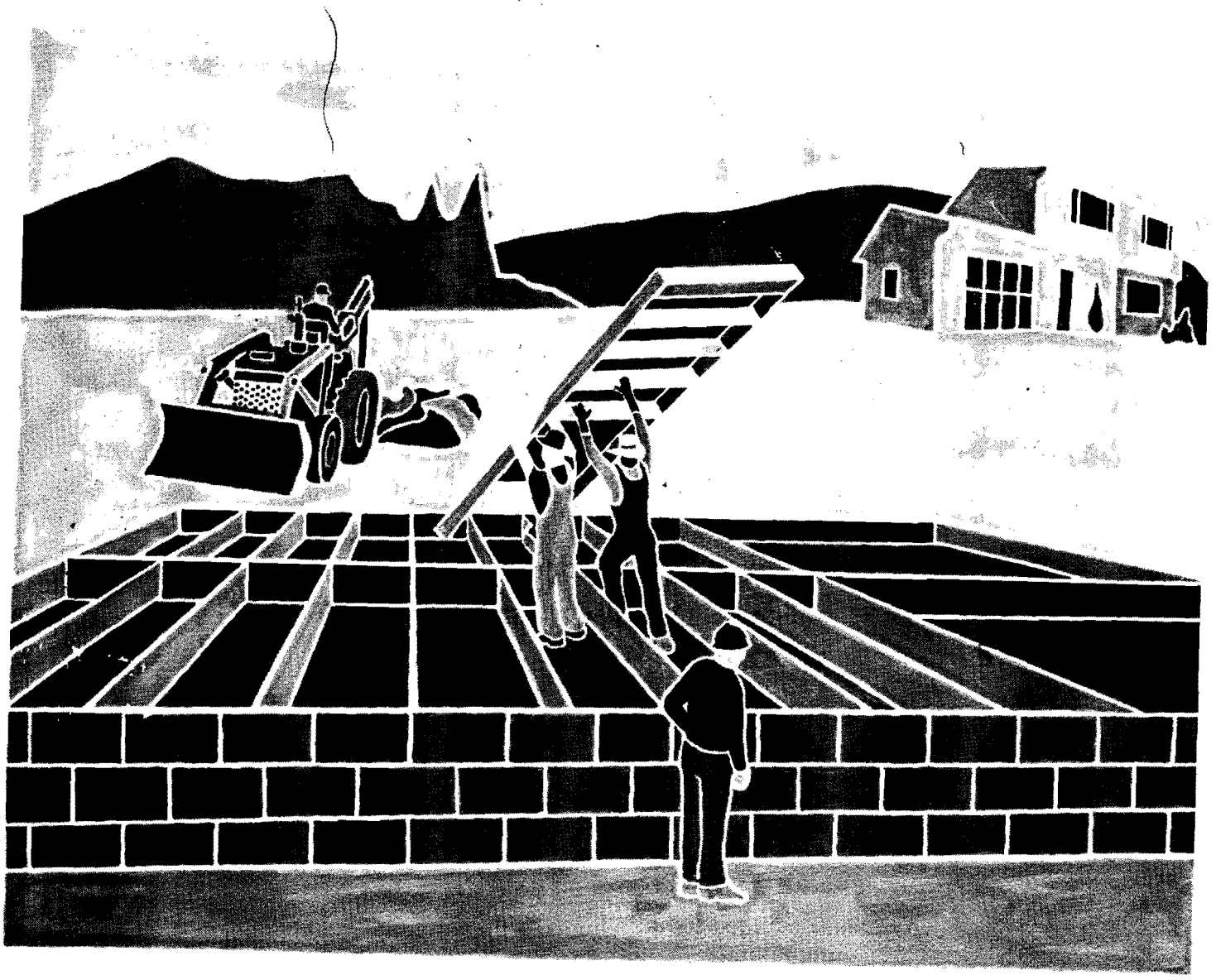
U.S. Department of Housing and Urban Development
Office of Policy Development and Research

1982 National Housing Production Report



1982 NATIONAL HOUSING PRODUCTION REPORT

U.S. Department of Housing and Urban Development
Office of Policy Development and Research
Division of Housing and Demographic Analysis

1983

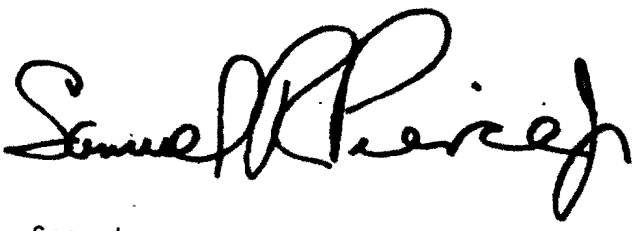
FOREWORD

The years 1980 and 1981 marked a period of significant readjustment for the housing industry, after a downturn brought on by adverse economic conditions and high interest rates. From a peak of 2.0 million in 1978, housing starts fell to 1.3 million in 1980 and 1.1 million in 1981. However, the conservation and upgrading of the existing housing inventory that typically occurs in periods of downturn meant that the Nation was less dependent on new construction than has been generally believed.

The rental inventory continued to grow in 1979 and 1980, and the physical adequacy of housing has been improving over the longer run. This Housing Production Report--a continuing product of HUD's Office of Policy Development and Research--covers, in narrative and tabular form, national housing production, financing, and labor and materials requirements for the years 1980 and 1981.

The report also contains information on the housing inventory in 1980, housing needs of various groups through 1978, and the activities of the Federal Government in support of housing through 1982. Updated information will be contained in the 1983 and subsequent housing production reports.

While this is a report to the Congress, it is also useful to housing market analysts and researchers because it draws together, in one place, virtually all relevant national information about housing supply and demand in the United States.



Secretary

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Executive Summary

The purpose of this Report, which is required by Section 1603 of the the Housing and Urban Development Act of 1968, is to describe the state of the housing inventory in 1980 and the characteristics of housing production and marketing in 1980 and 1981, and to discuss anticipated developments in 1982 and, where possible, 1983. The Report details trends in rental housing and housing problems, and covers Federal aid to housing, preservation of existing housing and neighborhoods, non-financial resources for housing production, and the availability of mortgage funds for housing.

The housing industry downturn, which began in 1979 due to adverse economic conditions and high interest rates, continued through 1980 and 1981. Housing starts fell to 1.3 million in 1980 after a peak of 2.0 million in 1978, and further to 1.1 million in 1981. Single family starts fell to 0.85 million units in 1980 and 0.71 million in 1981, while multifamily starts were 0.44 million and 0.38 million. Mobile home shipments declined less, to 0.22 million in 1980, and rose to 0.24 million in 1981. New home sales dropped to 0.54 million in 1980 after a peak of 0.82 million in 1977 and 1978, and declined further to 0.44 million in 1981.

There is strong evidence that in periods of construction downturns, the existing housing inventory is used more intensively. It is conserved and upgraded and investment in it increases, partially offsetting

the new construction downturn. Furthermore, additions to the stock from sources other than new construction increase, making the Nation less dependent on new construction than has been generally believed.

Housing starts in 1982 are likely to be at a lower level than in 1981, or just over 1.0 million units. With the success of the Economic Recovery Program and lower inflation and interest rates, there is a good probability of an increase to the 1.4 million level in 1983.

Trends in the existing stock of housing resulted in the growth of the housing inventory to over 88 million units by November 1980. Occupied units, and thus households, increased by 1.5 million from 1979 to 1980 despite the downturn in new construction, because of additions from other sources. The stock grew fastest in the suburbs of metropolitan areas, next fastest in nonmetropolitan areas, and slowest in central cities of metropolitan areas.

The rental inventory demonstrated continued yearly growth in 1979 and 1980, in contrast to frequent claims of a shrinking rental stock. The reason for the growth is due not only to additions from new construction and non-new-construction sources, but also to shifts in tenure from owner occupancy to renter occupancy. In some years, this can add over half a million units to the rental inventory.

The physical adequacy of housing has been improving over the longer run, but the problem of cost burdens has been very severe, particularly for very-low-income renters. A modified housing

certificate, or "housing voucher" program, based on the current Section 8 existing housing program, and with administrative procedures to continue to assure equal opportunity and housing access, is the best response to this problem.

Non-financial resources for housing production are adequate, despite plant closings and other capacity shrinkage. Sufficient supplies of construction materials and of labor are available for any conceivable level of housing production in the next two years. Prices of materials and land have moderated, and in some cases declined, as demand lessened.

Mortgage interest rates reached new highs in both 1980 and 1981. As thrift institutions became less able to provide needed financing, the secondary markets, including Federally sponsored and privately insured mortgage pools, became more important in providing residential financing.

The Report presents detailed information on various aspects of housing production and the stock of housing. Appendix A includes discussions of Federal aids to housing, including tax incentives and housing credit assistance in Calendar Years 1980 and 1981, and cash subsidy programs in Fiscal Years 1979 through 1983, with 1982 and 1983 estimated. Appendix B contains material on the preservation of existing housing and neighborhoods, with analyses of changes in the condition of housing and neighborhoods, of expenditures for housing

maintenance and repair and construction improvements, and Federal programs for housing, community development, and related research which contribute to the conservation and preservation of the Nation's housing stock and residential neighborhoods. Appendix C covers the nonfinancial resources (labor, materials, and land) required for housing production. Appendix D provides data on the availability of funds for housing in 1977 through 1981 and presents an assessment of the availability of mortgage funds for housing in 1982. Appendix E presents evidence on the growing importance of conversions as a source of additional housing units.

1982 National Housing Production Report

I. Introduction

Section 1603 of the Housing and Urban Development Act of 1968, as amended by the Housing and Community Development Act of 1980, requires the President to transmit to the Congress a report which reviews the progress made in achieving housing production objectives during the preceding year; projects the level, composition and general location of production and rehabilitation activity during the current year, sets general objectives for the next year, and assesses the availability of required resources; specifies Federal programs or policies needed to achieve the objectives; updates estimates of the housing situation of lower income households; reviews the progress made in achieving goals of conserving and upgrading older houses and neighborhoods, expanding homeownership and equal housing opportunities, and assuring reasonable shelter costs; and reports on methods developed and legislative and administrative actions needed to monitor and support achievement of these goals.

This Report details changes in the housing inventory from 1970 to 1980, recounts housing production and marketing trends in 1980 and 1981, describes expected developments throughout 1982 and into 1983, and addresses other issues specified by Section 1603. The appendices to this Report present detailed statistics and analyses to support its findings. Appendix A describes Federal

aids for housing production and for support to and general preservation of the existing housing stock; Appendix B describes the condition in 1980 of the existing stock and levels of maintenance and improvement in 1980 and 1981; Appendix C assesses the availability of manpower, materials and land for housing production; Appendix D examines housing finance and the sources of funds to meet expected production needs; and Appendix E provides estimates of the volume of additions to the housing stock from sources other than new construction.

This Report covers housing production in both 1980 and 1981 and discusses anticipated developments in 1982. Housing inventory characteristics for 1980 are also discussed.

The long-expected downturn in housing production, which began in 1979, continued in 1980; starts of new housing units and manufacturers' shipments of new mobile homes fell to the lowest levels since 1975. Completions of new housing units fell to the 1.5 million level, and new mobile home placements declined to near the 230,000 mark, the recent annual production low set in the 1975 downturn (levels in the 1960s were lower). Sales of new and existing housing dropped between 22 and 25 percent as buyers were deterred by the price of mortgage credit rather than its availability. After interest rates peaked in the spring and began to decline, housing starts and sales slowly recovered during the rest of the year, into the Winter of 1980-81.

In Calendar Year 1981, as interest rates rose anew, the housing recession returned, and 1981 became the third consecutive year of decline. Construction starts for the year were about 16 percent below the 1980 level, and 37 percent below the 1979 level. Starts of single family houses fell at a greater rate -- over 17 percent -- than starts of multifamily units, which were down less than 14 percent. Existing home sales in 1981 were at the 1972 to 1974 sales levels, down more than 18 percent from 1980. New home sales dropped 20 percent from the depressed level of 1980.

Despite the construction downturn which began in 1979, the housing inventory continued to grow each year, as it had done in the 1973-1975 housing construction recession. This was true for the renter-occupied stock as well as the owner-occupied stock. The Annual Housing Survey has provided evidence that, in the years when new construction additions to the inventory decline, more intensive use is made of the existing inventory. Housing units are conserved and upgraded. Also, additions from sources other than new construction increase significantly: conversion of fewer units to more units, changes from nonresidential uses to residential use, and rehabilitation of retrievable housing structures for re-use. Between October 1973 and October 1980, an

average of 670,000 units each year were added to the inventory from sources not accounted for by new housing production statistics. Furthermore, despite swings in the housing production cycle over these seven years, the housing inventory not only continued to grow in volume each year, but it also steadily improved in quality. The Nation's housing stock has proven to be sturdier and more flexible than had been supposed, so that it was able to adapt to changing conditions to continue to meet the Nation's housing needs.

II. Housing Policy Recommendations

The present problems in housing production and finance are largely the result of difficulties that have developed in the Nation's overall economy. The most effective Federal programs to aid housing as well as the economy are appropriate and consistent monetary and fiscal policies to bring down and keep down the rate of inflation and to encourage investment and productivity in the capital goods industries, and to achieve stability and orderliness in the financial markets. These objectives are being achieved by the complementary policies of the Program for Economic Recovery. This Administration, however, has also taken concrete actions to deal specifically with housing industry problems through the establishment of a Cabinet-level Working Group on Housing Policy, the creation of the President's Commission on Housing, and the initiation of the Joint Venture for Affordable Housing.

The Working Group on Housing Policy

The Working Group on Housing Policy was established by the President in February 1982 to develop ways to spur housing construction in a manner consistent with the Administration's Economic Recovery Program. Housing and Urban Development Secretary Samuel R. Pierce chaired the Working Group. The Group's recommendations were presented to the President on March 31, and all have been accepted and are currently in the process of being implemented. The final recommendations were focused on regulatory and administrative changes in order to have the greatest impact on the 1982 building season. Waivers of the Congressional review process will be requested of the House and Senate Banking Committees for new or revised regulations. Given rapid consideration of the requests and an absence of dissent, additional housing production will occur in the near future.

One of the recommendations cleared the way for the construction of some 70,000 assisted housing units that were stuck in the processing pipeline. The Financing Adjustment Factor (FAF) recommended to and approved by the President, allowed Fair Market Rents for Section 8 bond-financed projects to reflect an interest rate 1/2 percent below the tax-exempt bond interest rate not to exceed 14 percent. Thus, the FAF allows HUD to adjust allowable rents on new and substantially rehabilitated assisted apartment

projects, to reflect the higher interest rate developers must pay to finance the low-income housing. HUD has been prohibited by Congress from imposing a deadline on construction starts prior to January 1, 1983.

A number of other recommendations were designed to broaden the base of the housing finance system, expand the number of potential homebuyers qualifying for FHA-insured mortgages, and ease the regulatory burden on home builders.

Mortgage fund availability will be increased by liberalizing regulations covering mortgage revenue bonds and private pension funds. Proposed changes will allow more distressed areas to qualify for mortgage revenue bonds and will liberalize accounting procedures to increase the volume of revenue bonds. In the area of pension funds, the Department of Labor will remove restrictions under the Employment Retirement Income Security Act (ERISA) making it easier for all pension funds to invest in mortgages.

In an effort to increase the sale of both new and existing homes, changes are being made in FHA requirements to increase the number of families who qualify for FHA-insured mortgages, especially first-time homebuyers. New guidelines will be used to determine whether a family's income is adequate for an FHA-insured mortgage. The new guidelines will allow the family to spend as much as

38 percent of net income for housing and as much as 53 percent of net income for all fixed expenses. Prior to this change, the guidelines were 35 percent and 50 percent, respectively.

As a result of the recommendations of the Working Group on Housing Policy, FHA regulations are also being changed to allow builders to "buydown" the interest rate on Graduated Payment Mortgages (GPM) for a maximum of 3 percent the first year, 2 percent in the second year, and 1 percent in the third year. The combination of the GPM and the buy-down will allow many new potential homebuyers to qualify for mortgage financing.

The Working Group on Housing Policy proposed meeting the needs of today's market conditions by providing Federal insurance through three new alternative mortgage instruments:

- The Shared Appreciation Mortgage (SAM) allows lenders to offer a lower mortgage rate in return for a share of the equity appreciation as the value of the house rises. This substantially lowers the income requirement;
- The Shared Equity Mortgage (SEM) allows outside parties to provide part of the housing expense in return for a future share of the equity; and
- The Growing Equity Mortgage (GEM) has the same downpayment requirement as a fixed rate mortgage, but requires rising monthly payments during the early years, amortizing the loan more rapidly. Lenders will likely offer lower mortgage rates in return.

Legislative initiatives proposed by the Administration are currently under consideration in Congress to allow the use of SAMs and GEMs, and regulatory changes to implement the SEM proposal are being developed within HUD.

The President's Commission on Housing

The President's Commission on Housing was established by Executive Order No. 12310, issued June 16, 1981. The purpose of the Commission was to advise the President and the Secretary of Housing and Urban Development on options for the development of a national housing policy consistent with the President's Economic Recovery Program.

The Executive Order directed the Commission to:

> "Analyze the relationship of homeownership to political, social, and economic stability within the Nation;
>
> "review all existing Federal housing policies and programs;
>
> "assess those factors which contribute to the cost of housing as well as the current housing finance structure and practices in the country;
>
> "seek to develop housing and mortgage finance options which strengthen the ability of the private sector to maximize opportunities for homeownership and provide adequate shelter for all Americans;
>
> "detail program options for basic reform of Federally-subsidized housing...."

The President appointed 25 members of the Commission, and later increased the number to 30 members.

The Commission adopted a statement of basic principles that are applicable in many aspects of economic life, but which apply with special relevance to the housing concerns confronting the country. In order to address housing issues successfully, the Commission believed that the Nation must:

- achieve fiscal responsibility and monetary stability in the economy;

- encourage free and deregulated markets;
- rely on the private sector;
- promote an enlightened federalism with minimal government intervention;
- recognize a continuing role of government to address the housing shelter needs of the poor;
- direct programs toward people rather than toward structures; and
- allow maximum freedom of housing choice.

The Commission has issued three reports. An Interim Report, mandated by the Executive Order and dated October 30, 1981, dealt with a number of issues involved in housing availability, adequacy, and affordability.

This Report primarily addressed Federal subsidized housing programs for the poor. It recommended a "consumer-oriented housing assistance grant" (vouchers) to replace present subsidized housing construction programs. The Commission believed that this approach would be the most equitable and effective means of meeting the housing needs of poor people. The Commission also recommended that new housing construction be added as an eligible activity for Community Development Block Grants to expand local decision-making flexibility. The purpose of this Report was to provide guidance in connection with the 1983 budget that was then under formulation.

On January 6, 1982, the Commission released a preliminary report on housing finance, which contained recommendations on asset and liability powers of housing finance institutions, tax incentives for mortgage investment, and laws and regulations affecting housing finance. The central thrust of the recommendations was to insure an adequate supply of housing finance for the 1980s. The Commission foresaw substantial consumer demand for housing in this decade, but believed that basic reforms were required if this demand was to be met efficiently.

The final Report of the President's Commission on Housing, released April 29, 1982, contained more than 100 recommendations and options to address important issues. Among the most significant are those calling for:

- immediate Congressional action to replace current low-income housing production programs with a consumer-oriented Housing Payments Program and a housing component of the Community Development Block Grant;
- the President to designate housing for special regulatory relief at the Federal level in order to reduce the burden in such areas as Davis-Bacon, environmental regulations, and timber policy;
- the President and Congress to work toward the broadening of the sources of housing credit through regulatory and legislative actions to remove barriers and encourage the growth of private mortgage-backed securities that will appeal to a wide range of investors;
- the President to review tax incentives as they relate to mortgage investment with the aim of encouraging money to flow into housing from many sources and achieving consistent treatment for all investors;

- the President to give priority consideration to the preemption of rent controls on properties financed through Federally insured or guaranteed mortgages or by Federally-insured institutions;

- the President and Congress to implement tax and regulatory changes to increase the availability of new forms of housing and homeownership such as condominiums, cooperatives, and manufactured homes; and

- state and local governments to take action to remove or revise land use regulations and building codes that impose excessive costs upon housing. Such regulations include zoning, subdivision controls, permit processing, and infrastructure standards and cost allocation.

In conducting its investigation, the Commission focused on four major problem areas. First, it looked at the relationship between housing and the rest of the economy. The Commissioners felt that the best hope for a stable and prosperous housing sector was a stable and prosperous economy.

The second problem area was housing for the poor. While great strides have been made in the quality of housing, inflation has made the goal of decent and affordable housing for all Americans increasingly elusive. The current housing production approach for the poor was found to be inefficient, costly, and less able to address the affordability problem. A type of housing certificates program, using the existing inventory, was recommended as a better approach.

Third, the Commission examined the Nation's housing finance system. Inflation and overregulation have severely damaged the structure of the system, the Commission found. It has become

increasingly evident that the traditional modes of operation of specialized mortgage lenders -- savings and loan associations and mutual saving banks -- must be modified. At the same time, additional private sources of mortgage credit should be encouraged and permitted to play a larger role in the housing finance system of the future.

Finally, the Commission concluded that increasing government regulation has added to the costs of housing, reduced productivity, and limited housing choices.

On April 15, 1982, it was announced that a special working group under the Cabinet Council for Economic Affairs, chaired by the Secretary of Housing and Urban Development, would review the options and recommendations set forth by the Commission, and recommend to the President which ones should be implemented.

Joint Venture for Affordable Housing

To help reduce housing costs, the Department of Housing and Urban Development has initiated a program of activities called the Joint Venture for Affordable Housing. It brings together public and private sector groups who share a commitment to the creation of more affordable housing. At the present time, the Joint Venture includes HUD, the National Association of Homebuilders, the National Association of Counties, the International City Management Association, and selected local governments and private firms.

The Joint Venture builds on previous HUD demonstration projects which show clearly that substantial savings are available through more sensible site development standards, expedited processing procedures, increased densities, and use of new and improved technologies. Each member of the Joint Venture is actively working through its constituencies to achieve these objectives.

Many communities have already produced substantial reductions in the cost of housing production, and these are serving as examples to others who want to make similar changes.

