00%	$220.70	15.31%
1948	$33.10	83.17%	$6.70	16.83%	$39.80	100.00%	$214.20	18.58%
1949	$37.40	82.74%	$7.80	17.26%	$45.20	100.00%	$216.70	20.86%
1950	$44.90	82.84%	$9.30	17.16%	$54.20	100.00%	$216.10	25.08%
1951	$51.50	82.93%	$10.60	17.07%	$62.10	100.00%	$215.80	28.78%
1952	$58.10	83.48%	$11.50	16.52%	$69.60	100.00%	$220.80	31.52%
1953	$65.70	84.45%	$12.10	15.55%	$77.80	100.00%	$226.20	34.39%
1954	$75.00	85.52%	$12.70	14.48%	$87.70	100.00%	$228.50	38.38%
1955	$87.50	86.63%	$13.50	13.37%	$101.00	100.00%	$228.40	44.22%
1956	$98.30	87.46%	$14.10	12.54%	$112.40	100.00%	$222.80	50.455
1957	$106.90	87.98%	$14.60	12.02%	$121.50	100.00%	$220.10	55.20%
1958	$116.70	87.55%	$16.60	12.45%	$133.30	100.00%	$229.00	58.21%
1959	$129.60	87.39%	$18.70	12.61%	$148.30	100.00%	$236.20	62.79%
1960	$140.80	87.13%	$20.80	12.87%	$161.60	100.00%	$234.00	69.06%
1961	$153.30	86.66%	$23.60	13.34%	$176.90	100.00%	$240.70	73.49%
1962	$167.40	86.24%	$26.70	13.76%	$194.10	100.00%	$246.80	78.65%
1963	$184.00	85.98%	$30.00	14.02%	$214.00	100.00%	$250.70	85.36%
1964	$201.30	85.33%	$34.60	14.67%	$235.90	100.00%	$255.90	92.18%
1965	$218.60	85.12%	$38.20	14.88%	$256.80	100.00%	$257.00	99.92%
1966	$232.00	84.89%	$41.30	15.11%	$273.30	100.00%	$259.30	105.40%
1967	$245.30	84.56%	$44.80	15.44%	$290.10	100.00%	$268.20	108.17%
1968	$262.50	84.46%	$48.30	15.54%	$310.80	100.00%	$277.60	111.96%
1969	$280.70	84.07%	$53.20	15.93%	$333.90	100.00%	$276.80	120.63%
1970	$294.90	83.07%	$60.10	16.93%	$355.00	100.00%	$289.90	122.46%
1971	$321.50	82.10%	$70.10	17.90%	$391.60	100.00%	$315.90	123.96%
1972	$361.00	81.34%	$82.80	18.66%	$443.80	100.00%	$330.10	134.44%
1973	$404.00	81.27%	$93.10	18.73%	$497.10	100.00%	$336.70	147.65%
1974	$438.20	81.42%	$100.00	18.58%	$538.20	100.00%	$348.80	154.30%
1975	$477.70	82.60%	$100.60	17.40%	$578.30	100.00%	$434.90	132.97%
1976	$540.30	83.64%	$105.70	16.36%	$646.00	100.00%	$503.70	128.25%
1977	$633.60	84.75%	$114.00	15.25%	$747.60	100.00%	$560.90	133.29%
1978	$743.80	85.62%	$124.90	14.38%	$868.70	100.00%	$614.90	141.28%
1979	$861.50	86.47%	$134.80	13.53%	$996.30	100.00%	$652.10	152.78%
1980	$964.70	87.15%	$142.30	12.85%	$1,107.00	100.00%	$730.00	151.64%
1981	$1,038.40	87.975	$142.00	12.03%	$1,180.40	100.00%	$815.90	144.67%
1982	$1,079.50	88.11%	$145.70	11.89%	$1,225.20	100.00%	$978.10	125.26%
1983	$1,197.10	88.16%	$160.70	11.84%	$1,357.80	100.00%	$1,163.40	116.71%
1984	$1,332.80	87.78%	$185.50	12.22%	$1,518.30	100.00%	$1,360.80	111.57%
1985	$1,533.50	88.21%	$205.00	11.79%	$1,738.50	100.00%	$1,586.60	109.57%
1986	$1,737.90	87.95%	$238.10	12.05%	$1,976.00	100.00%	$1,802.20	109.64%
1987	$1,940.50	88.29%	$257.40	11.71%	$2,197.90	100.00%	$1,944.60	113.03%
1988	$2,175.80	88.86%	$272.90	11.14%	$2,448.70	100.00%	$2,082.30	117.60%
1989	$2,404.50	89.39%	$285.40	10.61%	$2,689.90	100.00%	$2,227.00	120.79%
1990	$2,646.60	90.26%	$285.50	9.74%	$2,932.10	100.00%	$2,465.80	118.91%
1991	$2,814.50	90.88%	$282.30	9.12%	$3,096.80	100.00%	$2,757.80	112.29%
1992	$2,984.10	91.73%	$269.10	8.27%	$3,253.20	100.00%	$3,061.60	106.26%