III. Housing Production and Marketing in 1980 and 1981

Housing production and marketing in 1980 continued the sharp downturn which had begun in 1979, reaching a low point in the Spring, then recovering somewhat during the rest of the year in production, where sales peaked in late Summer and declined during the rest of 1980. Total private housing starts for the year were 1,292,000, down 26 percent from 1979 and down 36 percent from 1978, the peak of the most recent housing production cycle. Total public and private starts totaled 1,312,600 units in 1980. The seasonally adjusted annual rate for private starts was above 1.3 million in January and February 1980, fell below 1.1 million in March and April, and dipped below 1.0 million in May, to 939,000 units. It rose to the 1.2 to 1.3 million range in June and July,

continued above 1.4 million in August and September, and exceeded 1.5 million in October and November, peaking at 1,539,000 in the latter month before declining to 1,457,000 in December. These movements were in response to the stringent credit conditions in March and April. Mortgage interest rates at commitment had risen from 13 percent to the 15 to 17 percent range in the Spring, and then fell to under 12 percent in August in response to Federal Reserve actions. Mortgage rates rose again in the Fall, reaching the 15 to 16 percent range in late 1980.

In 1981, housing production and marketing turned downward again to levels unprecedented in over three decades, as a result of high mortgage interest rates. Total private housing starts in 1981 were 1,084,200 units, 16 percent below the depressed 1980 figure. Total public and private starts were 1,100,300 housing units, the lowest volume since the housing industry recovered from World War II. The seasonally adjusted annual rate peaked at 1,585,000 in January 1981, hovered around 1.3 million in February, March and April, was at 1.2 million in May, and just above 1.0 million in June and July. It remained below 1.0 million in the last five months of the year, and below 0.9 million from September through December. The effective conventional mortgage commitment rate rose steadily from the third quarter of 1980. In the first quarter of 1981, it averaged above 15 percent; in the second quarter, above 16 percent; in the third quarter, above 17 percent; and in the fourth quarter, above 18 percent.

Housing Production: Starts

Single family production in 1980 was 29 percent below the 1,194,100 starts of 1979. The 1980 total was 852,200 privately owned single family starts, the lowest volume since 1970. The seasonally adjusted annual rate for single family starts paralleled the rate for total starts.

In 1981, 705,400 single family housing were started, or 17 percent fewer than in 1980. This was the lowest one family starts level since records began to be kept in 1959.

Privately owned multifamily starts in 1980 amounted to 440,000 units, 20 percent below the 1979 level of 551,000 units. This was the largest decrease for the multifamily sector in five years.

In 1981, privately owned multifamily starts declined by 14 percent, or less than single family starts, to 378,800 units. This volume exceeded the multifamily production levels of 1975 and 1976, in the previous housing downturn. In the first quarter of 1981, the annual rate averaged 508,000 units, then fell to 390,000 units in the second quarter. The rate fell again to 317,000 in the third quarter, and in the last quarter the rate rose slightly to 328,000 units.

Manufactured Housing Shipments

Mobile home shipments were 20 percent lower in 1980 than in 1979; 221,600 units were shipped by manufacturers in 1980, compared with 277,400 shipped to dealers and park developers in 1979, and

a similar number in 1978. The seasonally adjusted annual shipment rate of 258,000 in January 1980, and 271,000 in February, fell to about 170,000 in May and June, and then rose the rest of the year to 239,000 in December. In 1981, mobile home shipments rose almost 9 percent to 240,700 units, as consumers turned to this lower cost form of housing. The shipment rate was 232,000 in January 1981 and then varied between 254,000 and 267,000 until July, after which it fell to about 238,000 in August and September, and to about 207,000 in the final three months of 1981, affected by high interest rates like conventional housing.

Building Permits

About 1,190,600 new privately owned housing units were authorized in 16,000 permit issuing places in 1980, 23 percent below the 1,551,800 in 1979, and 34 percent below the 1,800,500 in 1978. Single family permits were down almost 28 percent from 981,500 in 1979 to 710,400 in 1980. Permits for units in structures with two or more units fell 16 percent from 570,300 in 1979 to 480,200 in 1980. Multifamily permits were 33.4 percent of all permits issued in 1977, 35.2 percent in 1978, 36.7 percent in 1979, and 40 percent in 1980, the highest proportion since 1974, when it was also 40 percent.

In 1981, the number of privately owned housing units authorized in 16,000 permit-issuing places decreased more than 17 percent from 1980 to 985,500. For the fourth consecutive year, permits for single family units fared worse than multifamily permits. Single

family permits fell 21 percent to 564,300, while multifamily permits for two or more unit structures declined 12 percent to 421,200 units. Permits for multifamily units represented almost 43 percent of all housing unit authorizations in 1981.

At the end of 1981, builders held permits for 145,500 units which were not yet started. This was 16 percent below the 173,600 units authorized by unused permits in the hands of builders at the end of 1980, and 21 percent below the 184,100 at the end of 1979. About 59 percent of the unused permits at the end of 1981 were for multifamily units.

Housing Completions

During 1980, about 1,735,300 newly-built, privately owned housing units were added to the Nation's housing inventory (exclusive of the addition of over 600,000 housing units from existing structures). This was more than 19 percent below the 2,150,700 units added in 1979. New private conventionally built housing completions in 1980 totaled an estimated 1,501,600 units, 20 percent fewer than the 1,870,800 completed in 1979, and also 20 percent fewer than in 1978. In 1981 about 1,494,900 new housing units (conventional and mobile) were added to the Nation's housing stock, 14 percent fewer than in 1980. Conventionally built housing completions added 1,265,700 units, 16 percent below 1980.

Single family unit completions fell to 956,700 units in 1980, 26 percent below the one family completions of 1,301,000 in 1979. Completions of units in structures with two or more units added 544,900 units to the inventory in 1980, only 24,900 units and 4 percent less than the 569,800 units added the prior year. In 1981, single family completions amounted to 818,500 units, 14 percent below 1980, and two-plus unit completions totaled 447,200 units, 18 percent below 1980.

Placements on site in 1980 of mobile homes ready for occupancy amounted to 233,700 units, 17 percent fewer than the 279,900 units placed on site in 1979. In 1981, on-site placements of the mobile home component of manufactured housing* totaled an 229,200 units, 2 percent below the 1980 level.

Units Under Construction

At the end of the 1980, 896,100 privately owned housing units were under construction, down 21 percent from the 1,140,100 started but not completed at the end of 1979. About 43 percent, or 381,600 units, were in multifamily structures, compared with 501,400 or 44 percent, at the end of 1979. At the end of 1981, 682,400 units were under construction, 24 percent below 1980. About 44 percent, 300,700 units, were in multifamily structures.

* Many so-called conventionally-built housing units are also manufactured housing, produced in plants as modules, panels, or components, and assembled on site. They satisfy local building code standards rather than HUD's national manufactured housing standards.

Housing Marketing: New House Sales

New single family house sales in 1980 declined for the second straight year. Merchant builders sold 545,000 speculatively built single family houses, down 23 percent from the 709,000 sold in 1979, and 33 percent from the record levels of almost 820,000 in 1977 and 1978. The low point in new home sales occurred in April 1980, when 36,000 homes were sold, for a seasonally adjusted rate of 366,000 new houses. The rate rose to between 615,000 and 650,000 in July and August, and then fell to the 550,000 level in the last quarter of the year. At the end of 1980, builders were carrying an actual inventory of 342,000 units, the equivalent of 7.7 months of sales at the seasonally adjusted December sales rate.

In 1980, contractors completed 161,000 single family houses, and owners built or acted as a general contractor for another 194,000 units. These represented 17 and 20 percent respectively of a single family completions in 1980. Completions of units built for sale totaled 583,000 units, 61 percent of all single family completions, and completions of units built for rent amounted to 19,000 units, two percent of all single family completions.

In 1981, new single family sales declined to the lowest level recorded since the series began in 1963. Only 436,000 new speculatively built homes were sold, 20 percent below the 1980

level, and 3 percent under the previous low of 448,000 set in 1969. At the end of 1981, builders were carrying an unsold inventory of 278,000 homes, well down from the recent peak of 426,000 houses in May 1979, and only a 7.0 month supply at the December 1981 sales rate. In previous downturns in 1973 and 1974, the unsold inventory (a record 432,000 in August 1973) had represented supplies of more than 10 months at current sales rates. Approximately 38 percent of the homes for sale in December 1981 were completed, a higher than normal proportion, and 45 percent were under construction, a lower than normal proportion. A normal 17 percent were authorized but not yet started.

In 1980 and 1981, new home sales fell 25 to 30 percent from 1979 in the Northeast; they were 67,000 in 1979 and 50,000 in 1980, and 46,000 in 1981. In the North Central, sales fell from 112,000 in 1979 to 60,000 in 1981, a drop of 46 percent. Sales fell 50 percent in the West over the two years, from 225,000 to 112,000 homes. Sales fell 27 percent in the South, from 304,000 to 219,000 units.

Existing House Sales

Existing single family home sales declined in 1980 to the lowest level in five years. The volume of 2,881,000 sales was 22 percent below the 1979 volume of 3,701,000 homes. The seasonally adjusted annual rate varied from a low of 2,350,000 in May to a peak of 3,280,000 in September. In 1981, existing home sales

declined over 18 percent from 1980 to a level of 2,351,000 houses, the lowest volume since 1974's 2,272,000. In the last three months of 1981, the rate again fell below 2.0 million.

Existing home sales fell in all four regions during both 1980 and 1981. Over the two years, existing sales were down 32 percent in the South, 34 percent in the Northeast, 40 percent in the North Central, and almost 42 percent in the West. The South's share of existing home sales increased from under 39 percent in 1978 and 1979 to 40 percent in 1980 and over 41 percent in 1981.

New Apartment Absorption Rates

Multifamily rental absorption rates decreased in 1980, as demand for new rental units softened. About 196,100 privately-financed, unfurnished and unsubsidized rental apartments in buildings with five or more units were completed in 1980, down 19 percent from the 241,200 completed in 1979. About 75 percent of the 1980 completions were rented within three months, compared with a three month absorption rate of 82 percent in 1979. In 1981, the absorption rate for newly completed, privately financed and unsubsidized apartments in buildings with five or more units rose again to 80 percent. An estimated 135,500 such units were completed in 1981, 31 percent fewer than in 1980.

About 91,800 new condominium units in five or more unit structures were completed in 1979, compared with 54,500 in 1978. The proportion of condominium units sold within three months was 74 percent in 1979, and 77 percent in 1978. In 1980, 122,800 condominium units in structures with five or more units were completed, and of these about 72 percent were sold in three months. Condominium sales were affected by the same factors that dampened rentals of new apartments and sales of new and existing homes.

Condominium Production

Total condominium starts in 1980, based on builders' intentions at time of start, reached a level of 186,000 units, down 6 percent from 198,000 such starts in 1979. Of the 1980 condominium starts, 35,000 units or 19 percent of the total were in one unit structures (attached or detached). This was a smaller proportion than the 43,000 such starts in 1979. Another 32,000 or 17 percent of the total were in structures with two to four units; this was 29 percent of all the two-to-four unit starts, compared to 25 percent in 1978, and a slight increase over the 30,000 such starts in 1979. Of the 331,000 starts of units in structures with five or more units in 1980, 118,000 or 36 percent were intended for sale as condominiums. In 1979, 126,000 units or 29 percent of the 429,000 starts in five or more unit structures were intended to be sold as condominiums

Starts of units intended for rental occupancy amounted to 213,000 units in 1980, 30 percent less than the 303,000 rental starts in 1979. Thus, as rental absorption rates fell in 1980, starts of new rental units declined at a faster rate than starts of new condo units, an appropriate market response by builders.

Other Inventory Additions

The lower levels of housing production in 1980 and 1981 were offset by increased conservation, upgrading, and more intensive use of the existing stock, by conversions of large units to more and smaller units suitable for today's smaller households, and by conversions of non-residential structures to residential use. Following the decline in new construction additions to the inventory in 1979 and 1980, the number of housing inventory losses also declined in 1980. Gross losses had averaged over 1,400,000 units per year from 1974 to 1979, or 531,000 permanent losses and 886,000 retrievable losses. From October 1979 to October 1980, the inventory lost about 1,200,000 units, 485,000 permanent and 728,000 retrievable. The net increase in losses from 1979 to 1980 was less than 450,000 units, due to retrievable units returning to the inventory, compared with net increases of 512,000 to 954,000 from 1975 to 1979. Additions from sources other than new construction were providing over 600,000 units to the inventory, over and above the 1.7 million units added by reported new construction

completions and mobile home placements. In total, from 1973 to 1980, 4.7 million units had been added to the inventory from sources other than new construction; this was equal to 38 percent of the number of units added by new construction during the same period, and was sufficient to offset virtually all losses in these seven years (see Appendix E).

Interest Rates and Mortgage Availability

The primary factor causing the housing production decline from 1979 through 1981 was not a shortage of mortgage funds as in previous downturns, but high mortgage interest rates which made it extremely difficult for consumers to purchase housing despite the deductibility of interest rates from income tax. The high mortgage interest rates in turn were the result of high rates of inflation which had been building up for more than a decade. Consumer prices had risen an average of about a 1.3 percent annual rate of increase in the first half of the 1960s to 4.3 percent in the second half; then 6.8 percent in the first half of the 1970s to 8.9 percent in the second half. The increase was 13.5 percent in 1980, and 10.4 percent in 1981, although prices were rising very slowly in the last quarter of 1981.

Mortgage interest rates in 1980 set new records for both height and volatility. The high level of rates reflected rampant inflation and numerous other influences, including increased borrowing by the Federal government and efforts by the Federal Reserve to restrain monetary growth in order to damp inflation.

Much of the extraordinary volatility in mortgage interest rates in 1980 appears attributable to an unusual combination of disturbances to the real and the financial sectors of the economy--most notably the imposition and removal of credit controls as part of the Administration's anti-inflation program. In addition, long-term interest rates became more responsive to changes in short-term rates, which as expected exhibited greater variability after October 1979 when the Federal Reserve switched the focus of its operating procedures from the federal funds rate to bank reserves. Due to the uncertainty for both borrowers and lenders, total long-term residential mortgage financing dropped sharply in 1980 from 1979's record levels, with most of the decrease in originations on 1-4 family homes, particularly existing properties. Savings and loan associations and Mutual Savings Banks experienced significant reductions in mortgage loan originations, as other traditional lenders also reduced their volume of residential mortgage investment. Federally supported and privately insured mortgage pools became more important, while state and local retirement funds and state and local credit agencies actually increased their residential mortgage investment.

In 1981, despite some early declines in short-term yields, long-term rates remained higher on an average than in 1980 as a result of concerns about the inflationary effects of future Federal deficits and heavy Treasury borrowing coupled with a

growing backlog of needed long-term financing by corporations and state and local governments. Average effective mortgage yields remained higher than most alternative security yields. New and existing conventional mortgages averaged 14.74 and 15.12 percent respectively over the year. In the Fall, mortgage rates hit a peak, and in response, the HUD-VA ceiling rate rose to a record of 17.5 percent from September 14 to October 11. Late in the year, indications of declining inflation rates, a beginning recession, and reduced credit demand brought interest rates down. The FHA-VA ceiling was 16.5 percent from October 12th to November 15th, and 15.5 percent as of November 16th.

In 1981, long-term mortgage originations of $97.8 billion on 1-4 family properties were down over 27 percent from 1980 and almost 48 percent from 1979's record volume. Long-term originations on multifamily properties fared better, dropping less than 5 percent from $12.2 billion in 1980 to $11.6 billion in 1981. Thrift institutions experienced record deposit outflows and severe financial distress. Secondary mortgage markets, particularly Federally supported and privately insured mortgage pools and Federal credit agencies and state and local credit agencies became more important and contributed a stablizing influence, as did commercial banks, which increased their share of mortgage investment. Further details on mortgage financing in 1980 and 1981 can be found in the last three sections of this Report, and in Appendix D.

Price Trends

The median price of a new house sold in the United States increased only 2.7 percent, from $62,900 to $64,600, from 1979 to 1980, and increased by 6.7 percent to $68,900 in 1981. In the North Central region, the median price decreased in current dollars by 0.8 percent to $63,400 in 1980, and increased only 3.9 percent to $65,900 in 1981, far below general price increases. In the West, it increased 3.9 percent to $72,300 in 1980, and 7.6 percent percent to $77,800 in 1981. In the South, the increase was 4.0 percent to $59,600 in 1980, and 8.1 percent to $64,400 in 1981. In the Northeast, the increases were 6.1 percent to $69,500 in 1980, and 9.4 percent to $76,000 in 1981. The price index for all new constant quality homes rose 11.0 percent in 1980, and 8.4 percent in 1981. Thus, builders were building homes with fewer amenities as well as cutting prices in an attempt to continue production.

The median price of existing homes rose 11.7 percent in 1980, to $62,200 from $55,700 in 1979, and only 6.8 percent to $66,400 in 1981, the lowest increase since the 5.5 percent increase in 1970. The price of an existing home sold in the West in 1980 rose 15.4 percent to $89,300, and in 1981, the median price was $96,200, up only 7.7 percent from 1980, half the rise of the previous year and slightly above the new house sales price. In the South,

existing home prices rose 10.6 percent to $58,300 in 1980, and 10.5 percent to $64,400 in 1981, almost as much of an increase as in the prior year. In the North Central, the increases were 8.6 percent to $51,900 in 1980, and 4.6 percent to $54,300 in 1981. In the Northeast, the increases were 13.4 percent to $60,800 in 1980 and 4.8 percent to $63,700 in 1981.

Average sales prices of the new mobile home type of manufactured housing placed for residential use have steadily risen since 1974 to reach an average of $19,800 in 1980, up 12.5 percent from 1979. Average prices in 1981 were about the same as in 1980, with an annual average of $19,900. In all years, prices have been significantly higher in the West than in the other regions. In 1979 and 1980, average, annual prices were similar in the Northeast, North Central and South, although there was greater disparity in earlier years. In 1981, prices remained highest in the West ($25,600) compared to $18,400 to $19,000 in the other three regions.

With the exceptions of new conventionally-built homes in the Northeast in 1981, and existing homes in the Northeast and West in 1980 and in the South in 1981, these price increases were smaller than the increases in the Consumer Price Index, although alternative mortgage instruments, purchase money mortgages, and other financing innovations make home prices less certain than in the past. The CPI rose 12.5 percent from 1979 to 1980 and 8.7 percent from 1980 to 1981. The cost of construction materials

rose 6.0 percent from 1979 to 1980 and 6.2 percent to 1981. However, wage adjustments for construction workers in major industry bargaining units, which include non-residential construction, rose 9.9 percent in 1980 and 11.1 percent in 1981. Overall, residential construction costs rose about 8 percent in 1980 and less than 6 percent in 1981, faster than the price of a new house in 1980, but slower in 1981.

IV. Outlook for Housing Production and Marketing

Between 1.00 and 1.10 million conventional housing units are expected to be started during 1982, somewhat below 1981. The lower end of this range has a higher probability than the upper end. Single family starts would account for about 0.60 to 0.65 million units, while multifamily starts would comprise 0.40 to 0.45 million units. Shipments of the mobile home type of manufactured housing are projected to vary between 220,000 and 240,000 in 1982, for a total housing production initiation of 1.22 to 1.34 million units. Completions of conventional housing units and mobile home placements should produce from 1.10 to 1.20 million additions to the Nation's housing inventory. The 0.94 to 0.96 million conventional completions would include about 575,000 single family units and about 375,000 multifamily completions. In 1983, it is probable that starts will rise to the 1.3 million to 1.5 million range.

Sales of speculatively built new homes are anticipated to total between 370,000 and 400,000 in 1982, down from 1981. Absorption of new rental units in multifamily structures could increase slightly to a three month rate of about 81 percent.

Based on anticipated housing production and marketing levels, homeowner vacancy rates are likely to be at or above 1.5 percent. Rental vacancy rates, which have been near 5.0 percent since the fourth quarter of 1980, are expected to continue at that level. The vacant stock for rent and for sale are of a higher quality than ten years ago, so that these low rates are not as onerous as they appear to be. However, many local housing markets will continue to be tight, which will induce increased investment in and use of the existing stock.

In 1980, $63.1 billion was expended on new residential construction, while nearly three-fourths as much, $46.3 billion, was expended on maintaining, repairing and making construction improvements to the existing housing inventory. In 1981, $62.7 billion went for new construction and $46.4 billion, again three-fourths as much, was used to improve or maintain the existing inventory. In 1978, investment in the existing housing stock was less than half as much as the expenditures on new construction. Additions and alterations to residential structures amounted to $21.3 billion, and major replacements, $9.8 billion in 1980; the 1981 figures are estimated at $20.4 billion and $9.9 billion. Gross private residential investment in nonfarm structures constituted about 3.8 percent of GNP in

1980 and about 3.6 percent in 1981 ($99.7 billions). The share of GNP has declined from 5.1 percent in 1978 and 4.8 percent in 1979, and is expected to increase again in 1983. Investment in the existing inventory, which has been steadily increasing in real terms until 1981, when it declined about 6 percent, is expected to decline slightly in 1982, to about $45 billion in current dollars.

V. Trends in the Existing Housing Stock

Inventory Changes

By November 1980 the Nation's housing stock had grown to a total of 88.2 million units, an increase of 1.8 million units and 2.1 percent from November 1979. About 98 percent, or 86.0 million units, were intended for year round use. The total vacancy rate for year-round units was 6.9 percent. Of the 6.0 million vacant units, approximately 3.7 million were either already sold or rented and awaiting occupancy, held for occasional use such as second homes, or otherwise not available for rent or sale. There were slightly more than 2.25 million vacant units on the market for rent or sale, or 2.6 percent of the year-round housing stock. In 1979 marketable vacancies had totaled 2.28 million units, 2.7 percent of the year-round stock of 84.6 million units.

Occupied units increased by 1.5 million from 1979 to 1980, from 78.6 million units to 80.1 million units. Owner occupied units increased by over 1.1 million to 52.5 million, and renter

occupied units increased by almost 0.4 million to 27.6 million. According to the 1980 Annual Housing Survey, owner occupied units accounted for almost 65.6 percent of all occupied units, up from 65.4 percent in 1979 and 65.2 percent in 1978. Occupied condominium units increased to 1,090,000 in 1980 from 967,000 in 1979.

Between 1970 and 1980, the stock of year-round housing units increased 27.1 percent, from 67.7 million to 86.0 million units. Inside Standard Metropolitan Statistical Areas (SMSAs), the stock grew by 25.8 percent, from 46.1 million to 58.0 million units. In central cities of SMSAs, the stock grew only 12.7 percent, from 22.6 million to 25.5 million units, while in urban and rural areas inside SMSAs but outside central cities, the stock grew 38.5 percent, from 23.5 million to 32.5 million units. The housing stock in urban and rural areas outside SMSAs grew at a faster rate than inside SMSAs as a whole. Outside SMSAs, the increase from 1970 to 1980 was 29.7 percent, as the stock grew from 21.6 million to 28.0 million units.

From 1970 to 1980, one family units increased at a slower rate, 24.5 percent, than the stock as a whole, and fell from 69.1 percent of all units in 1970 to 67.7 percent in 1980. Units in two to four unit structures increased 20.1 percent to 10.8 million units, but declined from 13.3 percent to 12.6 percent of the total from 1970 to 1980. Units in structures with five

or more units, and mobile homes increased their share of the stock; apartments increased 34.1 percent to 13.2 million units and rose from 14.5 percent to 15.3 percent, and mobile homes increased 81.9 percent to 3.8 million units and rose from 3.1 percent to 4.4 percent of the total stock.

Inventory Removals

From 1973 to 1980, almost 4.8 million housing units which existed in 1973 were removed from the inventory; almost all were year-round housing units. Over 3.9 million had been occupied in 1973, almost 1.6 million by owners and almost 2.4 million by renters. Just under 0.8 million of these year-round units had been vacant. About 54 percent of the total were in metropolitan areas, and 46 percent were nonmetropolitan units. Of all units removed, 2.1 million were one family houses, 0.9 million were in two to four unit structures, 0.8 million were in structures with five or more units, and 0.9 million were mobile homes which had been occupied in 1973. Also, of the total number of year-round units removed, 2.7 million or 57 percent had been built before 1940, and 1.2 million or 25 percent had been built from 1960 to October 1973. The removals eliminated over 0.9 million units, most of them renter occupied or vacant, which had lacked some or all plumbing facilities.

VI. Growth of the Rental Stock

During the 1970s, concern was frequently voiced about a rental housing crisis, with continuing assertions that the rental stock was decreasing due to production shortfalls, conversions to condominiums, and widespread abandonment. In fact, however, the rental stock grew every year, as shown in Table 1.

Table 1

The Rental Stock 1973-1980
(thousands of units)

	1973	1974	1975	1976	1977	1978	1979	1980
Renter occupied units	24,684	25,046	25,656	26,101	26,515	26,884	27,160	27,556
Percent Increase	-	1.5%	2.4%	1.7%	1.6%	1.4%	1.0%	1.5%
Vacant, for rent	1,545	1,630	1,489	1,544	1,532	1,545	1,600	1,497
Rented, not occupied*	414	334	289	388	389	305	493	385e
Total	26,643	27,010	27,434	28,033	28,436	28,734	29,253	29,438
Rental vacancy rate	5.8	6.0	5.4	5.5	5.4	5.4	5.5	5.1

* Previously unpublished data; e = estimate

Source: National Annual Housing Surveys, Bureau of the Census, Department of Commerce, and Office of Policy Development and Research, Department of Housing and Urban Development.

The renter occupied stock, in particular, grew by nearly 400,000 units or more every year, except for 1979, when it grew less than 300,000 units. It returned to an addition of approximately 400,000 units in 1980. The vacant rental stock varied more, primarily as a result of new production, and sometimes increased at faster rates, as in 1979, when the occupied rental stock grew more slowly.

As noted earlier, new production is an important source of rental units, although it is not the only source. Table 2 shows new multifamily construction starts from 1973 to 1981 by intended tenure (owner or renter), and by Federal involvement. Conventionally financed multifamily rental starts have declined from a recent peak of almost 300,000 units in 1977 to just below 100,000 units in 1981.

Few single family units started - about 1 or 2 percent - are intended for rental use. However, in 1980, 8,558,000 renter-occupied units, or 31 percent of all renter-occupied units, were single family houses. This was an increase from 8,390,000 units in 1979. The source of these units is conversion of tenure from owner occupancy status. Naturally, units also change from renter occupancy to owner occupancy, but in some years the net result of these shifts can be an important source of additions to the rental inventory. Table 3 shows the gross and net changes in tenure conversions from 1977 to 1980. In 1978, a year of heavy demand for homeownership,

Table 2

New Multifamily Construction Starts
By Type of Financing and Tenure
Calendar Years 1973-1980
(thousand of units)

	1973	1974	1975	1976	1977	1978	1979	1980	1981
Condos and Co-ops[2/]	253,000	131,000	45,000	63,000	91,00	131,000	173,000	163,000	159,000
FHA Insured	3,000	900	1,300	800	1,400	1,500	1,900	2,100	2,400
Conventionally Financed	250,000	130,100	43,700	62,200	88,600	129,500	171,100	160,900	156,600
Rental Units	672,300	333,400	234,200	322,200	459,800	471,800	392,900	297,400	220,000
HUD Involved	121,100	55,600	49,500	92,000	142,200	177,900	161,800	162,500	101,100
Subsidized	90,200	42,400	38,800	59,200	101,300	148,000	142,200	129,400	80,900
Unsubsidized	30,900	13,200	10,700	32,800	40,900	29,900	19,600	33,100	20,200
FmHA[3/]	8,200	11,400	19,300	23,800	19,100	25,600	29,000	24,400	21,600
Conventionally Financed	543,000	266,400	165,400	206,600	298,500	268,300	202,100	110,500	97,300
Total Multifamily Starts	925,300	464,400	279,200	385,200	550,800	602,800	565,900	460,400	379,000

1/ Starts of new privately and publicly owned housing units in structures with 2 or more units.

2/ Includes a few "for sale" units in 2 to 4 unit structures which are not condo or co-op.

3/ FmHA data for Calendar Years 1977 to 1981 estimated from fiscal year data.

Sources: Total rental and condo/co-op starts from Bureau of the Census Construction Report C-20; HUD Starts - Office of Housing, HUD; FmHA Starts, Finance Office, FmHA.

Table 3

Tenure Conversions in the United States, 1977-1980
(thousands of units)

Period	Own to Rent	Rent to Own	Net Addition (Loss) to Rental Stock
1977 to 1978	1,282	1,840	(558)
1978 to 1979	1,934	1,349	584
1979 to 1980	1,511	1,340	171
1977 to 1980	2,472	2,226	246

Source: Special Tabulations from the Annual Housing Survey, Office of Policy Development and Research, Department of Housing and Urban Development.

558,000 more units were converted from rent to own than vice versa. The situation reversed in 1979, as the rental stock received a net addition of 584,000 units. In 1980 the tenure conversions were more nearly equal, but the rental stock benefitted by the addition of 171,000 units.

Another source of rental units comes from additions to the inventory from sources other than new construction, e.g., conversions of non-residential buildings to residential use, and conversions of large dwelling units to more, smaller units. These sources have added an average of over 600,000 units per year to the housing inventory, or over 1/4 of all gross inventory additions. A large, but indeterminate, number of these are added to the rental inventory.

In years when new construction additions to the inventory decline, inventory losses also decline, and conservation and rehabilitation investment in the existing inventory increases. The housing stock is used more intensively and the need for new construction for replacement purposes is reduced. This benefits the rental stock as well as the owner-occupied stock.

VII. Housing Needs, and Physically Inadequate Housing

Traditional measures of housing inadequacy are shown in Table 4. A steady decline in physically inadequate housing units is apparent, so that by 1980 only 2.7 percent of all units (including

Table 4

Traditional Measures of Housing Inadequacy

	1940	1950	1960	1970	1974	1977	1980
Percent of all units lacking some or all plumbing	45.3	35.4	16.8	6.9	4.0	3.1	2.7
Percent of all units dilapidated or needing major repairs	18.3	9.8	5.0	4.5	NA	NA	NA
Percent of all units substandard: dilapidated or lacking plumbing	49.2	36.9	18.2	9.5	NA	NA	NA
Percent of occupied units with 1.51 or more persons per room	9.0	6.2	3.6	2.0	1.1	0.9	1.0
Percent of Occupied units with 1.01 or more persons per room	20.3	15.8	11.5	8.0	5.3	4.4	4.2
Percent of Occupied units with one or more subfamilies	NA	NA	NA	NA	1.5	1.4	1.8

Sources: Decennial Censuses of Housing, U.S. Department of Commerce, Bureau of the Census, and the Annual Housing Survey, U.S. Department of Commerce, Bureau of the Census and U. S. Department of Housing and Urban Development, Office of Policy Development and Research.

NA = Not available

vacant units) lacked one or more basic plumbing facilities: tub or shower, flush toilet, and hot running water. Only 2.2 percent of occupied units lacked some or all plumbing.

Crowding has also been greatly reduced. However, severe crowding (1.51 or more persons per room) seems to have stabilized at about 1 percent of the occupied stock, and total crowding (1.01 or more persons per room) at just above 4 percent. The presence of subfamilies has been varying between 1.4 and 1.5 percent of occupied units from 1974 through 1979, but rose to 1.9 percent in 1980.

In order to analyze the current condition of the American housing stock, many of the measures of housing adequacy contained in the Annual Housing Survey can be examined to assess the quality of major components of a housing unit -- the electrical system, plumbing, the kitchen, the bathroom, the roof and basement, and interior walls, ceilings and floor. Incomplete or malfunctioning equipment or materials in any of these components may be treated as a housing defect. The analysis of housing quality excludes measurements of the quality of the neighborhood, or the public services provided to the residents, and focuses only on the quality of the housing unit itself.

Table 5 lists the number of occupied housing units reporting selected individual types of defect. The most common structural defects are leaks in roof or basement followed by cracks or holes in interior walls or ceilings and peeling paint. These maintenance types of defects appear to be increasing, while plumbing, bath, kitchen and electrical defects, the more serious and costly types, are declining.

The Annual Housing Survey (AHS) has 35 indicators of housing condition and quality, making it possible to define and to measure housing quality with greater precision than previously was possible. Using the AHS, several definitions of inadequate housing have been developed which simultaneously use various subsets of condition indicators. These make it possible to describe with considerable detail the physical condition of the occupied housing stock in the United States. In the definition used here, a housing unit is considered inadequate when there are plumbing, maintenance, public hall, heating, electrical, or sewage defects and flaws. Further, a unit is severely inadequate when the most serious of these defects and flaws, in terms of health, safety, and repair cost, are present. The presence or absence of appropriate household facilities or conditions are determined and used to evaluate the overall condition of the housing unit.

Table 5

Occupied Housing Units with Specified Defects
1973, 1976 and 1980
(thousands of units)

Type of Defect[1]	All Units Reporting the Defect			
	1973	1976	1980	Change 1973-80
Occupied Units (Total)	69,337	74,005	80,072	10,735
Kitchen -- Shared or no complete kitchen facilities	1,575	1,347	1,265	-310
Complete kitchen, but not all facilities usable	N/A	478	N/A	N/A
Electrical				
Some or all wiring exposed	2,749	1,131	2,356	-393
Lacking working outlets in some or all rooms	3,661	2,355	2,790	-871
Shared or no bathroom	2,957	2,218	2,079	-878
Plumbing				
Lacking some or all facilities	2,471	1,944	1,753	-718
Breakdown in water supply	1,728	1,539	N/A	N/A
Breakdown in sewer or septic tank/cess pool	776	683	N/A	N/A
Breakdown in plumbing equipment	1,366	1,021	N/A	N/A
Water leaks				
Through roof	5,260	4,375	5,169	- 91
In basement	9,346	7,556	N/A	N/A
Interior ceilings and walls				
With open cracks or holes	4,179	3,945	4,459	+280
With broken plaster or peeling paint	3,237	N/A	N/A	N/A
With broken plaster	N/A	2,404	2,818	N/A
With peeling paint	N/A	3,036	3,381	N/A
Interior floors with holes	1,332	1,259	1,564	+232

SOURCE: Annual Housing Surveys, U.S. Department of Commerce, Bureau of Census and U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

[1]The individual defects are not additive, since more than one defect within and among categories may be present in the same unit. The numbers exclude households failing to report or reporting "Don't Know."

In addition to physical inadequacy of housing units, crowding and cost burden are other measures used to help determine if progress has been made toward the goal of a decent home and a suitable living environment, (neighborhood conditions, and equal opportunity and housing access are some other important criteria). A housing unit is defined as crowded when there is more than one person per room. If occupants of a housing unit pay more than 30 percent of their income for housing costs* (in the case of owners paying into mortgage principal, more than 40 percent of income) they are defined in this report as cost burdened.

In the United States there were 72,553,000 occupied housing units in 1975 and 77,477,000 in 1978, the most recent year for which all the quality measures currently are available. As shown in Table 6, 10.6 percent of all occupied housing units in 1975 were inadequate and 10.3 percent were inadequate in 1978. The total number of occupied housing units increased 6.8 percent between 1975 and 1978, while the total number of inadequate housing units increased by 3.8 percent. However, there was a 3.6 percent decline in the number of severely inadequate housing units, suggesting that the physical condition of housing units is improving through the elimination of the most severe defects

*Housing costs include:

Owners - payments for real estate taxes, property insurance, utilities, fuel, water, garbage and trash collection, and mortgage principal and interest (maintenance and replacement costs are not included);

Renters - gross rent which includes contract rent plus cost of utilities and fuels paid separately by the renter.

Table 6

Housing Problems in the United States
(thousands of units)

	Total		Owners		Renters	
	1975	1978	1975	1978	1975	1978
Occupied Units	72,553	77,477	46,920	50,536	25,633	26,941
Inadequate	7,704	7,993	3,507	3,551	4,197	4,441
Percentage	10.6	10.3	7.5	7.0	16.4	16.5
(Severely Inad.*	(3,123)	(3,012)	(1,203)	(1,181)	(1,920)	(1,831)
Percentage)	(4.3)	(3.9)	(2.6)	(2.3)	(7.5)	(6.8)
Crowded	2,742	2,477	1,585	1,391.8	1,157	1,085
Percentage	3.8	3.2	3.4	3.8	4.5	4.0
Cost Burden	8,752	10,581	2,552	3,261	6,200	7,320
Percentage	11.2	13.7	5.4	6.5	24.2	27.2
Total with Housing Problems	19,198	21,051	7,644	8,203	11,554	12,846
Percentage	28.5	27.2	16.3	16.2	45.1	47.7

*These units are not added to the total because they are a sub-set of all inadequate units.

Source: Special tabulations of 1975 and 1978 National Annual Housing Survey. U.S. Department of Housing and Urban Development and the Bureau of the Census.

and flaws. The number of crowded housing units declined 9.7 percent. In 1975, 2.7 million units were crowded, or 3.8 percent of all occupied units, and in 1978, the figure decreased to 2.5 million or 3.2 percent of all occupied units. Another problem was becoming more important. There was an increase rather than a decline in the number of units where the occupants paid 30 percent or more of their income for housing costs. In 1975, 8.8 million households were cost burdened; the number increased by 20.9 percent to 10.6 million households in 1978. All problems were far more severe for renters than for owners, but the same trends occurred.

Very-low-income household as defined in the Housing and Community Development Act, that is, individuals or families who earn 50 percent or less of median family income adjusted for location and family size, experience housing problems to a greater extent than higher income groups, demonstrating once again that housing problems are basically income problems. The total number of units with occupants earning 50 percent or less of median family income increased 9.2 percent between 1975 and 1978, from 19,714,000 to 21,519,000 (Table 7). The number of physically inadequate units occupied by these households increased by 3.3 percent over this period. In 1975, 4.1 million units (20.6 percent) were inadequate, and in 1978, 4.2 million (19.5 percent) were in poor physical condition. However, there was

Table 7

Housing Problems of Very-Low-Income Households
(thousands of units)

	Total		Owners		Renters	
	1975	1978	1975	1978	1975	1978
Occupied Units	19,714	21,519	9,403	10,064	10,311	11,455
Inadequate	4,067	4,201	1,611	1,608	2,456	2,593
Percentage	20.6	19.5	17.1	16.0	23.8	22.6
(Severely Inad.*	(1,925)	(1,781)	(607)	(616)	(1,243)	(1,165)
Percentage)	(9.8)	(8.3)	(6.5)	(6.1)	(12.1)	(10.2)
Crowded	879	839	319	239	561	600
Percentage	4.5	3.9	3.4	2.4	5.4	5.2
Cost Burden	7,102	8,148	2,160	2,481	4,942	5,667
Percentage	36.0	37.9	23.0	24.7	47.9	49.5
Total with Housing Problems	12,048	13,188	4,090	4,328	7,959	8,860
Percentage	61.1	61.3	43.5	43.0	77.2	77.4

*These units are not added to in the total because they are a sub-set of all inadequate units.

Source: Special tabulations of 1975 and 1978 National Annual Housing Survey. U.S. Department of Housing and Urban Development and the Bureau of the Census.

a decrease of 7.5 percent in the number of severely inadequate units. Over one-third of these units' occupants paid more than 30 percent of their income to cover their housing costs, 36.0 percent in 1975 and 37.9 percent in 1978. The number of units occupied by very-low-income households with housing problems increased 9.5 percent between 1975 and 1978, from 12.0 million to 13.2 million units.

Forty-three percent of the owners in this income group, 4.1 million in 1975 and 4.3 million households in 1978, had housing problems. The number of inadequate units was virtually the same for 1975 and 1978, 1.6 million units. Approximately 40 percent of the inadequate units were severely inadequate and the number of severely inadequate units increased 1.5 percent during this period. In 1975, 3.4 percent of the units were crowded; this declined to 2.4 percent in 1978. The number of cost-burdened households increased 14.5 percent from 2.2 million to 2.5 million.

The neediest of the very-low-income households are renters. The total number of renters earning 50 percent or less of median family income and with housing problems increased 11.3 percent between 1975 and 1978. In 1975, 77.2 percent of the renters in this income group had housing problems and in 1978, 77.4 percent had problems. There was a 5.6 percent increase in the total number of physically inadequate units. The increase was confined, however, to the less severe defects

and flaws because the number of severely inadequate units decreased 6.3 percent. Of the 10.3 million renters earning 50 percent or less of median family income in 1975 and the 11.5 million in 1978, 2.5 million were living in inadequate units in 1975 and 2.6 million were living in inadequate units in 1978. Approximately 5 percent of very-low-income renters' units were crowded in 1975, and in 1978. By the three measures used here, the greatest problem facing these renters was cost burden. Nearly half of the renters in this income group were cost burdened, 47.9 percent in 1975 and 49.5 percent in 1978. The actual number with cost burden rose from 4,942,000 in 1975 to 5,667,000 in 1978, an increase of 14.7 percent.

Table 8 presents the housing problems of very-low-income renters and owners by metropolitan-nonmetropolitan location. Both inside and outside metropolitan areas, a greater proportion of renters had problems than did owners, 79 and 73 percent of renters compared with 44 and 42 percent of owners. Within these proportions, however, there were differences by location. Physical inadequacy was a greater problem for both renters and owners outside metropolitan areas than inside those areas, while costs were a greater problem for both renters and owners inside metropolitan areas.

The median rent-income ratio for all renters in the United States, regardless of housing condition, rose from 23 percent in 1975 to 25 percent in 1978, and to 27 percent in 1980. Cost burdens are clearly the greatest of these three problems for very-low-income renters, while the incidence of severely inadequate housing is much lower, and

Table 8

Housing Problems of Very-Low-Income Renters and Owners
By Metropolitan-Nonmetropolitan Location, 1978
(thousands of units)

	In SMSA	Outside SMSA	Total
Very-Low-Income Renters			
Occupied Units	8,231	3,225	11,455
Inadequate	1,595	998	2,293
Percentage	19.4	31.0	22.6
(Severely Inad.*	(644)	(521)	(1,165)
Percentage)	(7.8)	(16.2)	(10.2)
Crowded	468	132	600
Percentage	5.7	4.1	5.2
Cost Burden	4,454	1,212	5,667
Percentage	54.1	37.6	49.5
Total with Problems	6,517	2,342	8,860
Pecentage	79.2	72.6	77.4
Very-Low-Income Owners			
Occupied Units	5,376	4,688	10,064
Inadequate	597	1,010	1,608
Percentage	11.1	21.6	16.0
(Severely Inad.*	(186)	(430)	(616)
Percentage)	(3.5)	(9.2)	(6.1)
Crowded	125	113	239
Percentage	2.3	2.4	2.4
Cost Burden	1,634	846	2,481
Percentage	30.4	18.0	24.7
Total with Problems	2,356	1,969	4,328
Percentage	43.8	42.0	43.0

* These units are not added to the total because they are a subset of all inadequate units.

Source: Special tabulations of 1978 National Annual Housing Survey. U.S. Department of Housing and Urban Development and the Bureau of the Census.

is declining, and crowding is of relatively infrequent occurrence. This buttresses the view that housing certificates are the best, most efficient and economical form of housing subsidy in today's market.

Another major problem facing many low-income households is the lack of equal opportunity and access in the housing market. Housing vouchers potentially provide much greater freedom of locational choice than do new construction programs, which have fixed project locations. However, discrimination and the steering of minorities to areas of minority concentration would prevent voucher recipients from having access to all the resources of the private market. These wrong and unlawful practices distort and impede the functioning of an open housing market system. Indeed, in the past two years alone, HUD has witnessed an increase in housing discrimination complaints of more than 50 percent (see Table 9). Full information and access can be provided by strong local administrative procedures to assure open housing, and by the enforcement of antidiscrimination statutes, including Federal fair housing laws.