Figure 15
Residential Mortgage and Treasury Debt Outstanding (Billions of Dollars)

1993	$3,146.50	92.19%	$266.60	7.81%	$3,413.10	100.00%	$3,309.90	103.12%
1994	$3,330.00	92.56%	$267.70	7.44%	$3,597.70	100.00%	$3,465.60	103.81%
1995	$3,510.40	92.69%	$277.00	7.31%	$3,787.40	100.00%	$3,608.50	104.96%
1996	$3,721.90	92.66%	$294.80	7.34%	$4,016.70	100.00%	$3,755.10	106.97%
1997	$3,959.50	92.73%	$310.50	7.27%	$4,270.00	100.00%	$3,778.30	113.01%
1998	$4,327.50	92.70%	$341.00	7.30%	$4,668.50	100.00%	$3,723.70	125.37%
1999	$4,803.40	93.20%	$350.20	6.80%	$5,153.60	100.00%	$3,652.80	141.09%
2000	$5,225.90	93.10%	$387.20	6.90%	$5,613.10	100.00%	$3,357.80	167.17%
2001	$5,757.00	92.59%	$460.70	7.41%	$6,217.70	100.00%	$3,379.60	183.98%

Source: Federal Reserve Flow of Funds Accounts, U.S. Department of Housing and Urban Development.

Figure 16
Number of Savings Institutions and Commercial Banks Have Steadily Declined



Source: Federal Deposit Insurance Corporation, Historical Data on Banking, www2.fdic.gov/hsob.

Figure 17

Industry Background: Mortgage Banking

CONSOLIDATION IN THE 1990S

	Share of Market for Top Lenders			
	1990	1993	1998	2001/2002
Top 25 Originators	28%	37%	55%	72%*
Top 25 Servicers	21%	30%	51%	67%**

Source: *National Mortgage News, Quarterly Data Report*
Data for the years 1990, 1993 and 1998 are calendar years.
* This number is the Top 25 Originators for Fourth Quarter 2001
** This number includes the Top 25 Servicers as of March 31, 2002.

Figure 18 Industry Background: Mortgage Industry
Sees Emergence of "Mega-Servicer"

	TOP ORIGINATORS 1st Quarter 2002			**TOP SERVICERS 1st Quarter 2002**	
	Institution	**$ Billions**		**Institution**	**$ Billions**
1	Washington Mutual	71.0	1	Washington Mutual	739.4
2	Wells Fargo Home Mtg	67.9	2	Wells Fargo Home Mtg.	512.5
3	Countrywide Credit Ind.	44.0	3	Chase Manhattan Mtg.	425.0
4	Chase Manhattan Mtg	32.7	4	Countrywide Credit Ind.	355
5	ABN AMRO Mortgage	24.2	5	Bank of America	308.6
6	Bank of America	17.8	6	GMAC Mortgage	203.2
7	National City Mtg	14.5	7	HomeSide Lending	171.3
8	GMAC Mortgage	14.1	8	ABN AMRO Mortgage	160.2
9	Cendant Mortgage	12.6	9	First Nationwide Mtg. Corp.	114.2
10	CitiMortgage, Inc.	11.4	10	CitiMortgage, Inc.	104.9
	Top 10 Totals	$ 310.2		Top 10 Totals	3,094.3
	Others	$168.2		Others	2,662.7
	TOTAL	**$478.4**		TOTAL	**$5,757.0**

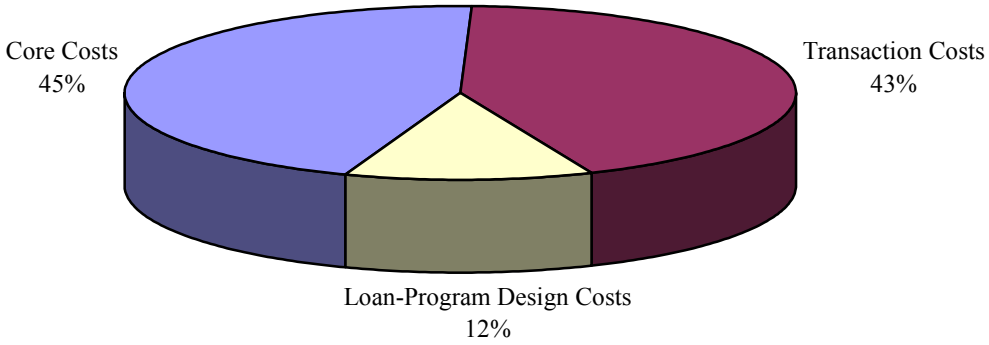
Source: *National Mortgage News, Quarterly Data Report, 1st Quarter 2002.*