This Administration is particularly pleased to note the progress made to date by HUD's Office of Fair Housing and Equal Opportunity in implementing the Fair Housing Assistance Program (FHAP). The Program is an integral part of the "New Federalism," supporting state and local government fair housing agencies with both technical and financial assistance. The FHAP has clearly breathed new life into the 14-year

Table 9

Fair Housing Assistance Program Overview
Comparisons of HUD/State and Local Agency Activity
Program Inception to Present

Growth of HUD/State and Local Agency Cooperation

Item	July 1979	July 1982
Number of Substantially Equivalent Agencies	21	48
Number of Agencies Proposed for Recognition	2	21
Total Recognized or Proposed for Recognition	23	69
Number of Agencies with Memorandum of Understanding	8	45
Number of Agencies Currently Receiving FHAP Funding	0	44

Growth of Complaint Receipts, Referrals and Closures

Item	10/01/79-6/30/80	10/01/81-6/30/82
Number of Complaints Received by HUD	2,076	3,162
Number Referred to State/Local Agencies	261	1,669
Percent Referred to State/Local Agencies	12.6%	52.8%
Number Closed by State/Local Agencies	194	1,563
Percent of all HUD Complaints Closed by State/Local Agencies	9.3%	49.4%
Percent of all Referrals Closed by State/Local Agencies	74.3%	93.6%
Number of Referrals Reactivated by HUD	34	77
Percent of Referrals Reactivated by HUD	13.0%	4.7%

old expression of Congressional intent, found in Title VIII of the Civil Rights Act of 1968, that wherever possible state and local government play a lead role in fair housing enforcement activity. See Table 9 for an overview of HUD's growing coordination with state and local civil rights agencies.

VIII Manpower, Materials and Land Requirements

Residential and Other Construction Manpower

As housing construction declined in 1980, demand for on-site manpower in the construction industry fell to 2,137,000 full-time equivalent job requirements, 240,000 below the 1979 level. In the residential sector, year-long job requirements (not the same as numbers of employees) dropped 21 percent, from 991,000 in 1979 to 783,000 in 1980. The non-residential construction sector declined about two percent, from 1,386,000 to 1,354,000 full-time equivalent job requirements. As a result, the residential sector decreased its share of construction job requirements from 42 percent in 1979 to 37 percent in 1980. The unemployment rate in the construction industry continued high, ranging from a low of 10.9 percent in February to a high of 17.3 percent in August 1980. As usual, the construction rate was roughly twice that of the overall unemployment rate, but exhibited more amplitude.

In 1981 full-time equivalent job requirements in residential construction fell over 8 percent to 717,000. In non-residential construction, there was a slight decline to 1,331,000, so that overall

there was a decrease in labor requirements of 4 percent in the construction industry. The construction industry unemployment rate in December 1981 was 18.1 percent.

In 1982, residential construction job requirements are expected to fall below 712,000, the most likely outcome. Non-residential construction job requirements may decline from 5 to 8 percent, so that the construction industry as a whole will experience a decrease of up to 5 percent. (See Appendix C for details).

Construction Materials

The demand for building materials decreased sharply in 1980, and several products experienced sizable additional declines in 1981. The industries with the greatest percent drop in volume over the 1980 to 1981 period included clay bricks, nails, some types of plumbing fixtures, sand and gravel, gypsum board, and lumber and wood products.

In 1982, the demand for building materials is expected to stabilize, and there should be no supply problems. The sharply lower demand in 1980, 1981, and into 1982 has resulted in production line and plant closings. Many smaller and medium sized producers have disappeared from the market, but the surviving stronger firms have sufficient capacity to meet demand through 1982 and 1983.

Construction material prices rose in 1980 and 1981 at about a 6 percent annual rate, the lowest rate since 1972. Significant price increases occurred for building paper and board, metal sash,

doors, and trim, heating equipment, plumbing fixtures, and builders hardware. Lumber and wood products and, in 1981, prepared asphalt roofing, experienced price declines. (See Appendix C for details.)

Residential Land Resources

Land costs have been rising faster than most other components of the cost of housing construction, so that developed land represents an increasing share of total housing development costs. This may be due, in part, to an increase in the size of the lots on which houses are built, but most of the cause has been an inflation in land prices. Rising land prices reflect increased demand for land, and sometimes a shortage of buildable land in areas where land use controls may restrict the supply of land and thus raise prices. Regulations and fees also increase the cost of developed land. In 1980, there was some evidence that the rise in land prices may have slowed. Census construction data suggest that land prices increased less than 6 percent, but FHA and USDA data do not suggest any slowing until 1981.

IX. Housing Finance in 1980

Supply of Mortgage Funds

Record interest rate levels together with several wide swings in interest rates raised costs and added to uncertainty in 1980. As a result, total long-term residential mortgage financing in 1980 dropped sharply from 1979's record lending volume. Most of

the decrease was in originations of mortgages on 1-4 family homes. Long-term mortgage originations on 1-4 family properties totaled $134.5 billion in 1980, down 30.5 percent from 1979's record volume of $187.2 billion. Originations of long-term mortgages on multifamily properties also declined in 1980 with a volume of $12.2 billion compared to $15.7 billion in 1979.

Most of the decline in 1-4 family mortgage lending was in originations on existing properties. Originations of mortgages on existing 1-4 family homes declined more than $41.4 billion to a level of only $85.1 billion in 1980. The aggregate volume of mortgages on newly built homes declined moderately from $60.7 billion in 1974 to $49.4 billion.

As was the case with 1-4 family originations, most of the decline in the volume of multifamily mortgage orginations was due to the drop in originations for existing multifamily properties. Only $3.7 billion in mortgages on existing properties was originated compared to $7.5 billion in 1979. Part of this decline can be attributed to the rise in conversions of rental apartments into privately owned condominium units. In addition, record levels of mortgage interest rates prompted many owners to postpone refinancing existing loans. Loan originations on new multifamily properties totaled $8.5 billion, topping the previous record of $8.0 billion volume recorded in 1979. More than 43 percent of the new multifamily long-term financing was FHA-insured compared to 34 percent in 1979.

As detailed in Table 10, nearly all of the major mortgage investors reduced their volume of residential mortgage investment. State and local retirement funds and state and local credit agencies were the only investor groups to increase their residential mortgage investments. With the swings in short and long terms interest rates throughout 1980, both the S&Ls and MSBs had difficulty in competing for new loanable funds. The introduction of the small savers certificate (SSC) did appear to help S&Ls, especially in the third and fourth quarter. Nevertheless, the uncertainty created by the wide swings in interest rates reduced both the public's demand for mortgages and the thrifts' willingness to offer them without stiff liquidity premiums. Consequently, mortgage originations at S&Ls and MSBs dropped significantly. Despite the adverse conditions of a down mortgage market, S&Ls maintained their share of net acquisitions of all long-term residential mortgage loans. The S&L share of net acquisitions of 1-4 family mortgage loans went from 40.8 percent in 1979 to 40.3 percent in 1980. Commercial banks remained major residential mortgage investors by acquiring 17.8 percent of long-term 1-4 family mortgages and 10.8 percent of multifamily mortgages. Life insurance companies remained steady mortgage investors in supplying $4.4 billion in long-term residential financing during 1980.

Table 10

Net Acquisitions of Long-Term Mortgage Loans on
Residential Properties by Identifiable Lender Groups
(dollars in billions)

	Calendar Years					
	Actual					Projected
1-4 Family Homes	1977	1978	1979	1980	1981	1982
Savings & Loan Associations	$86.5	$85.2	$76.3	$58.0	$39.6	$45.9
Mutual Savings Banks	11.4	11.9	11.1	5.7	3.8	5.4
Commercial Banks	32.6	38.8	36.3	25.6	20.3	24.7
Credit Unions	.7	.7	.7	.8	.6	.8
Life Insurance Companies	.6	1.6	3.3	2.9	.4	1.3
Mortgage Companies	2.4	3.2	6.5	1.3	1.7	1.1
Federal Credit Agencies	4.8	14.5	14.4	11.5	9.8	8.6
Federal Supported Mortgage Pools@	22.1	21.8	29.1	23.5	18.0	24.5
Privately Insured Mortgage Pools	.2	1.1	2.8	5.3	6.3	5.8
State & Local Credit Agencies	1.3	2.3	5.3	8.4	6.6	5.6
State & Local Retirement Funds	.4	.4	.5	.6	.4	.5
Mortgage Investment Trusts	.1	.1	*	*	*	*
Non-Insured Pension Funds	.1	.4	.4	.3	.2	.1
Total	163.2	182.0	186.7	143.9	107.7	124.3
Multifamily Properties						
Savings & Loan Associations	6.9	6.2	4.9	3.0	2.4	4.0
Mututal Savings Banks	1.8	1.4	1.0	.6	.6	1.1
Commercial Banks	1.8	2.0	1.9	1.3	1.7	1.9
Life Insurance Companies	1.0	1.9	1.7	1.5	.7	1.7
Mortgage Companies	.6	.2	.5	.3	.4	.4
Federal Credit Agencies	1.1	.9	1.1	2.3	1.4	1.2
Federally Supported Mortgage Pools	1.3	1.9	2.4	.9	1.2	1.2
State & Local Credit Agencies	1.2	.8	1.3	1.4	1.4	1.6
State & Local Retirement Funds	.2	.9	.9	.6	1.1	1.2
Mortgage Investment Trusts	.1	.1	*	.1	.1	.1
Non-Insured Pension Funds	.1	*	.1	*	*	.1
Total	16.1	16.3	15.8	12.0	11.0	14.5

Under $50 Million

Sources: 1977-1981: HUD News Releases

1982: Department of Housing and Urban Development Projections

@ Includes New Pools to be issued by FNMA in 1982

Table 11

Total Originations of Long Term Mortgage Loans on Residential Properties by Identifiable Lender Groups (dollars in billions)

	Calendar Years					
	Actual					Projected
1-4 Family Homes	1977	1978	1979	1980	1981	1982
Savings & Loan Associations	$86.3	$90.0	$82.8	$61.1	$42.0	$47.5
Mutual Savings Banks	8.7	9.4	9.0	5.4	4.0	5.2
Commercial Banks	36.7	43.9	40.7	28.8	21.7	24.7
Life Insurance Companies	.4	.8	2.0	1.7	.5	.8
Mortgage Companies	25.7	34.4	45.3	29.4	24.0	24.3
Federal Credit Agencies	3.1	4.8	4.4	4.4	4.5	1.9
State & Local Credit Agencies	.8	1.3	2.1	2.6	1.6	2.0
State & Local Retirement Funds	.1	.1	.1	.2	*	*
Mortgage Investment Trusts	.1	.1	*	*	*	*
Non-Insured Pension Funds	.1	.2	.2	.1	.1	.1
Credit Unions	.7	.7	.7	.8	.6	.8
Total	162.7	185.7	187.2	134.5	98.9	107.2
Multifamily Properties						
Savings & Loan Associations	6.8	6.2	4.9	3.1	2.3	4.2
Mutual Savings Banks	1.5	1.2	.9	.5	.6	.9
Commercial Banks	1.9	2.1	1.9	1.2	1.5	1.9
Life Insurance Companies	1.0	1.8	1.6	1.4	.8	1.6
Mortgage Companies	2.0	1.8	2.0	1.6	2.1	2.3
Federal Credit Agencies	1.0	1.7	2.6	2.9	3.2	1.7
State & Local Credit Agencies	1.2	.9	1.2	1.3	1.4	1.6
State & Local Retirement Funds	.2	.4	.4	.1	.1	.2
Mortgage Investment Trusts	.2	.2	.1	.1	.1	.1
Non-Insured Pension Funds	.1	*	.1	*	*	.1
Total	15.8	16.3	15.7	12.2	12.0	14.6

*Under $50 Million

Sources: 1977-1981: HUD News Releases
1982: Department of Housing and Urban Development Projections.

With net savings inflows unsteady for most of the year and with repayments of mortgage loans down sharply, non-traditional mortgage investors through secondary mortgage markets became more important sources of mortgage credit for 1-4 family mortgages. Mortgage pools, both federally sponsored and privately insured, accounted for $28.8 billion, or 20 percent of the volume of 1-4 family mortgage loans originated, compared to 17.0 percent in 1979. Privately insured mortgage pools, which first began in September 1977, nearly doubled their $2.7 billion volume in 1979 with a new volume of nearly $5.3 billion in 1980. Federal credit agencies were once again the second most important source of secondary market credit for home mortgages, contributing 8.0 percent. State and local credit agencies also contributed a stabilizing influence by providing $8.4 billion in net acquisitions of 1-4 family homes, up from $5.3 billion in 1979.

Secondary mortgage markets were also important sources of financing for the multifamily mortgage markets. After S&Ls, which provided 25 percent of mortgage credit, Federal credit agencies were the second most important source of multifamily mortgage financing with 19.2 percent of the total originated in 1980. Federally sponsored mortgage pools and state and local credit agencies supplied 7.5 percent and 11.7 percent respectively. Other more traditional mortgage investors, commercial banks and life insurance companies, together provided 23.3 percent of long-term multifamily financing for 1980.

Construction lending in 1980 was largely governed by the sudden changes in housing starts. One-to-four family housing starts were off for most of the year, rising only briefly late in the third quarter. As a result, the volume of 1-4 family mortgage construction loans dropped sharply from $38.4 billion in 1979 to $28.6 billion in 1980. Of the major sources of construction mortgage credit, commercial banks suffered the smallest decrease in 1-4 construction lending and therefore increased their share of the market from 38.9 percent to 44.3 percent. S&Ls, despite a 29 percent drop in volume, remained the most important source of 1-4 family construction mortgage credit with a 46.2 percent share of the market. Unlike 1-4 construction, multifamily starts remained about the same as they were in 1979. Therefore with rising costs of labor, material, and land prices, mortgage construction loans for multifamily properties increased from $10.5 billion in 1979 to $11.3 billion in 1980. The two most important sources of multifamily construction funds in 1980 were commercial banks, which provided 48.5 percent, and federal credit agencies, which increased their net acquisitions of multifamily construction loans from $.5 billion to $1.7 billion for 15 percent of the market. State and local credit agencies raised their market share slightly from 5.8 percent in 1979 to 6.5 percent. All other construction lenders reduced their activity in multifamily construction, most notably savings and loan associations. S&Ls dropped from a volume of $2.0 billion in 1979 to $1.4 billion in 1980. S&Ls' market share slipped from 19.3 percent to 12.2 percent.

Mortgage Interest Rates

Mortgage interest rates in 1980 not only set new record high levels but also set new records along with other interest rates in volatility. The high level of rates reflected the confluence of spiraling inflation, increased borrowing by the Federal Government, and anti-inflationary efforts by the Federal Reserve to restrain monetary growth, as well as other factors. The increased volatility of mortgage interest rates resulted primarily from a series of unusual disturbances to the economy--most notably, the imposition and removal of credit controls. But to some extent it also reflected an increased sensitivity of long-term interest rates to changes in short-term rates, which became more variable after October 1979, when the Federal Reserve adopted a new operating procedure emphasizing bank reserves rather than the Federal funds rate.

At the end of 1979, consumer price inflation remained above 1 percent a month, and accelerated under the impetus of energy prices and the exaggerated impact of rapidly rising mortgage interest rates on the CPI index. Continued rapid inflation acted to keep interest rates high. In addition, in response to excessive money expansion early in the first quarter of 1980, the Federal Reserve in March restricted growth of bank reserves, with the result that the Federal

funds rate rose to the 17-18 percent range in March and April. In addition, the Administration invoked the Credit Control Act of 1969 and authorized the Federal Reserve to implement a program of special credit restraints as part of a government-wide anti-inflation effort. As a result, mortgage commitment rates rose from 13 percent to 15-17 percent. Home sales plummeted and housing starts fell to the one million annual rate level.

The credit controls and the associated abrupt decline in economic activity sharply reduced demands for money and credit. With money growth unexpectedly weak, the Federal Reserve in May supplied reserves more aggressively in order to spur the money supply back toward targeted levels. Short-term rates fell to one half their record high levels of March, and long-term rates declined sharply as well. By August, contract rates on conventional mortgage loans had fallen below 12 percent. The sudden drop in interest rates relative to the inflation rate caused the real interest rate to turn negative once more.

By late September 1980, the narrow money stock had reached a level well above the upper limit of the Federal Reserve's target range and was still growing rapidly. Inflation remained high and threatened to worsen, given the Iran-Iraq War's effect on oil prices and the poor prospects for world food production. The Federal Reserve once more restrained bank reserve growth. The Federal funds rate moved from 9 percent in

July to 13 percent in October, and to 20 percent by mid December. By the end of 1980, the Federal funds rate remained well above the inflation rate, enforcing the very high real interest rates. Not surprisingly, mortgage interest rates moved back into the 15-16 percent range from a low of less than 12 percent just three months earlier.

The rise in effective mortgage interest rates generally outpaced increases in yields on other long-term securities in 1980. Average effective yields on new and existing conventional mortgages were 275 and 210 basis points higher than they were in 1979. In comparison, the yields on Treasury bonds (20 year constant maturity) rose 205 basis points (from 9.33 percent to 11.38 percent); the yield on new corporate AAA rated bonds increased 264 basis points (from 9.86 percent to 12.50 percent); and the yield on tax exempt municipal bonds (Bond Buyer Series) rose 208 basis points (from 6.52 percent to 8.6 percent).

The continued growth of the already wide spread between effective mortgage yields and other marketable security yields, together with the improved liquidity of secondary markets, has been responsible for the continued active role of commercial banks and life insurance companies. These conditions have also allowed the significant growth in privately insured pass-through securities.

During 1980, HUD and the Veteran's Administration attempted to maintain market parity of the maximum interest rate on FHA-insured and VA-guaranteed home loans with market mortgage interest rates in a highly volatile market. This necessitated changing the ceiling rate eight times during 1980. The third change of the year set a then record 14 percent ceiling on April 3. It lasted until April 28 when the rate was reduced to 13 percent. The ceiling rate was lowered to 11.5 percent on May 15. When market conditions tightened again, the ceiling was raised three more times, the last bringing the ceiling to 13.5 percent on November 25. In all cases, the changes in the rates were in response to rapidly changing market yields. The moves to increase the ceiling were to reduce unusually high discount points which were needed to equalize the effective yields with yields on national secondary markets.

The volatility of mortgage interest rates prompted Congress to permit an experiment to be conducted in 1981 whereby a limited number of FHA loans would not be subject to the official FHA ceiling rate. Instead, the loan originators would set the coupon themselves.

X. Housing Finance in 1981

Supply of Mortgage Funds

The Federal Reserve's plan to curtail inflation by gradually reducing the rate of money growth was in high gear in early 1981. The sharp decline in monetary growth in early 1981 yielded falling

short-term rates during the second quarter. However, a surge in money growth shortly thereafter prompted the Federal Reserve to tighten the supply of bank reserves and lifted nominal and real interest rates to historically high levels in the fourth quarter. The effect of these higher nominal and real interest rates was to cut demand for long-term financing in virtually all sectors of the economy. The sharp rise in short-term rates left the thrift industry virtually unable to compete with the liquidity and rising yields of money market funds. S&Ls lost nearly $25 billion in deposit outflows while MSBs lost $14.0 billion - both records. The sharp drop in loanable mortgage funds and ensuing record level of mortgage interest rates resulted in another sharp decline in mortgage lending. Long-term mortgage originations on 1-4 family properties totaled $98.9 billion in 1981, down 26.4 percent from 1980's volume and nearly 48 percent less than the record volume originated in 1979. The drop in long-term mortgage originations on multifamily properties was less severe with a volume of $12.0 billion compared to $12.2 billion in 1980.

As in the previous year, most of the decline in 1-4 family mortgage lending was in originations on existing properties. Originations of mortgages on existing 1-4 family homes declined nearly $24 billion to a level of $61.2 billion, for a two year drop off to a level less than half the $126.5 billion volume of 1979. The costliness of new mortgage funds led to increased use of assumptions of low-rate first

trusts when house sellers took back second mortgages to facilitate the sale of their houses. New home sales benefitted greatly from builder buydown arrangements which lowered the effective interest costs for homebuyers, and also qualified more households for mortgage financing. Some of the cost of such buydowns was passed along to the homebuyer in the form of higher house prices however. Despite these creative finance measures the volume of mortgage originations on new homes was down 25 percent from 1980 and down nearly 39 percent from 1979.

Most of the decline in the volume of multifamily mortgage originations occurred for new multifamily units. Originations on new multifamily property mortgages totaled $7.9 billion, down 7 percent from 1980. Mortgage originations on existing multifamily properties actually improved slightly to $3.9 billion.

Nearly 42 percent of the $7.9 billion in new multifamily unit mortgage originations was insured by FHA. Such insurance was a major factor in maintaining secondary market investor interest in multifamily mortgage investments.

With weak deposit inflows and rising problems from asset-liability imbalances causing a severe erosion of net worth, thrift institutions' share of net acquisitions of residential mortgage loans dropped. S&Ls, which had acquired 40.3 percent of 1-4 family mortgage loans in 1980, picked up only 37.4 percent in 1981. Mutual savings banks, suffering through 11 straight quarters of net outflows of savings deposits, also dropped their share from 4.0 percent in 1980

to 3.7 percent in 1981. Commercial banks, because of their more diversified portfolio and liability structure, had a more stable supply of funds and increased their share of 1-4 family mortgage net acquisition from 17.8 percent to 18.4 percent. Life insurance companies, which previously had been increasing their direct acquisitions of residential mortgage loans, shifted investments in favor of short to intermediate-term securities and mortgage-backed pass-throughs.

With the thrift industry losing its competition for funds to money market funds and other instruments, and with repayments of mortgage loans even lower than in 1980, secondary mortgage markets were once again important sources of residential mortgage credit. Mortgage pools, both Federally sponsored and privately insured, accounted for $24.8 billion, down from 1980 levels but representing a greater share of originations at 22.7 percent, compared to 20.3 percent in 1980. Federal credit agencies were the second largest source of secondary market credit, contributing 10 percent. State and local credit agencies also contributed a stabilizing influence by providing $7.5 billion in net acquisition of 1-4 and multifamily mortgages. However, their activity was limited by federal restrictions imposed on new single family tax exempt bond issues which became effective January 1, 1981.

Record interest rates not only reduced effective demand for new houses but also severely increased the cost of construction and inventory maintenance for building. As a result housing starts plummeted and hit record consecutive monthly lows. The volume of 1-4 family construction loans fell sharply again from $29.3 billion in 1980 to $23.7 billion for all of 1981. Of the major soures of construction mortgage credit, commercial banks, because of their more stable supply of funds, provided the largest share of single-family construction credit, 45.1 percent. S&Ls slipped to second place in such credit with a 43.5 percent share of the market. The two most important sources of multifamily construction funds in 1981 were again commercial banks which provided $5.5 billion in such loans and S&Ls which provided $1.3 billion.

Mortgage Interest Rates

Early in 1981 it appeared that money growth had weakened appreciably and demand for reserves had fallen to a level consistent with the Federal Reserve's monetary targets. Short-term rates were 2-3 points below January peaks by the end of the first quarter. In contrast to the decline in short-term yields, long-term rates generally rose. Concerns over the inflationary aspects of the FY 1982 federal budget deficits as well as a growing backlog of needed long-term refinancing by corporations and state and local governments pushed long-term yields higher.

Just when there appeared to be some optimistic news concerning reduced inflation as a result of firm monetary policy, rising Treasury borrowing needs and talk of higher than expected federal budget deficits in FY 1982 and FY 1983 prompted a surge in bank credit demands, followed by a sudden rise in monetary growth. Short-term interest rates rose sharply once more, pushing long-term yields to new historic highs.

Furthermore, the U.S. economy gave signs of beginning a recession. The record high short and long-term yields served to reduce credit demands sharply during the third quarter.

During the fourth quarter, lower credit demands and evidence of a marked improvement in inflation brought both short and long-term yields down again. The fall in long-term yields brought on a surge in corporate financing and a brief surge in mortgage financing in December. The decline in interest rates was clearly out-paced by the drop in the general inflation rate. As a result real interest rates (nominal rates less inflation) remained near historic levels and further dampened investment demand.

For the year, interest rates on average were substantially higher than in 1980, while average effective mortgage yields remained higher than most alternative security yields. The spread between effective mortgage interest rates and yields on other long-term securities is shown by the following comparisons. Average effective yields on

new and existing conventional mortgages were 14.74 and 15.12 percent, 209 and 217 basis points higher than they were in 1980. New corporate AAA rated bonds increased 254 basis points from 12.47 percent to 15.01 percent. Yields on Treasury bonds (20 year constant maturity) rose 233 basis points from 11.39 percent to 13.72 percent. Municipal bond yields rose 275 basis points from 8.58 percent to 11.33 percent. While other security yields tended to recede by year end, tax-exempt yields continued to rise.

During 1981, the rapidly changing shifts in interest rates required seven changes in the maximum interest rate on FHA and VA home loans, as the agencies attempted to maintain market parity between the Federally insured loans and conventionally originated mortgages. A record ceiling of 17.5 percent became effective September 14, 1981. It lasted until October 12 when the ceiling was lowered to 16.5 percent with improving market conditions. The ceiling was lowered once more to 15.5 percent on November 16.

XI. The Outlook for Housing Finance in 1982

General Economic Assumption

Most forecasts of the U.S. economy have agreed that a recovery is in store during the latter part of the year. However, a variety of constraining forces may inhibit the pace of this recovery, and possibly delay it until very late in the year.

The largest single constraint will be the likelihood of high real interest rates - lower nominal rates but even lower rates of inflation. In other words, market forces will be such that nominal rates will fall, but not as far as one would hope for in response to lower rates of inflation.

Treasury will have heavy financing needs in 1982 which will compete with heavy corporate financing requirements. Consequently, while nominal rates will be lower in 1982, they are not expected to fall significantly from 1981 average levels. And, since inflation rates have fallen considerably from the 13.5 percent CPI average of 1980, real interest rates will remain near historic highs. Such high real rates will deter needed capital investment expenditures as well as demand for new homes, greatly curtailing the real production gain typical of the early stage of normal business recovery. The economy is expected to recover slowly and real mortgage interest rates will remain above long-run averages for most of 1982, slowing the desired improvement in residential mortgage lending.

Supply of Mortgage Funds

Lower market interest rates are the key to a better future for the mortgage market, not only in terms of demand but also supply. More innovations in mortgage instruments are on the horizon throughout 1982 as further attempts are made to even out real mortgage interest payments over the life of a loan, but neither borrowers nor lenders, and especially secondary market investors, have warmed

appreciably to any of the currently offered alternative mortgage instruments. Secondary market salability is the key for mortgage markets in 1982.

In the past, the supply of mortgage funds largely depended on the limited ability of thrift institutions to compete for funds in the money markets. Only recently (1978) have thrift institutions been given greater opportunities to compete for funds in tight credit periods, using a variety of certificates of deposit. Time deposits and special certificates now represent over 80 percent of thrift savings capital. However, the new regulatory powers entailed highly variable costs of loanable funds without regard to portfolios made up of very long-term, predominately fixed, rates of return. This asset-liability imbalance reached critical proportions in 1981 as thrift institutions suffered record declines in net worth. FSLIC and FDIC, the two federal insurers of bank and thrift deposits, have addressed the problem by assisting the merger of troubled thrifts with stronger ones. This effectively forestalls severe drains on FDIC and FSLIC reserves from highly discounted liquidations of low coupon mortgages. The large thrift industry risk exposure will continue until lower market rates improve the spread between existing mortgage portfolio yields and the cost of new funds. The first priority for thrifts will be to readjust their liability structure and improve their liquidity position.

While the thrift industry attempts to work out of its financial problems, the mortgage market will continue to rely on secondary markets as a major source of credit. Since 1975 the secondary markets have played an increasing role in the mortgage market. Altogether, mortgage-backed pools plus federal and state and local credit agency effort provided nearly 38 percent of the credit used for residential mortgage origination in 1981, more than double their relative importance of 17.8 percent provided as recently as 1977. In the year ahead secondary markets will again be required to play a major role in residential mortgage finance.

The volume of residential long-term mortgage originations is expected to total $99.5 billion in 1982, a decline of more than 10 percent over 1981. Of the total, $87.6 billion represents originations of long-term mortgages on 1-4 family homes, with $11.9 billion going for mortgages on multifamily properties.

Mortgage commitment rates in 1982 are expected to recede only very slowly through the third quarter, bottoming out and then rising again in the fourth quarter. The small marginal improvements reflect mainly continued increases in the cost of funds for the thrifts as more of their liability structure shifts toward higher non-passbook deposits and continued profit margin problems. Effective mortgage interest rates will likely fall below the average commitment rate offered in 1981. Effective mortgage rates on loans actually closed will rise over 1981's average due to the time lag between commitments offered and loans closed.

APPENDIX A

Federal Aids for Housing

Federal assistance for housing takes many forms, varying from indirect incentives such as tax provisions favoring housing and GNMA support of the secondary mortgage market to the more easily recognized direct assistance provided by cash subsidy programs for low- and moderate-income families. This appendix details the various forms of housing assistance under three broad categories: I. Tax Incentives; II. Housing Credit Assistance; and III. Cash Subsidy Programs.

I. Tax Incentives

The Federal tax law provides significant indirect tax incentives which encourage construction of and occupancy of both owner-occupied and rental housing. The tax incentives for housing include:

(1) Homeowner deductions of mortgage interest and real estate taxes;

(2) Deferral or non-recognition of capital gains on sales of owner-occupied homes;

(3) Five-year write-off of rehabilitation expenditures on low- and moderate-income rental property;

(4) Rapid amortization of construction-period interest and taxes;

(5) Excess bad debt reserve deductions of mutual savings banks and savings and loan associations;

(6) Exclusion of interest on state and local housing bonds.

(7) Exclusion of interest on all-savers certificates.

The tax expenditure estimates reported in this Appendix are calculated on an "outlay equivalent" basis. As traditionally calculated, tax expenditures may not be directly comparable to direct Federal outlays that

have similar programmatic objectives and may not reflect the true resource costs to the economy. To facilitate comparisons with direct spending programs and to provide a better measure of resource costs, the concept of "outlay equivalent" tax expenditures has been developed.

For calculating calendar year tax expenditures for housing on a basis that permits direct comparison with budget outlays, that is, on an outlay equivalent basis, two adjustments are required: (1) items involving deferral of tax liability are treated as government lending transactions, and (2) other incentives provided through the tax system are measured in pre-tax dollars where appropriate.

For deferrals of tax liability, the equivalent treatment as government lending transactions is to measure the net increase in the amount of taxes deferred plus the implicit interest incentive on the stock of tax deferrals outstanding. Other tax incentives, when appropriate, have been "grossed-up" to express them at pre-tax market prices consistent with the measurement of direct expenditure programs. No adjustments are necessary for the deductibility of mortgage interest and real estate taxes on owner occupied housing; in this case, the traditionally measured tax expenditures accurately reflect the reduction in the cost of owner occupancy. Also, in the case of tax-exempt bonds used to finance housing, no adjustment is required since the conventional tax expenditure estimate is already a measure of the interest incentive to holders of the bonds.

For calendar year 1980 total tax incentives for housing measured on an outlay equivalent basis are estimated to be $28.9 billion. In 1981, these are estimated to be $34.4 billion.

1. Homeowner Deductions of Mortgage Interest and Real Estate Taxes

By far the largest housing tax incentive is the deduction by homeowners of mortgage interest payments and local real estate taxes in determining taxable income. These deductions are considered tax incentives because they are allowed even though homeowners are not taxed on the implicit income from homeownership.

It is estimated that these preferential deductions provide tax incentives of $25.3 billion in 1980, and $30.6 billion in 1981. The sum of the two measured separately is greater than the two combined because if either were deleted more taxpayers would use the standard deduction instead of itemizing. The tax incentive for the mortgage interest deduction alone amounts to $17.6 billion in 1980; the real estate tax deduction alone, to $8.3 billion. In 1981, the incentive for the mortgage interest deduction alone equals $21.6 billion, and the real estate tax deduction alone, $9.6 billion.

This form of tax assistance favors high income taxpayers because the incentive provided by these deductions varies directly with the tax bracket of the taxpayer. Persons with the lowest incomes receive no benefit from the deductions either because they pay no tax or find it more advantageous to take the standard deduction rather than itemizing their deductions. As can be seen from Table A-1 for 1981, it is estimated that only 28 percent of all tax returns claimed these deductions with an average expenditure equivalent of $1,158. But of all returns with income of $100,000 or more, 89 percent benefitted from an average expenditure equivalent of $4,306.

2. Deferral or Non-recognition of Capital Gain on Sales of Owner-Occupied Homes

The Internal Revenue Code does not require the immediate recognition of a capital gain from the sale of an owner-occupied residence if the homeowner purchases another primary residence of equal or greater value within a specified time period. Any income tax due for such capital gain is deferred. In addition, taxpayers age 55 and over can exclude from income the first $100,000 of gain. The tax incentive from the deferral and exemption of capital gains on home sales is estimated to be $2.2 billion for 1980 and for 1981.

3. Five-year Write-off of Rehabilitation Expenditures of Low- and Moderate-income Rental Property

Section 167(k) provides that owners of multifamily rental property may depreciate improvements made to their property on a straight-line basis over a sixty-month period, if (a) the property is rented to persons of low- and moderate-income; (b) at least $3,000 per unit is expended over a period of two consecutive years; and (c) for years prior to 1981, the aggregate amount depreciated over the five years does not exceed $20,000 per unit. The Economic Recovery Tax Act increased this amount to $40,000 per unit for expenditures made under certain programs after 1980. The tax incentive resulting from this provision is estimated to be $25 million in 1980 and $40 million in 1981.

4. Rapid Amortization of Construction-period Interest and Taxes

Prior to enactment of the Tax Reform Act of 1976, all investors could deduct mortgage or bond interest and state and local taxes on a building before it was put into service, thereby creating a "tax loss" in that period. This tax loss, which did not reflect an economic loss, could be offset against income from other projects, resulting in a postponement of tax. The 1976 Act requires noncorporate and Subchapter S investors to amortize the interest and taxes over 10 years by 1982 for non-residential real estate, 1984 for residential real estate, and 1988 for government-subsidized low income housing.

The tax incentive resulting from the rapid amortization of construction period interest and taxes for residential property only is estimated to be $0.2 billion in both 1980 and 1981.

5. Excess Bad Debt Reserve Deductions of Mutual Savings Banks and Savings and Loan Associations

Although the Tax Reform Act of 1969 cut back on the tax preferences afforded financial institutions in determining taxable income, mutual savings banks and savings and loan associations may still deduct additions to bad debt reserves which are in excess of actual losses. These deductions exceed the deductions ordinarily allowed business for bad debts and are provided in order to encourage lending for residential properties, the principal activity of these thrift institutions. It is estimated that this tax incentive amounts to $0.2 billion in 1980 and for 1981.

6. Exclusion of Interest on State and Local Housing Bonds

State and local tax-exempt bond proceeds may be used to finance multi-family and single-family residential units. The Ominibus Budget Reconciliation Act of 1980 restricted the use of tax-exempt bonds for single-family housing effective January 1, 1981. Single family mortgage revenue bonds can only be issued for owner-occupied homes purchased by first-time homebuyers, with limits on the house price and on the total volume in any state. The 1980 Act also restricted the use of tax-exempt financing under Section 103 of the IRC to rental projects with 20 percent of the units occupied by low or moderate income families for a period of 20 years. A total ban on such bonds becomes effective January 1, 1984. The incentive resulting from the tax-exemption of interest on housing bonds is estimated to be $1.0 billion for 1980 and $1.2 billion for 1981. Owner-occupied housing accounts for close to two-thirds of the total tax incentive.

7. Exclusion of Interest on All-savers Certificates

The Economic Recovery Tax Act of 1981 allows financial institutions to issue special 1-year certificates that pay tax exempt interest until December 31, 1982. The interest rate on the certificates issued during any week is limited to 70 percent of the interest rate on 52-week Treasury bills. The total amount of tax-exempt interest is limited to $1,000 per individual ($2,000 on a jont return). Financial institutions must invest at least 75 percent of the proceeds from these certificates in housing or agricultural loans. The expenditure equivalent for calendar year 1981 is estimated at $25 million.

Table A-1

Outlay Equivalents of Homeowner Deductions
for Mortgage Interest and Real Estate Taxes

(1981 Law, 1981 Levels)

Adjusted income class ($000)	Returns with homeowner deductions: Number of returns (thousands)	Returns with homeowner deductions: Percent of all returns filed in class (percent)	Average tax incentive (returns with incentive) (dollars)	Total tax incentive ($ millions)
Under 10	2,075	6.0%	$135	$280
10 - 15	1,933	14.4	263	509
15 - 20	2,807	25.8	452	1,269
20 - 30	6,996	41.0	753	5,268
30 - 50	9,119	67.3	1,426	13,001
50 - 100	2,903	84.4	2,659	7,718
100+	592	88.7	4,306	2,548
Total	26,425	28.2%	$1,158	$30,593

Office of the Secretary of the Treasury
Office of Tax Analysis

May 7, 1982

Note: Details may not add to totals because of rounding.

II. Housing Credit Assistance

This section deals with the array of Federal credit programs designed to assist in the provision of mortgage funds to finance the nation's housing requirements. These programs represent a repertory of tools which can be called upon to stimulate or facilitate the flow of capital into the residential mortgage market. These credit assistance programs have been classified under the following headings: (A) Underwriting Credit Risks; (B) Mortgage Market Support; (C) Direct Lending; and (D) Capital Market Innovations.

A. Underwriting Credit Risks

Federal Government assistance for housing includes the mortgage insurance and guarantee programs of the Federal Housing Administration (FHA), and the Veterans Administration (VA). These programs generally are not considered incentive programs; nonetheless,they enable many families to obtain mortgage loans with lower downpayments, and longer repayment periods, than would be generally available through conventional financing. The FHA programs have demonstrated the workability of fixed interest rate, long-term fully amortized loans, while the VA programs have helped veterans obtain mortgage credit from private sources on better terms than they could otherwise have obtained.

In addition to the insurance and guarantees provided by FHA and VA, the Government National Mortgage Association guarantees the timely payment of principal and interest on GNMA mortgage-backed pass-through securities. However, the underlying credit risk for the investor of the GNMA securities is borne by FHA and VA, which provide Federal backing of the primary mortgage loans.

The continuing success of these Government mortgage loan insurance programs pointed the way to increased liberalization of non-interest rate terms (e.g. maturity, loan to value ratio, fully amortized etc.) on conventional mortgages and the re-establishment of private mortgage insurance companies (MIC's). These companies were also aided by favorable Federal income tax treatment regarding transfers to contingency reserves, and by the general rise in real estate values, over the past several years. The Emergency Home Finance Act of 1970 further encouraged the development of MIC's by providing for two secondary market outlets for the sale of conventional loans: the creation of the Federal Home Loan Mortgage Corporation (FHLMC) and the expansion of the purchasing authority of the Federal National Mortgage Association (FNMA) to include conventional loans. Both FNMA and FHLMC may purchase conventional loans with high loan-to-value ratios if private mortgage insurance or guarantees are involved. Federal Home Loan Bank Board regulations for Federal savings and loan associations permit these associations to invest in mortgages having loan-to-value ratios of over 90 percent under the condition that these loans be privately insured (or a special reserve is created).

Private mortgage insurance companies increased their home loan insurance activity from $21.6 billion in 1977, or 13.3 percent of the market for both conventional (including insured and non-insured) and government-underwritten home loans, to $27.3 billion in 1978 or 14.8 percent of such loans. Activity decreased by $2 billion to $25.3 billion in 1979, or 13.6 percent of the market; then declined further in 1980 by $6.3 billion to $19.0 billion, but the market share increased to 14.2 percent. In 1981, activity fell to $18.1 billion but the market share rose to 18.8 percent as privately insured mortgages funded by tax-exempt mortgage revenue bonds became increasing popular in the face of continuously rising interest rates.

The combined volume of Federally underwritten loans (including those insured by FHA and guaranteed by VA) kept pace with the market in 1978. They increased to $30.6 billion or 16.5 percent of the market, from $25.4 billion, and 15.7 percent of the 1977 market. In 1979, the volume rose to $39.6 billion, and 21.2 percent of the market. Federally underwritten loan activity dropped to $27.1 billion in 1980 with a 20.2 percent market share and fell to $17.4 billion in 1981 for an 18.0 percent market share.

Table A-2 shows the share of activity of FHA, VA, and MIC's, not by dollar volume, but by numbers of cases insured (FHA), loan applications approved (VA), or insurance certificates issued (MIC's). Conventional loans without insurance or guarantees are excluded. After a peak in 1973

Table A-2

FHA, VA and MIC Shares of
Insured-Guaranteed Home Mortgage Activity
(New and Existing Housing)
(Number of Cases)

	Total	FHA Mortgages Insured	VA Loan Guaranty Applic. Approved	MIC 1/ New Certificates Issued
1970	699,125	471,981	167,760	59,384
1971	1,008,065	562,417	282,314	163,334
1972	1,193,873	427,858	370,007	396,008
1973	1,055,518	240,004	315,619	499,895
1974	836,480	195,850	309,984	330,646
1975	876,313	255,061	299,048	322,204
1976	1,030,235	250,808	328,617	450,810
1977	1,337,614	321,118	399,098	617,398
1978	1,384,504	334,108	354,776	695,620
1979	1,391,270	457,054	356,105	578,111
1980	1,025,169	381,169	251,192	392,808
1981	694,170	224,829	134,776	334,565

	Total	FHA	VA	MIC
1970	100.0%	67.5%	24.0%	8.5%
1971	100.0	55.9	27.9	16.2
1972	100.0	35.8	30.0	33.2
1973	100.0	22.7	29.9	47.4
1974	100.0	23.4	37.1	39.5
1975	100.0	29.1	34.1	36.8
1976	100.0	24.3	31.9	43.8
1977	100.0	24.0	29.8	46.2
1978	100.0	24.1	25.6	50.2
1979	100.0	32.8	25.6	41.6
1980	100.0	37.2	24.5	38.3
1981	100.0	32.4	19.4	48.2

Sources: FHA Monthly Reports of Operation
VA Loan Guaranty Trends
HUD Press Releases on MIC Activity

1/ Includes captured renewals - i.e., loan policies which have expired then are captured by a different company.

MIC's worked their way back to a 50 percent share of this activity in 1978, but the share fell to under 42 percent in 1979 and then to 38 percent in 1980. The gain in the relative importance of FHA/VA mortgage lending activity during that period reflected the ability of these mortgages to be funded in the capital market at relatively attractive rates, through the issuance of GNMA-guaranteed, mortgage-backed securities. The FHA Section 245 Graduated Payment Mortgage loans also were a factor in FHA's increasing share of this market. In 1981 MIC's increased to a 48 percent market share as the total number of cases dipped below the 1970 level.

B. Mortgage Market Support (Other than Insurance and Guarantees)

Several Federally sponsored efforts are directed towards (1) moderating cyclical fluctuations in the supply of mortgage credit; (2) channeling mortgage funds from capital-abundant areas to capital-deficient areas; and (3) increasing the liquidity of mortgage-investments, thus facilitating expanded lending activity. Essentially, these objectives are carried out by three Federally sponsored agencies: through the secondary market operations of the Federal National Mortgage Association (FNMA), and the Federal Home Loan Mortgage Corporation (FHLMC), and through loan advances from the Federal Home Loan Banks (FHLB) to member savings and loan associations.

FNMA, the largest secondary market facility, was chartered initially in 1938 as a Federal Government agency. Thirty years later, with certain of its special assistance plus management and liquidation functions given to the newly created Government National Mortgage Association (GNMA), FNMA became a Federally sponsored agency but privately owned and managed corporation.

FNMA performs its secondary market operations primarily through auctions, through which it issues commitments to purchase mortgage loans, including conventional loans, on a competitive bid basis, above a minimum yield determined by the corporation. In recent years, FNMA has expanded its purchase programs to include a mandatory delivery purchase program, as well as the purchase of participation shares in mortgages retained by the mortgagee.

The Federal Home Loan Mortgage Corporation, created in 1970 by the Emergency Home Finance Act, is authorized to purchase residential mortgage loans and participations in such loans from members of the Federal Home Loan Bank System and other approved financial institutions, the deposits of which are insured by an agency of the United States.

The Federal Home Loan Bank System, created in 1932, provides a source of credit to member Savings and Loan Associations to meet mortgage commitments and withdrawals. These loans are in the form of short term and long term advances which are usually secured by mortgages pledged as collateral.

Secondary market purchases by FNMA and FHLMC amounted to $16.5 billion in 1979, $11.8 billion in 1980, and $9.9 billion in 1981 (Table A-3). Savings and Loan Associations obtained $8.3 billion in FHLB advances during 1979, $6.6 billion in 1980, and $15.8 billion in 1981. Advances outstanding amounted to $40.4 billion on December 31, 1979, $47.0 billion at the end of FY 1980, and $62.8 billion at the end of CY 1981. Support by these agencies for the housing market totalled $25.6 billion in 1981, an increase of 39 percent from $18.4 billion in 1980.