Figure 19
Retail (Direct-to-Customer) Online Originations, Sample of Firms
(Dollars in Millions)

	Online Retail Originations							
Organization Name	**Q2/00**	**Q3/00**	**Q4/00**	**Q1/01**	**Q2/01**	**Q3/01**	**Q4/01**	**Q1/02**
Countrywide Credit Industries	na	$4,904	$118	$10,546	$3,696	$3,516	$23,512	$20,588
Washington Mutual	na	$62	$154	$704	$890	$1,095	$6,107	$18,569
ABN AMRO Mortgage	na	na	na	na	$14	$94	$6,608	$16,527
Principal Residential Mortgage	$12	$3	$1	$1,279	$0	$10	$5,613	$4,897
Chase Manhattan Mortgage	na	na	na	na	na	na	n/a	$4,884
IndyMac Bancorp, Inc.	na	na	$184	$237	$204	$211	$3,632	$3,243
CitiMortgage, Inc.	$12	$18	$26	$642	$99	$107	$2,651	$3,186
E Trade	$316	$293	na	$571	$697	$702	$2,000	$2,831
First Union Mortgage Corporation	na	$15	$27	$71	na	$70	$1,843	$1,563
Resource Bancshares Mtg. Group	na	na	na	$667	na	na	na	$1,401
Top 10 Originators Total	$1,190	$6,085	$757	$14,717	$8,020	$8,033	$55,025	$77,689
Total Market	**$1,248**	**$6,242**	**$1,657**	**$17,507**	**$9,515**	**$9,354**	**$60,483**	**$86,880**

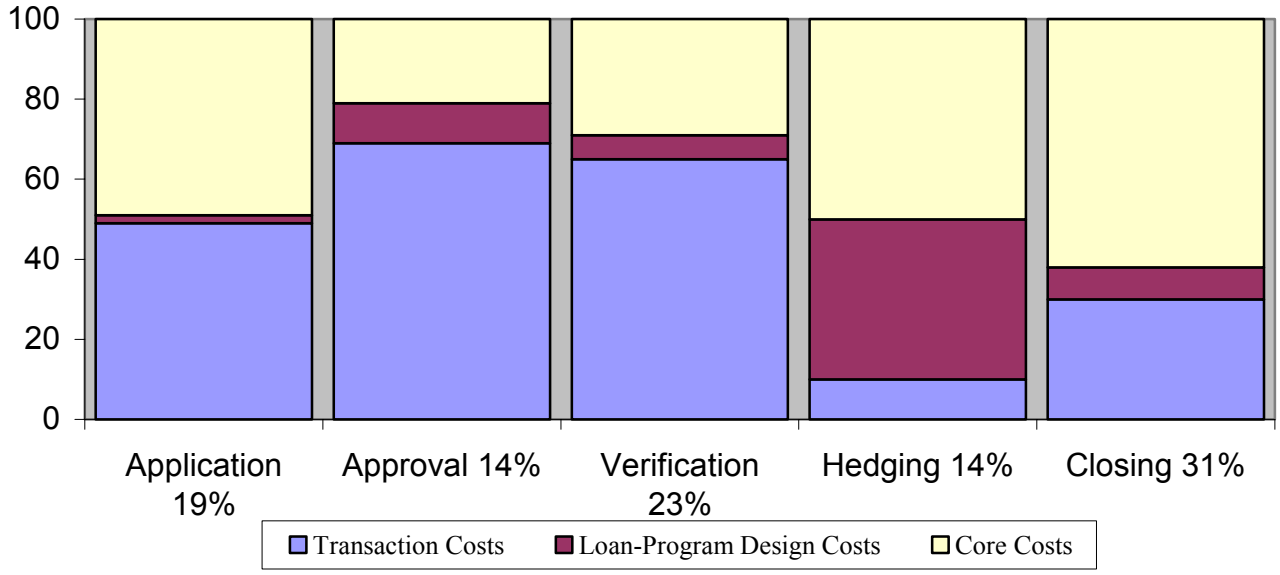
Source: National Mortgage News, 2000-2002 data.
Note: These numbers are based on survey responses to the National Mortgage News by these organizations and therefore do not provide all online originations. Organizations are listed in order of their online originations for Q1 2002. na refers to data not available.

Figure 20
Total Economic Costs of a Mortgage



Source: *Secondary Mortgage Market*, April 1999, 4.

Figure 21
Cost Components of the Mortgage-Origination Process



Note: Transaction costs cover gathering, receiving, ordering and filling paper documents. Loan-program design costs involve investor or lender requirements that specify, for example, the nature of loan-to-value ratios, appraisals and mortgage insurance. Core costs cover actual costs of services and products that occur during the process, such as loan officer's work (loan commission), legal advice, appraisal product and interest-rate hedging instrument.
Source: *Secondary Mortgage Markets*, April 1999, 19.