C. Direct Lending

Several Federal agencies (the operations of which are included in the Federal Budget) provide mortgage loans by direct loan programs and support price transactions. The direct loan programs serve one or both of the following two purposes: (1) to provide financing where private credit is not generally available; and (2) to reduce the cost of financing under terms which otherwise would prevail.

The direct loan category includes the Small Business Administration loans to victims of natural disasters, and the Veterans Administration mortgage loans to veterans in rural areas and small cities if guaranteed or insured loan funds are unavailable. The Farmers Home Administration activity includes loans to low-, moderate- and above moderate-income families for home purchase, loans for rental and farm labor housing, and repair loans to very low-income families in rural areas. Under certain circumstances FHA and VA make residential loans by taking back purchase money mortgages on the sale of "acquired properties." These properties are obtained through foreclosure involving a defaulted FHA or VA underwritten mortgage loan. FHA and VA also accept assignment of loans in default. The Federal Land Banks also make direct home loans in rural areas. HUD, under the Section 202 program, makes low-interest loans to private nonprofit sponsors to finance housing for the elderly. HUD has also provided direct financial assistance for housing rehabilitation under the Section 312 program. Total direct loans under the above programs amounted to $6.2 billion in 1979, $6.4 billion in 1980, and $6.6 billion in 1981.

Table A-3

Federal Credit Assistance for Housing[1]/ in 1979, 1980, and 1981
(Dollars in Millions)

	Loans Acquired CY 1979		Loans Acquired CY 1980		Loans Acquired CY 1981		Principal Amount of Loans Outstanding	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1. Federally sponsored Agency Mtge. Market Support								
a. Secondary Market Purchases								
(i) FNMA	$10,805	33.0%	$ 8,101	30.1%	$ 6,113	17.7%	$60,245	35.2 %
(ii) FHLMC	5,721	17.5	3,744	13.9	3,744	10.8	25,098[3]/	14.7
b. FHLB Advances	8,331	25.5	6,604	24.6	15,777	45.6	62,738	36.6
Subtotal	$24,854	76.0%	$ 18,449	68.7%	$25,634	74.1%	$148,081	86.4%
2. Direct Lending								
a. Veterans Administration	$ 371	1.1%	$ 283	1.1%	277	.8	1,848	1.1
b. Farmers Home Administration	3,429	10.5	3,445	12.9	3,377	9.8	2,405	1.4
c. Federal Land Banks	720	2.2	654	2.4	823	2.4	2,788	1.6
d. Small Business Administration	704	2.1	695	2.6	796	2.3	3,460	2.0
e. FHA Purchase Money & Assigned Mtge.	226	.7	298	1.1	370	1.1	4,149	2.4
f. Government National Mtge. Assoc.	1,687	5.2	1,966	7.4	2,368	6.8	4,768	2.8
g. HUD Elderly and Rehab Prog. 2/	731	2.2	1,057	3.9	964	2.8	3,800	2.2
Subtotal	$ 7,868	24.0	$ 8,402	31.3%	$ 8,975	25.9	$ 23,218	13.6%
Total	$32,722	100.0%	$ 26,851	100.0%	34,609	100.0	$171,299	100.0%

Note: Detail may not add to totals due to rounding.

1/ Homes and Multifamily Housing

2/ Includes construction loans

3/ Includes the principal outstanding balance of Participation Certificates

The Government National Mortgage Association has provided funds directly for rental properties by issuing commitments to purchase mortgages and subsequently purchasing mortgages under its special assistance programs. The mortgages which GNMA has committed to purchase typically bear below market interest rates, the proceeds of which can be used to finance either the acquisition, rehabilitation, or construction of residential rental projects. When a mortgage is delivered to GNMA, the mortgage is in turn sold by GNMA to a private investor at prevailing market prices, absorbing the difference between purchase and sales prices and thereby limiting the ultimate Federal outlay for the program to that amount. In recent years, GNMA operated two mortgage purchase programs: Section 8 Tandem and Targeted Tandem. In Section 8 Tandem, GNMA provided as low as 7 1/2 percent for the construction or rehabilitation of low to moderate income rental buildings subject to Section 8 Housing Assistance Payments. In Targeted Tandem, similar financing is provided for the construction or rehabilitation of middle income apartment buildings located in economically and/or physically distressed cities. The amount of this assistance was $1.7 billion in 1979, almost $2.0 billion in 1980 and $2.4 billion in 1981. FY 1982 was the last year in which commitments were made under these programs.

Table A-3 summarizes the total Federal credit assistance provided for housing during 1981, exclusive of assistance by Federal guarantee or insurance operations. Of the $34,609 million in total credit assistance in 1981, secondary market loan purchases by the quasi-public sector (FNMA and FHLMC) comprised $9,857 million, approximately 28 percent, while FHLB support of saving and loan associations amounted to $15,777 million, about 46 percent. Federally sponsored agency mortgage market support from all

sources totaled $25,634 million, 74 percent of the total, while direct lending in 1981 amounted to $8,975 million, 26 percent of the total. In 1980, support from Federally sponsored agencies represented 69 percent of the $26,851 million in federal credit assistance, and direct lending in 1980 amounted to $8,402 million, 31 percent of the total.

D. Other Capital Market Support

The GNMA guaranteed mortgage backed pass-through security is designed to provide additional liquidity to FHA-insured and VA-guaranteed mortgages by pooling these mortgage loans into security-type investments. In so doing, the security has helped to attract non-traditional sources of funds to the housing market from investors who are free from the trouble of underwriting, originating or servicing individual mortgages. The mortgage backed pass-through security is created when a pool of eligible FHA-insured and VA-guaranteed mortgages is assembled by a private originator, who obtains a commitment from GNMA to guarantee timely interest and principal payments. As such the securities are not issued by GNMA, but by private originators (usually mortgage bankers). The private originators retain the responsibility to service the underlying pool of mortgages and make the monthly payments of interest and principal (whether or not received from the mortgagors) including any principal pre-payments. During 1981 a total of $14.3 billion of GNMA guaranteed mortgage backed securities were issued which represented a 31 percent decrease from the 1980 total of $20.6 billion.

III. Cash Subsidy Programs for Production of New or Rehabilitated Housing

This section details the direct Federal assistance given to low- and moderate-income housing through the cash subsidy programs of the Department of Housing and Urban Development and the Farmers Home Administration of the Department of Agriculture (Section IV discusses the subsidization of existing housing with some of the same programs). In recognition of the need to control the growth of spending in the cost-efficient traditional subsidized housing programs, the Administration proposes to end future approval of Federal subsidies for additional new construction and substantial rehabilitation under the public housing and Section 8 programs and by aiding families most in need through more cost effective use of the Nation's existing housing inventory. A Section 8 Modified Certificate program is being proposed for Congressional approval to provide the means for low income renter households to obtain decent housing in the private existing housing stock. Where it is determined that units need some moderate upgrading, a Rental Rehabilitation Grants program is also being proposed to effect the needed housing improvement.

Through cash subsidy programs production was begun on 265,541 new or substantially rehabilitated housing units in FY 1980 and 211,390 units in FY 1981. The cost of subsidizing all units completed and eligible for payment by HUD was approximately $5.4 billion in FY 1980 and $6.7 billion in FY 1981. It is expected that HUD housing programs will require about $8.1 billion in subsidies in FY 1982, and $8.5 billion in 1983. These figures include Public Housing operating subsidies, and subsidies to existing units (see Section IV below) as well as new and rehabilitated housing.

Table A-4 shows the numbers of units on which new construction was started or rehabilitation was begun, by program, for fiscal years 1979 through 1981 and estimates for FY 1982 and FY 1983. The production estimates for FY 1983 for other than Section 202 involve "pipeline" units in projects approved in prior years. No additional approvals for new construction or substantial rehabilitation are expected in FY 1983.

It should be noted that the concept of a construction start differs between agencies and even within HUD. The variations in the definitions of a "start" within HUD result from different program beginnings and requirements.

The following are definitions of a construction "start" for various HUD housing programs.

Single Family Insured: (1 to 4 units) The date on which the initial inspection is made and the compliance inspection report (Form 2051) is prepared. For Section 235 revised, potential starts are counted. These potential starts are at prices within eligibility range for the Section 235 revised program, but may never be offered as a Section 235 revised property.

Multifamily Insured: (5 or more units) The beginning of project construction or rehabilitation activity, as evidenced by placing of major construction equipment on the site and/or start of physical activity (grading, stripping of interior walls, demolition, etc.).

Table A-4

Federally Subsidized Housing Production Fiscal Years 1979-1983

	Total Production					New Construction Starts					Rehab				
	1979	1980	1981	1982e	1983e	1979	1980	1981	1982e	1983e	1979	1980	1981	1982e	1983
Total Subsidized Prod.	277,398	265,541	211,390	240,305	69,692	236,986	208,130	177,969	210,300	58,240	40,412	57,411	33,421	30,005	11,452
HUD	179,719	178,848	140,618	166,800	48,500	153,321	134,196	115,202	144,800	39,000	26,398	44,652	25,416	22,000	9,500
FmHA Program	97,679	86,693	70,772	73,505	21,192	83,665	73,934	62,767	65,500	19,240	14,014	12,759	8,005	8,005	1,952
1-4 Family Total	74,285	70,342	88,379	87,515	14,572	60,771	58,083	80,814	79,960	12,720	13,514	12,259	7,565	7,555	1,852
HUD-Section 235	8,489	9,577	38,313	38,800	-0-	8,489	9,577	38,313	38,800	-0-	--	--	--	--	--
FmHA(502 Prog.)	65,796	60,765	50,066	48,715	14,572	52,282	48,506	42,501	41,160	12,720	13,514	12,259	7,565	7,555	1,852
Low Income	47,807	47,866	44,830	40,543	14,572	39,228	39,729	39,171	35,430	12,720	8,579	8,137	5,659	5,113	1,852
Moderate Income 1/	17,989	12,899	5,236	8,172	--	13,054	8,777	3,330	5,730	--	4,935	4,122	1,906	2,442	--
Multifamily Total	203,113	195,199	123,011	152,790	55,120	176,215	150,047	97,155	130,340	45,520	26,898	45,152	25,856	22,450	9,600
HUD	171,230	169,271	102,305	128,000	48,500	144,832	124,619	76,889	106,000	39,000	26,398	44,652	25,416	22,000	9,500
Public Housing	17,269	36,365	41,660	33,000	23,500	17,269	23,380	26,756	27,000	18,000	--	12,985	14,904	6,000	5,500
Section 8	153,251	132,721	60,428	95,000	25,000	126,853	101,054	49,916	79,000	21,000	26,398	31,667	10,512	16,000	4,000
Section 236	710	185	217	- 0 -	-0-	710	185	217	-0-	-0-	--	--	--	--	--
Section 202	(23,860)	(20,850)	(16,895)	(18,000)	(20,000)	(23,860)	(20,850)	(16,895)	(18,000)	(20,000)	--	--	--	--	--
FmHA	31,883	25,928	20,706	24,790	6,620	31,383	25,428	20,266	24,340	6,520	500	500	440	450	100
Without Sec. 8 Asst.	31,883	25,928	20,706	24,790	6,620	31,383	25,428	20,266	24,340	6,520	500	500	440	450	100
With Sec. 8 Asst.	(8,064)	(7,589)	(8,824)	(5,000)	(--)	(8,064)	(7,589)	(8,824)	(5,000)	(--)	(0)	(0)	(0)	(0)	(0)

1/ Includes above moderate income new construction starts as follows:
1979 - 150, 1980 - 235, 1981 - 58

Assisted Housing: Section 8 -- Date on which the Agreement to Enter into a Housing Assistance Payments Contract (HAP Agreement) is signed by an Area Office Manager or Multifamily Service Office Supervisor.

Low-Income Public Housing and Indian Housing: Turnkey -- The date on which the developer and Public Housing Authority (PHA) or Indian Housing Authority (IHA) execute the Contract of Sale.

Conventional: (bid method) The date on which the Public Housing Authority or Indian Housing Authority signs the Notice to Proceed (with construction).

The Bureau of the Census, U.S. Department of Commerce, reported 1.1 million housing units started in 1981. The Bureau of Census defines the start of construction of a privately owned housing unit when excavation begins for the footing or foundation of a building intended primarily as a housekeeping residential structure and designed for nontransient occupancy. All housing units in a multifamily building are defined as being started when excavation for the building has begun. For publicly owned units, the award of the contract is used in lieu of the actual start of construction.

Interest subsidies and other direct aids intended to produce new housing do not necessarily increase housing production on a one-for-one basis. Over a given time period, some subsidized production may, to some extent, merely supplant production which would have occurred without subsidy. In such cases, the final effect would be primarily redistributive, directing units to low- and moderate-income households.

A. Homeownership Subsidy Programs

1. Section 235 Homeownership Program

Under the HUD Section 235 program, 9,577 units were started in FY 1980 and 38,313 units were started in FY 1981. It is estimated that 38,800 units will be started in FY 1982 and by FY 1983 no new units will be started under this program.

2. Section 502 Programs of the Department of Agriculture

In fiscal year 1980, the FmHA homeownership programs added 60,765 units to the Nation's inventory, of which 47,866 units were for low income families and 12,899 1/ units were for moderate income families. In 1981 there were 50,066 units, of which 44,830 units were for low income families and 5,236 2/ were for moderate income families. About 80 percent of the units were new, and 20 percent were rehabilitations in FY 1980. In FY 1981, 85 percent were new and 15 percent were rehabilitations. Future activity under this program is estimated at 48,715 units in FY 1982, and 14,572 units in FY 1983.

B. Rental Housing Subsidy Programs

1. Section 236 Interest Subsidy Program

In fiscal year 1980, there were 185 units started under the Section 236 program and under commitments issued prior to suspension of the program in January 1973, an additional 217 units were produced in FY 1981.

1/ Includes 235 units for above moderate income families

2/ Includes 68 units for above moderate income families.

2. Low-Rent Public Housing

In FY 1980 and FY 1981 construction was started respectively on 23,380 and 26,756 traditional low-rent publicly-owned housing units. Rehabilitation was begun on 12,985 units in FY 1980 and 14,904 units in 1981. Production is projected to total 33,000 units for FY 1982 and 23,500 units for FY 1983.

3. Section 8 Lower Income Housing Assistance

The Housing and Community Development Amendments of 1981 require 90 percent of the units available for occupancy before October 1, 1981, and 95 percent after that date to be leased to families with incomes up to 50 percent of the median income in the area. The remaining units may be leased to families with incomes up to 80 percent of median.

Eligible families are required to pay as rent the highest of:

(a) 30 percent of family's monthly adjusted income.

(b) 10 percent of the family's monthly income; or

(c) that part of a family's welfare payment that is specifically designated to cover housing costs, where payments are so designated and are adjusted in accordance with actual housing costs.

HUD provides assistance payments which will not exceed the difference between the contract rents of comparable units in the area and the occupant families' required contribution for rent. Tenants make their rental payments to private landlords, who are responsible for the operation and maintenance of the leased units.

During FY 1980, 132,721 units were begun under Section 8 production activities, of which 101,054 were new and 31,667 were rehabs. In FY 1981 there were a total of 60,428 units, of which 49,916 were new and 10,512 were rehabs. It is anticipated that 95,000 units will be started (new and rehab) in FY 1982 and 25,000 units in FY 1983.

4. Section 202 Program

This direct loan program to provide housing for the elderly and the handicapped was established in 1959 and was phased out in favor of the Section 236 interest subsidy program after 1968. The Housing and Community Development Act of 1974 contained a revised Section 202 direct loan program for housing the elderly and handicapped. It has been decided to use the revised Section 202 for permanent financing loans, as well as for construction loans. Loan authority of $753 million was available for permanent financing in FY 1980, $817 million was available in FY 1981, $711 million is available for FY 1982, and $286 million is proposed for 1983. In FY 1980, an estimated 20,850 units were started, and an additional 16,895 units were started in FY 1981. In FY 1982, 18,000 units are anticipated and another 20,000 units in 1983. These units are not included in estimates of total starts since it is expected that these units will receive Section 8 assistance and are, therefore, already counted under Section 8.

5. Rental Housing Programs of the Department of Agriculture

Production under the rural rental housing programs, primarily Section 515, administered by Farmers Home Administration (FmHA) totalled 34,590 units in FY 1980 and 30,390 units in FY 1981. In FY 1982 it is estimated

that a total of 30,740 new and rehabilitated units will receive assistance under these programs and an estimated 6,830 units will receive assistance in FY 1983.

Rehabilitation was begun on 500 units and there were 25,428 units started under the FmHA rural housing program without Section 8 assistance in FY 1980. The corresponding figures for FY 1981 were 440 rehabilitation units and 20,266 units started. An additional 7,589 units were started with section 8 assistance in FY 1980 and another 8,824 units were started in FY 1981. Since the new units with Section 8 assistance are already counted under the Section 8 program, they are not added to total production. In FY 1980, and FY 1981, respectively, starts and rehabs totalled 25,928 and 20,706 units without Section 8 assistance. In FY 1982 and 1983, production is estimated at 24,790 and 6,620 units, respectively, without Section 8 assistance. An additional 5,000 units with Section 8 assistance are projected for 1982.

In FY 1978, the Farmers Home Administration began a rental assistance program under which it supplemented the rental payments of low-income tenants occupying FmHA subsidized rental housing. In FY 1980 and FY 1981, 20,000 and 17,655 units respectively received assistance from this program. The estimates for FY 1982 and 1983 are 14,280 and 17,560 units respectively.

IV. Cash Subsidy Programs for Use of Existing Housing for Lower-Income Households

The cash subsidy programs also provide assistance for existing adequate housing that does not require rehabilitation. Such assistance is not reflected in the housing production statistics, but it brings sound homes

within the means of many who could not otherwise afford them. Use of the existing housing inventory for low- and moderate-income families had proven to be more cost-effective than new construction or substantial rehabilitation.

Table A-5 shows the number of additional existing units, or households in existing units, which are Federally subsidized for low- and moderate-income occupancy in each of fiscal years 1979-1983.

Under the Section 8 Leasing Program approximately 107,288 additional existing, adequate units received subsidies in FY 1980, and an additional 62,324 units received Section 8 subsidies in FY 1981. In FY 1982 and FY 1983 it is estimated that 126,275 and 5,000 units respectively will receive subsidies for the first time under Section 8.

The Federal Government also subsidizes existing rental units occupied by low- and moderate-income families under the low-rent public housing program and the rental housing programs of the Department of Agriculture.

Under HUD's low-rent public housing program 1,146 units were first subsidized in FY 1981, no existing units were added in FY 1980, and 1,000 existing units are expected to be added each year in FY 1982 and FY 1983.

Under the rental programs of the Department of Agriculture, 1,073 and 940 existing units without rehabilitation received assistance in FY 1980 and FY 1981 respectively. It is anticipated that 950 units will be subsidized under these programs in FY 1982 and an additional 210 units in FY 1983.

Homeownership assistance is provided for existing units which do not require substantial rehabilitation under the FmHA Section 502 loan program. Under the FmHA program, purchasers of 21,482 and 19,640 existing homes benefited from below-market interest rate loans in fiscal years 1980 and 1981 respectively. Such assistance will be extended to about 18,785 low- and moderate-income purchasers in FY 1982 and 5,528 purchasers in FY 1983.

In fiscal years 1982 and 1983 the Farmers Home Administration will continue to emphasize the making of loans to buy existing housing and to rehabilitate and repair housing units. Loans for new dwellings will be made where existing housing is not available or cannot economically be made suitable. It is estimated that in FY 1982 and FY 1983 about 26 percent of loans made under the Section 502 Rural Housing program will be for existing dwellings each year and about 10 and 9 percent for rehabilitation and repair of existing dwellings respectively for each year.

The Section 504 program of FmHA provides loans and/or grants to very low income families for essential repairs (not rehabilitation) to their homes, which will remove safety or health hazards. The interest rate for these loans is set by law at 1 percent. In Fiscal Year 1980, FmHA assisted 6,934 Section 504 units with loans and 5,296 units were assisted in FY 1981. The estimates for FY 1982 and 1983 are 6,440 and 5,900 units respectively. The Section 504 program began making very low income housing repair grants in FY 1977. To be eligible for a grant, the applicant must be 62 years of age or older and be unable to repay a loan at 1 percent interest. In FY 1980 there were approximately 6,398 units assisted under this program with grants and 5,539 units in FY 1981. It is estimated that 3,354 and 2,565 units will receive grants in Fiscal Years 1982 and 1983 respectively.

Table A-5

Federally Subsidized Use of Existing Units Without Rehabilitation for Low- and Moderate-Income Occupancy, FY 1979-1983

	1979	1980	1981	1982e	1983e
HUD	140,634	107,288	63,470	127,275	6,000
Public Housing	33,609	-0-	1,146	1,000	1,000
Section 8	107,025	107,288	62,324	126,275	5,000
FmHA Programs	29,032	22,555	20,580	19,735	5,738
Homeownership	27,754	21,482	19,640	18,785	5,528
Rental Units	1,278	1,073	1,940	950	210
TOTAL	169,666	129,843	84,050	147,010	11,738

APPENDIX B

Preservation of Existing Housing and Neighborhoods

Focussing solely on the production of new housing overlooks the substantial role of neighborhood and public facilities in creating a satisfactory living environment for the nation's population. An important part of turning around social and economic decline is the preservation and upgrading of the housing stock already in place.

This appendix assesses the current condition of the housing stock, examines information on private and publicly-assisted maintenance and improvement of existing housing and neighborhoods, and reviews some current research and demonstrations of neighborhood preservation techniques.

I. Characteristics and Condition of the Existing Housing Stock

The Department of Housing and Urban Development has an agreement with the Bureau of the Census to obtain current data on the characteristics and condition of the housing stock and its neighborhood setting. The HUD-financed Annual Housing Survey uses both national and Standard Metropolitan Statistical Area sampling schemes to collect a wide range of information describing the housing inventory, households and the occupants' perception of their housing and neighborhoods. The Survey provides more detail than has been available from the decennial census. National and regional Annual Housing Survey data have been published for the years 1973-1978. Portions of the 1979 and 1980 Annual Housing Surveys have also been published. The

remainder of the 1979 and 1980 survey results will be published soon. Data for 60 selected metropolitan areas have also been published over the 1974-1978 period on a rotating basis.

The 1980 Annual Housing Survey was conducted in the months of August through December 1980, utilizing a national sample of approximately 82,000 housing units drawn from the records of the 1970 Census of Housing and the units completed afterwards. The National data reported here for 1980, in advance of publication, are preliminary. The "as of" date for the 1980 National sample may be taken as approximately October 1. Where possible, this appendix presents data from the 1973, 1976 and 1980 Annual Housing Surveys. Unless otherwise noted, comparisons in this appendix of the Annual Housing Survey findings with the housing situation in 1970 are based on the Fall 1970 Components of Inventory Change Survey. The latter survey is preferred over the 1970 Census of Housing for methodological reasons.

In addition to the national sample drawn by the Annual Housing Survey, samples totalling about 400,000 housing units were drawn from 60 Standard Metropolitan Statistical Areas, and surveyed over a cycle of three to four years. Thus, changes in the national housing stock may be followed annually, while changes in 60 Standard Metropolitan Statistical Areas are or will be available at three or four year intervals.

Ability to evaluate the quality of the housing stock in more depth has been achieved by the introduction of new inquiries related to condition and performance. Evaluation of environmental factors, based on the householder's own expression of dissatisfaction, is also possible as a result of the Annual

Housing Survey. Comparisons over time make it possible to determine trends in the pursuit of the goal of a decent home and a suitable environment for every American family.

A. Trends in Housing Inventory and Household Characteristics 1970-1980

1. Housing Stock, Tenure and Location Trends

By October 1980 the Nation's housing stock had grown to a total of 88.2 million units, an increase of 19.5 million units, or 28.4 percent, since 1970 (Table B-1). Some 98 percent (86.0 million units) of the stock consisted of year-round units, which had increased by 27 percent since 1970. The year-round, gross vacancy rate was 7.0 percent (6.0 million units) but many of these vacancies (3.7 million) were either already sold or rented and awaiting occupancy, held for occasional use, or otherwise not available for rent or sale. Thus, there were actually 2.3 million units on the market for rent or sale, and the marketable vacancies represented almost 2.7 percent of the year-round housing stock. The 1970 marketable vacancies totalled 2.2 million units, or 3.2 percent of the year-round stock.

From 1970 to 1980 occupied units increased by 26.3 percent, with owner-occupied units increasing by 31.6 percent and renter-occupied units by 16.9 percent. In 1980, owner-occupancy accounted for about 65.6 percent of all occupied units, a slight increase over the 1970 Decennial Census rate of 62.9* percent. In actual numbers, there was an increase of 12.6 million owner-occupied units and about

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* The Fall 1970 Components of Inventory Survey found an owner-occupancy rate of 63.6 percent.

Table B-1

Changes in the Housing Stock, 1970-1980*
(Number of Units in Millions)

	1970	1973	1976	1980	1970 - 1980 Change in Units	
					Number	Percent
Total Units	68.7	76.0	80.9	88.2	19.5	28.4
Seasonal Units	1.0	0.7	1.6	2.2	1.2	120.0
Year-round Units	67.7	75.3	79.3	86.0	18.3	27.0
Occupied	63.4	69.3	74.0	80.1	16.7	26.3
By Owners	39.9	44.7	47.9	52.5	12.6	31.6
By Renters	23.6	24.7	26.1	27.6	4.0	16.9
Vacant	4.3	6.0	5.3	6.0	1.7	39.5
For Sale	0.5	0.5	0.6	0.8	0.3	60.0
For Rent	1.7	1.5	1.5	1.5	- 0.2	-11.8
Other	2.1	3.9	3.2	3.7	1.6	76.2

*Units may not add to totals because of rounding.

4.0 million renter-occupied units from 1970 to 1980, while year-round vacancies increased by approximately 1.7 million. Cooperative and condominium owner-occupancy was reported at 1.4 million in 1980; about 137,000 cooperative and condominium units were vacant and for sale.

The national figures should not be interpreted to represent any particular local housing market or markets, but only to describe a hypothetical average market. Changes were not uniform regionally, by city size, or by any other logical method of classifying the places in which the housing stock changes from one year to another; it would, therefore, be unusual for any locality picked at random to follow closely the pattern set by the overall figures. Table B-2 shows changes in the number of year-round housing units by region and metropolitan-nonmetropolitan location.

Table B-2

Year-round Housing Units, 1970-1980
(Number of Units in Millions)

Location	1970	1973	1976	1980	1970 - 1980 Change in Units Number	Percent
All	67.7	75.3	79.3	86.0	18.3	27.0%
By Region:						
Northeast	16.2	17.4	17.6	18.4	2.2	13.6
North Central	18.7	20.2	21.0	22.3	3.6	19.3
South	20.9	24.0	25.8	28.5	7.6	36.4
West	11.9	13.8	14.9	16.8	4.9	41.2
By SMSA Location:						
In SMSAs	46.1	51.0	53.6	58.0	11.9	25.8
Inside Central Cities	22.6	24.1	24.5	25.5	2.9	12.8
Outside Central Cities	23.5	26.9	29.1	32.5	9.0	38.3
Outside SMSAs	21.6	24.3	25.7	28.0	6.4	29.6

2. Trends in Values of Owned Units and Gross Rents of Rental Units

A distribution of specified owner-occupied units* by value from 1970-1980 discloses the continuing movement of house values towards the higher end of the scale (Table B-3). The proportion of lower-valued homes (less than $25,000) has decreased steadily, while the proportion of homes valued over $35,000 has increased rapidly. Since 1976, most of the growth has occurred in homes valued over $50,000. These shifts in the distribution of house values are reflected in the median value of owner-occupied housing, which increased from $17,100 in 1970 to $51,300 in 1980 (200 percent). Although much of this change was due to general inflation in the economy, some was also attributable to

Table B-3

Specified Owner-Occupied Houses* by Value, 1970-1980

	Percent of Owned Homes				Gross Change
	1970	1973	1976	1980	1970 - 1980
Value					
Less than $10,000	21.2%	9.7%	5.4%	2.0%	-19.2%
$10,000 - 14,999	20.1	12.2	6.9	2.5	-17.6
$15,000 - 19,999	20.3	16.2	10.2	3.6	-16.7
$20,000 - 24,999	14.8	14.5	10.3	4.5	-10.3
$25,000 - 34,999	14.0	23.5	23.5	12.7	- 1.3
$35,000 - 49,999	6.5	15.8	24.2	23.2	+16.7
$50,000 - 74,999	3.1	8.1	13.9	27.2	+48.4
$75,000 or more			5.6	24.3	
Median Value	$17,100	$24,100	$32,300	$51,300	$34,200 (200%)

*Limited to 1-family houses on less than 10 acres and no business on property.

demand which increased the value of existing homes and to the higher values of new houses occupied for the first time relative to the lower values of older houses removed from the inventory. A result of this change in the housing stock value has been the increased tax base and revenues it has provided to local taxing jurisdictions, and an accompanying increase in property tax burden for the occupants. However, the price increases were due to increased demand, in part because of favorable Federal income tax treatment of mortgage interest and property taxes, and to the perception of homes as an inflation hedge.

Renters reported a similar but smaller shift in gross rents:

Table B-4

Percent of Renters Reporting Specified Monthly Gross Rents, 1970-1980

Rent	Percent of Renters 1970	1973	1976	1980	Gross Change 1970 - 1980
Less than $80	26.0%	16.8%	10.2%	4.9%	-21.1%
$80 - $ 99	17.6	12.1	6.8	2.9	-14.7
$100 - $149	33.8	31.2	23.4	9.7	-24.1
$150 - $199	15.7	24.5	27.1	16.1	+ 0.4
$200 - $299	5.7	12.9	25.5	37.1	+31.4
$300 or more	1.3	2.6	7.0	29.3	+28.0
Median Gross Rent	$108	$133	$167	$241	$133(123%)

Gross rent is defined as contract rent plus the estimated average monthly cost of utilities if these items are paid in addition to rent. Rents have trended upward since 1970, with the median rising 123 percent to $241 from 1970 to 1980. Increases in gross rent may be due to several factors: the general inflation in the economy, rising utility costs, and a tightening in some rental markets due to low levels of new construction activity and conversions of some rental units to condominiums.

3. Trends in Type of Structure

The types of units in the housing inventory change over time only as the new structures added to the inventory differ markedly from the old structures removed from the inventory. Table B-5 shows the change

in the distribution of all year-round housing units, in which the smaller structures (single unit and 2-4 unit structures) declined relatively, accounting for 82.4 percent of the housing units in 1970 but only 80.3 percent in 1980. Multifamily structures of five or more housing units and mobile homes increased their share of the total housing inventory from 1970 to 1980.

Table B-5

Changes in Structure Type, 1970 to 1980

Structure Type	1970	1973	1976	1980	Gross Change 1970 - 1980
One Unit	69.1%	68.1%	67.6%	67.7%	-1.4%
Two to Four Units	13.3	12.8	12.8	12.6	-0.7
Five Units or More	14.5	14.7	15.0	15.3	+0.8
Mobile Homes	3.1	4.4	4.6	4.4	+1.3

4. Trends in Household Characteristics

Median household size declined from 2.7 to 2.4 persons in the period 1970-1980, while average household size declined from 3.11 to 2.75 persons. All households with from one to four persons increased in number, while households with six or more persons decreased both in absolute and relative numbers. The trend towards smaller household sizes through 1980 emerges clearly in Table B-6, reflecting the significant change in the median number of persons per household.

Table B-6

Households by Size, 1970 to 1980

Number of Persons	Number of Households (millions)				Change in Occupied Hsg. Units 1970 - 1980	
	1970	1973	1976	1980	Number	Percent
One	11.2	13.9	14.8	17.7	+ 6.5	+58.0%
Two	18.8	21.0	23.0	25.0	+ 6.2	+33.0
Three	10.9	11.9	12.7	13.8	+ 2.9	+26.6
Four	9.8	10.4	11.6	12.8	+ 3.0	+30.6
Five	6.2	6.3	6.5	6.2	--	--
Six	3.4	3.1	3.0	2.7	- 0.7	-20.6
Seven or more	3.2	2.7	2.3	1.8	- 1.4	-43.7
Total*	63.4	69.3	74.0	80.1	+16.7	+26.3

*Numbers may not add to totals because of rounding

From 1970 to 1980, the number of single-person households increased 58 percent, while multi-person households have increased about 19 percent. Among the households of two or more persons, the predominant type, composed of husband and wife, and without non-related persons in the same housing unit, increased by only 8.5 percent.

In contrast, female-headed households (without spouse present) grew 69.8 percent, and other male-headed households of two or more persons increased by 79.2 percent during the 1970-1980 period. The increasing importance of "female head" and "other male head"

households and the dramatic increases in one-person households have been responsible, in part, for the declining size of the American household, and have contributed to the changing character of American housing needs.

Table B-7

Changes in Household Composition, 1970 to 1980*

	Number (in millions)				Change 1970 - 1980	
	1970	1973	1976	1980	Number	Percent
All Occupied Units	63.4	69.3	74.0	80.1	16.7	26.3%
Two or More Person Households	52.3	55.4	59.2	62.3	10.0	19.1
Married Couple Families, No Non-Relatives	43.6	45.5	47.4	47.3	3.7	8.5
Other Male Householders	2.4	3.0	3.4	4.3	1.9	79.2
Other Female Householders	6.3	6.9	8.4	10.7	4.4	69.8
One Person Households	11.2	13.9	14.8	17.7	6.5	58.0

*Units may not add to totals because of rounding.

Income increased more rapidly for homeowners than for renters from 1970 to 1980. The median annual income of all owner households in 1980 was $19,800, an increase of 104% over the 1970 median of $9,700. Renter households in 1980 reported a median income of $10,500, 67 percent higher than the $6,300 reported in 1970.

Although incomes of more owners and renters have risen markedly, housing costs have risen more rapidly for part of the population. Rental and income data available from the 1970 Census of Housing indicate that some 39.6 percent of renters were paying one-fourth or more of their incomes for rent. The proportion of renters paying one-fourth or more of income in 1980 was 53.0 percent -- a clear indication of the increasing burden of rents.

Housing cost data for owners first became available in 1974. Data for 1976 and 1980, (as presented in Table B-8) indicate the before tax burden of housing cost is rising for owners too, although at a lower incidence than for renters. The lower incidence is due to the higher incomes of owners, and because most owners with mortgages have fixed payment mortgages, often at favorable terms.

Table B-8

Percent of Renters and Owners Reporting
Extremes of Housing Cost Burden, in Relation to Income
1970 - 1980

	1970	1973	1976	1980
Percent of renters paying 25 percent or more of income for rent	39.6%	40.9%	46.6%	53.0%
Percent of owners with mortgages paying 35 percent or more of income for housing costs*	N/A	N/A	10.6	14.3
Percent of owners without mortgages paying 25 percent or more of income for housing costs*	N/A	N/A	14.3	18.6

*Sum of payments for real estate taxes, property insurance, utilities, fuel, water, garbage/trash collections, and mortgage.

B. Deficiencies in the Stock, 1978

The Annual Housing Survey provides a wide range of information on the quality of America's housing stock. In this section, data for 1978 are compared with earlier reports to examine changes in various housing deficiencies. Data for some of these deficiencies are available for 1979 and 1980 and are included where appropriate. Most of the reported deficiencies declined from 1973-1980, although year to year changes in

the level and incidence of specific deficiencies have varied. Overall, the declining incidence of deficiencies reported since 1973 indicates the improving quality of American housing, as well as the persistence of limited areas of difficulty.

The Annual Housing Survey's published data on deficiencies do not distinguish between deficiencies in previously existing housing, as compared with housing newly added to the inventory. To make this distinction would require much more extensive sampling. Moreover, data on the characteristics of housing in use in 1980 that has been constructed since 1970, reveal that even among these relatively new units there are some shortcomings in plumbing and kitchen facilities (overwhelmingly outside metropolitan areas), overcrowding, and high percentages of income devoted to housing costs.

To the extent that the construction of new units or the removal or upgrading of older units slows down, the rate of improvement in the quality of the nation's housing would also slow down. Since there is some direct relationship between housing construction and housing removal--in both the physical and economic sense -- fluctuations in housing construction are closely allied with the rate at which housing units with deficiencies are eliminated from the housing inventory. There is also an apparent inverse relationship between levels of new construction and levels of investment in the existing inventory. The upgrading of existing units, also an important factor in the elimination of housing deficiencies, appears to increase in years of low new construction. Thus the worst units are removed when new construction completions are at a high rate, and the existing inventory is maintained and used more intensively when new completions are at a low rate.

1. Plumbing

According to the Annual Housing Survey, the number of occupied year-round housing units lacking some or all plumbing facilities declined from 2.5 million units in 1973 to 1.8 million in 1980. This drop reflects both the removal and the improvement of units lacking plumbing facilities. Other plumbing-related inadequacies, beyond the mere presence of facilities, are also reported in the Annual Housing Survey. Whether and how often various plumbing facilities broke down in the 90 days preceding the interview has been used to identify inadequate services.

By the standard of two or more breakdowns of at least six hours duration within the specified 90-day period in 1978, 700,000 households reported frequent breakdown in their water supply, 400,000 had breakdowns in their sole flush toilet, and 200,000 reported problems with sewage disposal. It must be cautioned that the households with these deficiencies are not additive, since the same household may experience problems with more than one of these plumbing facilities. In 1980, about 0.4 million households that had complete bathrooms were sharing them with households that did not. The 1.8 million households that lacked some or all plumbing facilities included over 1.7 million who had no complete bathrooms. Most of these units were in nonmetropolitan areas (see Table B-9).

2. Electrical System

Electricity is supplied to almost all year-round housing units. From 1973-1977, units which had exposed wiring, lacked electrical outlets in some or all rooms, or experienced frequent fuse blowouts declined, before increasing in the 1978-1980 period.

Table B-9

Occupied Housing Deficiencies: Plumbing Related
1973 - 1980

Item	Occupied Units (Millions)								Percent Of All Occupied Units							
	1973	1974	1975	1976	1977	1978	1979	1980	1973	1974	1975	1976	1977	1978	1979	1980
Lack some or all plumbing facilities	2.5	2.3	2.1	1.9	1.8	1.8	1.7	1.8	3.6%	3.2%	2.9%	2.6%	2.4%	2.3%	2.2	2.2
Bathroom: None or shared	3.0	2.6	2.3	2.2	2.1	2.1	2.0	2.1	4.3	3.7	3.2	3.0	2.8	2.7	2.6	2.6
Two or more breakdowns in prior 90 days*																
Water supply	0.6	0.4	0.4	0.4	0.5	0.7	NA	NA	0.9	0.6	0.5	0.6	0.7	0.9	NA	NA
Flush toilet 1/	0.4	0.3	0.3	0.3	0.3	0.4	NA	NA	0.6	0.5	0.5	0.4	0.5	0.5	NA	NA
Sewage Disposal 2/	0.3	0.2	0.2	0.2	0.2	0.2	NA	NA	0.4	0.3	0.3	0.2	0.3	0.3	NA	NA

1/ For units with only one toilet

2/ For units with public sewer, septic tank or cesspool as means of sewage disposal

*Note Breakdown percentages are based on all occupied units having the same occupants during the 90 days prior to interview.

Part or all of the increase after 1977, however, may be explained by a restructuring of the Annual Housing Survey questionnaire in 1978 (see Table B-10).

3. Structural Deficiencies

Some of the six items enumerated under this heading may be more indicative of aesthetic flaws (relatively small cracks or holes), than of major structural deficiencies. The number of units with specific structural deficiencies have not exhibited consistent trends over the 1973-1980 period; rather, they register year to year ups and downs of various magnitudes (see Table B-11).

4. Kitchen and Heating Deficiencies

In 1980, 1.3 million households lacked or shared a complete kitchen, (see Table B-12). The incidence of this deficiency declined steadily from 1973-1976, but has stabilized since then at 1.6 - 1.7 percent of all occupied units. In addition, among the 75.8 million households with complete kitchen facilities in 1978 (that is, a kitchen sink with piped water, refrigerator, and a range or cookstove), 350,000 reported one or more of these facilities unusable.

Several measures of a housing unit's heating system and its performance are included in the Annual Housing Survey. These data are in some cases highly subjective, reflecting the perceptions of the household, rather than objective standards of heat and humidity. Although variations in the use of additional heat sources and room closings may indicate an inadequate

Table B-10

Housing Deficiencies: Electrical System
1973 - 1980

Item	Occupied Units (Millions)								Percent Of All Occupied Units							
	1973	1974	1975	1976	1977	1978	1979	1980	1973	1974	1975	1976	1977	1978	1979	1980
Some or all wiring exposed	2.7	2.4	1.3	1.1	1.0	2.4	2.3	2.4	3.9%	3.4%	1.8%	1.5%	1.3%	3.2%	2.9%	2.9%
Lacking working electric outlets in some or all rooms	3.7	3.1	2.5	2.4	2.1	2.8	2.7	2.8	5.3	4.4	3.4	3.2	2.8	3.7	3.4	3.5
Fuse Blowouts: Two or more in 90 days preceding interview 1/	4.3	4.0	3.5	3.5	3.3	4.0	4.2	4.9	6.7	6.2	5.2	5.1	4.7	5.5	5.7	6.5

1/ Fuse blowouts based on all occupied units having the same occupant during the 90 days prior to interview.

Table B-11

Housing Deficiencies: Structural
1973 - 1980

	Occupied Units (Millions)								Percent Of All Occupied Units*							
	1973	1974	1975	1976	1977	1978	1979	1980	1973	1974	1975	1976	1977	1978	1979	1980
Cracks or holes in ceilings or walls	4.2	4.0	3.8	3.9	3.9	4.6	4.7	4.5	6.0%	5.6%	5.3%	5.3%	5.2%	5.9%	5.9%	5.6%
Holes in floor	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.6	1.9	1.8	1.8	1.7	1.7	1.8	1.8	2.0
Loose, broken, or missing steps or railings 1/	1.7	1.6	1.9	2.0	1.8	2.1	2.4	2.2	12.2	10.8	12.4	13.1	11.6	12.9	14.6	13.3
Public halls without light fixtures, or broken 2/	1.3	1.2	1.3	1.2	1.2	1.3	1.5	1.4	10.9	10.1	10.6	9.9	9.4	9.4	11.1	10.0
Leaking roof	5.3	4.7	4.5	4.4	4.5	4.7	5.6	5.2	7.6	6.7	6.2	5.9	6.0	6.1	7.2	6.5
Leaking basement 3/	9.3	8.7	8.5	7.6	8.1	8.5	NA	NA	26.8	24.9	24.1	21.1	22.6	23.0	NA	NA

* See footnote for appropriate subset of all occupied units, where applicable.

1/ For units in 2 or more unit structures with common stairways

2/ For units in 2 or more unit structures with public halls

3/ For units reporting basements

Table B-12
Housing Deficiencies: Kitchen and Heating
1973 - 1980

Item	Occupied Units (Millions)								Percent Of All Occupied Units*							
	1973	1974	1975	1976	1977	1978	1979	1980	1973	1974	1975	1976	1977	1978	1979	1980
Kitchen incomplete or shared	1.6	1.6	1.4	1.3	1.3	1.3	1.2	1.3	2.3%	2.2%	2.0%	1.8%	1.7%	1.7%	1.6%	1.6%
Lacking specified equipment or none 1/	5.6	5.5	5.8	5.8	6.3	6.0	6.2	6.7	8.1	7.8	8.0	7.9	8.4	7.8	7.9	8.4
Heating breakdowns: two or more in 90 days 2/	1.5	1.4	1.3	1.3	1.4	1.6	NA	NA	2.6	2.4	2.2	2.0	2.3	2.5	NA	NA
Additional heat sources used 2/	5.5	5.0	4.3	4.5	5.3	5.1	5.6	5.2	9.3	8.4	7.2	7.4	8.7	8.1	8.4	7.5
Rooms lacking specified heat source 2/	13.1	12.7	12.1	12.2	11.9	12.2	11.9	11.7	22.0	21.2	20.2	19.8	19.5	19.4	17.9	16.9
Rooms closed: lack sufficient heat 2/	3.3	2.9	2.5	2.3	3.2	3.1	NA	NA	5.5	4.8	4.1	3.8	5.2	4.9	NA	NA

* See footnotes for appropriate subset of all occupied units, where applicable.

1/ Units having only room heaters without flue or vent, fireplaces, stoves, or portable heaters, or no heat source.

2/ For units occupied the previous winter.

heating system, they may also be caused by other factors such as the severity of the winter, the desire to conserve energy, or the household's effort to minimize expenditures for heat. The heat measures shown in Table B-12 trended downward from 1973 to 1975 or 1976, but since then have increased in terms of both the number of units and the incidence of deficiency, except in the case of the percent of units with rooms lacking specified heat source which has continued to decline.

5. Occupancy and Use Deficiencies

The items reported here reflect poor design and overcrowding. A bedroom used by three or more persons is a deficiency peculiar to the use made of the housing, rather than a physical defect in the housing unit itself; it is, therefore, a defect which is remedied if the occupants move to a more suitable unit. Another deficiency--bedrooms lacking privacy--while reflecting use patterns, may arise from the inadequate design of the unit, which utilizes a bedroom as a passage area. A change in the use of the present bedroom--to other than bedroom use--can eliminate this deficiency. A more traditional measure of crowding, defined as more than 1.00 persons per room, trended steadily downward between 1973 and 1979, (from 3.9 to 3.1 million households), but increased to 3.3 million households in 1980. More serious crowding (more than 1.50 persons per room), declined from 1973 to 1975, remained unchanged from 1975 to 1977, increased slightly in 1978 and has been stable at about 800,000 households from 1978 - 1980 (see Table B-13).

Table B-13

Occupancy and Use Deficiencies
1973 - 1980

Item	Occupied Units (Millions)								Percent of All Occupied Units*							
	1973	1974	1975	1976	1977	1978	1979	1980	1973	1974	1975	1976	1977	1978	1979	1980
Bedrooms lacking privacy 1/	6.4	6.4	5.6	5.7	5.7	5.5	5.5	6.1	11.0	10.6	9.1	9.1	8.9	8.4	8.3	9.0
Bedrooms used by three or more persons	4.0	3.8	3.6	3.5	3.4	NA	NA	NA	5.7	5.3	5.0	4.7	4.6	NA	NA	NA
Crowding																
More than 1.00 persons per room	3.9	3.8	3.6	3.4	3.3	3.2	3.1	3.3	5.6	5.3	5.0	4.6	4.4	4.2	4.0	4.2
More than 1.50 persons per room	0.9	0.8	0.7	0.7	0.7	0.8	0.8	0.8	1.3	1.1	1.0	1.0	0.9	1.1	1.0	1.0

* See footnotes for appropriate subset of all occupied units, where applicable.

1/ For units with two or more bedrooms

II. Maintenance and Improvement of the National Housing Stock

A. Expenditures for Maintenance and Repair and Construction Improvements

Preservation of existing housing and neighborhoods is aided through the efforts of individual owners who help prevent the obsolescence of their housing units through maintenance, repairs, and construction improvements.

Data on expenditures for residential additions, alterations, maintenance and repairs, and major replacements are available in the C50 Construction Reports, Residential Alterations and Repairs, prepared quarterly and annually by the Bureau of the Census. Current data are available through the first three quarters of 1981. Tables B-14 through B-16 summarize portions of this data. Annual data on units or properties receiving maintenance, repairs or improvements are not available in this series.

Total expenditures on maintenance and repair and construction improvements increased from $33.2 billion in 1978 to $36.9 billion in 1979, and $40.4 billion in 1980 (see Table B-14). Expenditures continued to increase slightly in 1981, totalling $31.0 billion in the first three quarters compared to $29.7 billion in the comparable 1980 period, an increase of about 4 percent.

Of the total expenditures for maintenance and repair and construction improvements each year, slightly over two-thirds have been for owner-occupied 1-4 unit properties, with the remaining third spent for rental properties (1-4 unit properties not owner-occupied and all five or more unit properties).

Expenditures for maintenance and repairs represent current costs for the upkeep of the property rather than additional investment in the property. Maintenance and repair expenditures for all residential properties rose almost 16 percent from 1978 to 1979, but increased less than 2 percent from 1979 to 1980, to total $15.2 billion. Expenditures during the first three quarters of 1981 were $12.3 billion, about seven percent higher than the $11.5 billion during the comparable period in 1980.

Of the expenditures for maintenance and repairs from 1978 through the first three quarters of 1981, approximately 54 percent have been spent on 1-4 unit properties in which the owner occupied one of the units, with the remainder spent on one to four unit properties in which the owner did not reside and on all five or more unit properties.

Of the expenditures in 1980 for maintenance and repairs, approximately 41 percent were for painting. The distribution of the rest of the maintenance dollar was 11 percent for plumbing, 9 percent for roofing, 6 percent for heating or central air conditioning, 4 percent for siding and 29 percent for other items such as electrical work, flooring, walks, porches, doors, windows, etc.

Construction improvements include the types of expenditures which are considered capital investment in the property and are reflected in the new construction outlay figures published monthly by the Census Bureau. Construction improvements in this analysis include additions

Table B-14

Expenditures for Maintenance and Repair and Construction Improvements
By Size of Property and Presence of Owner, 1978-1981
(In Millions of Dollars)

				Construction Improvements		
		Total	Maintenance and Repairs	Additions	Alterations	Major Replacements
Residential Properties						
Annual Data:	1978	33,159	12,909	3,713	8,443	8,094
	1979	36,868	14,950	3,280	9,642	8,996
	1980	40,379	15,187	4,183	11,193	9,816
Quarterly Data:						
1st 3 quarters	1979	27,343	11,157	2,515	7,067	6,604
	1980	29,682	11,504	2,950	7,891	7,337
	1981	31,040	12,317	2,137	8,950	7,636
1-4 Unit Properties, Owner-Occupied						
Annual Data:	1978	22,428	6,980	2,880	6,696	5,872
	1979	25,442	8,256	2,581	7,994	6,611
	1980	28,780	8,223	3,738	9,406	7,413
Quarterly Data:						
1st 3 quarters	1979	19,034	6,278	1,948	5,842	4,966
	1980	20,874	6,264	2,651	6,510	5,449
	1981	20,672	6,544	1,964	6,908	5,256
1-4 Unit Properties, not Owner-Occupied and all 5 or more unit properties						
Annual Data:	1978	10,730	5,929	832	1,747	2,222
	1979	11,426	6,694	699	1,648	2,385
	1980	11,598	6,963	445	1,787	2,403
Quarterly Data:						
1st 3 quarters	1979	8,306	4,879	565	1,225	1,637
	1980	8,807	5,240	298	1,381	1,888
	1981	10,371	5,773	176	2,042	2,380

to residential structures, alterations within residential structures, and major replacements. Construction improvements account for about 60 percent of the annual total expenditures for upkeep and improvement of the existing residential stock. In the report prepared by the Bureau of the Census, another category is also included, additions and alterations outside the residential structures. This category has been omitted since it is comprised of such items as adding fences, swimming pools, barbeques, patios, walks, and driveways, and other similar structures which do not necessarily preserve the residential structure itself, although they certainly augment the amenities associated with the property.

Additions to residential structures include actual enlargement of the structure by addition of a wing, room, porch, attached garage, basement, etc. Expenditures on additions declined almost 12 percent in 1979 to $3.3 billion, but rose almost 28 percent to $4.2 billion in 1980. Expenditures during the first three quarters of 1980 totalled almost $2.1 billion, a decrease of 28 percent from the same period in 1980.

Of the expenditures for additions in 1980, approximately 89 percent were for one to four unit properties with the owner present. The remaining 11 percent were for additions to one to four unit properties without the owner present and all five or more unit properties.

Alterations within residential structures include changes or improvements made within or on the structure ranging from minor changes to major remodeling. Expenditures for alterations increased 14 percent in 1979, and 16 percent in 1980, to reach $11.2 billion. Expenditures

during the first three quarters of 1980 totalled over $8.9 billion, a 13 percent increase from the same period in 1980 (see Table B-14). The increase in alteration expenditures in 1979 and 1980 was almost entirely in the 1-4 unit, owner occupied properties; however, the increase during 1981 was primarily in the larger properties.

Of the $11.2 billion spent on alterations in 1980, about 84 percent were for one to four unit properties with the owner present, and 16 percent were for one to four unit properties with the owner not present and all five or more unit properties.

Major replacements as construction improvements are distinguished from repair replacements by the specification of a limited list of large individual expenditures, which generally involve the replacement of an entire large piece of equipment such as complete furnace, water heater, bathroom fixtures, entire roof or siding, complete walks or driveway and similar items. The distinction between major replacements and additions and alterations is that the replacements generally are not innovations.

Major replacements increased 11 percent in 1979 and 9 percent in in 1980 to total $9.8 billion. Major replacements during the first three quarters of 1981 totalled $7.6 billion, a four percent increase from the comparable 1980 period (see Table B-14).

Of the $9.8 billion spent on major replacements in 1980, approximately 76 percent were for one to four unit properties with the owner present. The remaining 24 percent were for one to four unit properties without the owner present and all five or more unit properties.

B. Expenditures by Whether Work Performed by Owner or Contractor

Expenditures for maintenance and repairs and construction improvements for single-family, owner-occupied properties are reported in Table B-15 by whether the work was performed by a contractor, by the owner of the property, or by a combination of the two. Expenditures in this section cannot be compared to expenditures in Section II-A of this appendix, since these figures include construction improvements outside residential structures which were omitted in the previous section, and also are limited to jobs of $25 or more.

Table B-15

One Housing Unit Owner-Occupied Properties, Expenditures by Work Done by Contractor, Owner, or Combination of Contractor and Owner, for Jobs of $25 or More 1978-1981 (amounts in millions of dollars)

			Job Done by Contractor			
		Total	Supplies Own Materials	Owner Supplies Materials	Job Done by Owner	Job Done by Owner/ Contractor Combined
Annual Data:	1978	23,557	15,495	790	4,854	2,418
	1979	27,468	17,545	1,298	5,660	2,965
	1980	30,720	21,287	1,281	5,852	2,300
Quarterly Data: 1st 3 quarters						
	1979	20,820	13,389	972	4,149	2,310
	1980	22,791	15,622	880	4,603	1,686
	1981	22,571	15,428	1,068	4,509	1,566

Expenditures increased almost 17 percent in 1979 and 12 percent in 1980 to reach a level of $30.7 billion. During the first three quarters of 1981, expenditures totalled $22.6 billion, a slight decrease from the the same period in 1980.

Over the period from 1978-1981, there has been little fluctuation in the percentage of total expenditures for work done by contractors, owners, or both. Around 70 percent of the expenditures have been for work performed entirely by contractors, 20 percent for work by owners alone and the remainder for work by a combination of owners and contractors.

C. Average Size of Expenditure Per Property in 1-4 Unit Properties and Percent Distribution of Properties by Size of Expenditures

Average expenditures per property have increased since 1978 rising from $178 in 1978 to $204 in 1981. Third quarter data are used for all years (see Table B-16).

Average expenditures for properties with expenditures have also increased from $471 in 1978 to $604 in 1981.

From 1978-1981 between 34 percent and 41 percent of all properties had expenditures in the third quarter of each year. This proportion was declining in 1980 and 1981.

A percentage distribution of properties by size of expenditures for properties with expenditures is also shown in Table B-16. In the third quarters of 1979, 1980 and 1981, 40-42 percent of all expenditures were less than $100, and 22-23 percent of third quarter expenditures were $500 or more.

The median expenditure for properties with expenditures was $119 in the third quarter of 1978, rose to $153 in 1979, $159 in 1980, and $164 in 1981.

Table B-16

Expenditures on Residential 1-4 Unit Properties with 1 Unit Owner-Occupied for Maintenance and Repairs and Construction Improvements: by Average Amount Per Property and Percent Distribution of Properties by Size of Expenditure 1978-1981, Third Quarter Data

	1978	1979	1980	1981
Third Quarter				
Expenditures per property (in dollars)				
Average per property	$178	$193	$198	$204
Average per property with expenditures	$471	$468	$530	$604
Properties by presence of expenditures (percent distribution)				
All properties	100%	100%	100%	100%
With no expenditures	62%	59%	63%	66%
With expenditures	38%	41%	37%	34%
Properties by size of expenditures for properties with expenditures, percent distribution, current dollars				
Less than $10	5	5	5	6
$ 10 - $ 24	11	7	10	9
$ 25 - $ 49	16	12	10	12
$ 50 - $ 99	16	17	15	15
$100 - $199	16	17	16	15
$200 - $499	16	20	21	20
$500 - $999	9	10	10	9
$1,000 or more	11	12	13	14
Median (dollars)	$119	$153	$159	$164

III. Federal Programs to Preserve Existing Housing and Neighborhoods

A. Subsidy Programs Using the Existing Housing Stock

Federal subsidy programs are employed to make use of the existing housing stock, a role that has become more important as affordabilty rather than availability of housing has become recognized as the principal problem. In Appendix A, Section III, subsidies used for the rehabilitation of existing units were discussed. In fiscal years 1979 through 1983, it is estimated that 172,700 units will have been rehabilitated, including 42,700 units in one to four unit structures, and 130,000 units in multifamily structures.

Rehabilitation of deteriorated structures in declining neighborhoods requires widespread community and private sector support and enthusiasm. Neighborhood conditions, amenities, sociological and other human resources, and the availability of publicly provided services are crucial to successful rehabilitation. Each community must carefully dovetail rehabilitation activities with community development and housing assistance plans and programs formulated and implemented under Title I of the Housing and Community Development Act of 1974.

In addition to rehabilitation, Federal subsidies have also been employed to make use of existing adequate housing. Subsidizing such housing helps to bring decent homes in sound neighborhoods within the means of many who otherwise could not afford them at less cost than new production, and thus satisfies the 1949 housing goal of a "decent home and a suitable living

environment." Also, such attention to and positive use of older existing housing often averts impending deterioration by providing adequate rental income to support maintenance programs, so that the useful life of these older, sound units may be extended. In Appendix A, Section IV, it is estimated that 542,300 existing units will have been subsidized in fiscal years 1979 through 1983, 408,000 of them through the Section 8 program.

B. Programs for Revitalization of HUD Subsidized Projects

Recent economic conditions have jeopardized the financial soundness and living conditions of some HUD subsidized projects. Operating expenses have been rising more rapidly than project incomes from rents. Often such projects, particularly in inner city areas, face serious problems of deterioration. Many units have been abandoned and boarded up, victims of vandalism and crime. This section describes efforts underway to deal with these problems.

1. Public Housing Urban Initiatives Program

The Public Housing Urban Initiatives Program (PHUIP) was launched in an effort to revitalize urban neighborhoods, to conserve and upgrade the existing public housing inventory and to stimulate better management in public housing agencies (PHAs). It is a one-time funding cycle with an anticipated 30-month life span, which began at different times for individual PHAs, and for each component for each PHA. The program was initiated after September 1978.

a. Targeted Rehabilitation

The Targeted Rehabilitation component provides special funding through the HUD Low-Income Public Housing modernization program to PHAs to finance capital improvements at 33 designated troubled public

housing projects, to upgrade living conditions, correct physical deficiencies and achieve operating efficiency and economy. The Modernization program as applied to PHUIP, provides assistance to selected large PHAs with 2,500 or more units to address the needs of the projects on a comprehensive basis, as opposed to the usual method of distributing funds to perform work on a more limited scale.

The Management Assistance provision within the Targeted Rehabilitation component provides special funding of operating subsidy funds to the 33 PHAs to improve the management capability of the PHA by upgrading management and financial systems.

b. Project-Based Budgeting

This component provides money from HUD operating subsidy funds to enable 34 selected PHAs (with 1,250 or more PHA low-income housing units) to develop and implement a project-based budgeting and accounting system--as steps toward accountable management on a project by project basis.

c. Anti-Crime

The Anti-Crime component involves special funding to 39 PHAs provided by HUD, the Department of Justice (Law Enforcement Assistance Administration), the Department of Labor and other Federal agencies to permit a coordinated approach to addressing the security problems of public housing projects through a mix of physical and hardware design changes, social services, tenant employment (especially youth), tenant services, and improved PHA management, and by strengthening links with local government law enforcement agencies.

d. Urban Partnership

The Urban Partnership component provides funding for innovative efforts by cities and PHAs to work more cooperatively to improve services and facilities in the areas in and around public housing projects.

e. Funding

Physical rehabilitation work was financed from special set-asides of FY 1978 and FY 1979 modernization funds, and management assistance activities from a special allocation of FY 1978 operating subsidy funds. Sixty-seven public housing agencies are sharing $264 million dollars for management targeted assistance rehabilitation efforts, $5 million of which was designated specifically for use by selected PHAs to develop and implement project-based budgeting and accounting systems.

Initial funding for the interagency Anti-Crime component is $30.25 million; the amount provided by HUD is $20 million in Modernization program loan authority and $2.25 million from Community Development Block Grant discretionary funds. The Department of Labor's Youth Community Conservation and Improvements Project (YCCIP) is providing $8 million. The Law Enforcement Assistance Administration is providing $340,000 in Victim/Witness funds and $1 million in Juvenile Justice Program funds. The Alcohol, Drug Abuse and Mental Health Administration (HHS) is providing $500,000 for the program. This component ends in September 1982, while other components are still continuing at most PHAs.

2. Comprehensive Improvement Assistance Program (CIAP) in Public Housing

Beginning in FY 1981, the CIAP replaced the modernization program. Under the CIAP, HUD provides funds to public housing agencies (PHAs) to improve the physical condition and upgrade the management and operations of existing public housing projects to assure that such projects continue to be available to serve low-income families.

During Fiscal Year 1981 HUD made available $85.0 million in contract authority which will finance approximately $927.3 million of improvements. This funding provided for the following types of modernization:

1. Comprehensive - all needed physical and management improvement needs at a project.

2. Special purpose - cost effective energy conservation work.

3. Emergency - physical work of an emergency nature, affecting life, health and safety of tenants.

4. Homeownership - limited physical work relating to health and safety, correction of development deficiencies, and cost-effective energy conservation work.

C. Property Disposition Policies

One significant problem faced by the Department of Housng and Urban Development concerns the disposition of acquired single family properties. The single family inventory, which peaked at over 78,000 properties in

1974, has been reduced to 18.158 properties as of the end of FY 1981. It is anticipated that during FY 1982 the inventory will be reduced further to below sixteen thousand properties.

Despite these decreases, the inventory continues to be concentrated in a relataively few metropolitan areas. As of the end of FY 1981, approximately one half of the total inventory was located in five area or service offices. While it is primarily in these offices that future inventory reductions must be sought, these offices are simutaneously most affected by soft market conditions, vandalism, tenant occupancy and a generally deteriorating and hard-to-sell inventory.

A number of steps are being taken to address these difficulties. Bulk sales of as-is properties are being tried as a method of selling those properties which are the hardest to sell. Field offices are also making greater efforts to dispose of the occupied inventory, selling to the tenants where possible and vacating the properties where not. Also, steps are being taken to further reduce the flow of occupied properties into the inventory. This will be accomplished by a further revision to the rule governing occupied conveyance.

Finally, a new priority objective is being established for single family property disposition which will take into account the recovery of investment on the sale of HUD-owned homes. It is hoped that this will encourage field offices to be more dollar conscious in their disposition efforts.

D. Non-Subsidized Program for Home Improvement

The FHA Title I Home Improvement program insures loans made by financial institutions to homeowners for home improvements. At the end of December 1980, approximately 7,500 financial institutions were active in this program. During calendar year 1979, 343,593 loans were made, down 2 percent from 1978. The number of loans made in 1980 was 18 percent less than for 1979. The estimated total net proceeds of outstanding loans at the end of calendar year 1980 was approximately $4.8 billion.

The Housing and Community Development Act of 1977 provides the Secretary with discretion in setting the interest rate, which is presently 20 percent. The maximum dollar amount for a loan to improve a one-family house is $15,000; the maximum term of the loan is 15 years.

E. Programs for Rehabilitation, Conservation, and Neighborhood Preservation

Activities to support the efforts of localities to preserve and improve neighborhoods fall into four main categories: (1) rehabilitation under the Community Development Block Grant (CDBG) Program, (2) activities under the rehabilitation loan program authorized by Section 312, (3) activities under the Urban Homesteading Program, and (4) support of neighborhood development organizations.

1. Community Development Block Grant Program

The Community Development Block Grant legislation lists eight specific national objectives. Though many of the objectives overlap in intent, and many of the activities undertaken by cities to achieve their goals affect

several objectives, the general pattern for the past five program years reveals the greatest concentration of funds in activities related to the conservation and expansion of the housing stock, the elimination of slums and blight, land resource use, economic development, improvement of community services, elimination of detrimental conditions, and historic preservation. Rehabilitation of residential structures is the fastest growing CDBG activity. In the 1981 program year, entitlement cities budgeted 31 percent and urban counties 30 percent of their CDBG funds for the rehabilitation of privately owned properties. Rehabilitation of real property played a central role in revitalizing residential neighborhoods since it emphasized neighborhoods preservation and refurbishment of a deteriorating housing stock.

Table B-17

Units Rehabilitated with CDBG Funds

HOMES	SMALL RENTAL	LARGE RENTAL	PUBLIC HOUSING	OTHER	TOTAL
213,743	8,503	5,416	27,415	6,615	261,692

* Units rehabilitated in Fiscal Years 1975 through 1978, and part of 1979. The total number of units rehabilitated is higher than shown here.

Grantees undertook a varieaty of rehabilitation projects, but they primarily concentrated on the rehabilitation of private single family structures. In fact, over 80 percent of CDBG rehabilitation spending went toward rehabilitating single family houses every year. In the first two years, most of the remaining rehabilitation funds were about equally divided among public housing modernization, rehabilitation of apartment buildings, and other uses, such as historic preservation. In the later years of the program, the proportion of spending for rehabilitation of public housing declined relative to the other categories.

With their CDBG rehabilitation funds, communities reported making a contribution to the improvement and preservation of the nation's housing stock. An estimated 262,000 dwelling units were improved using CDBG funds. Eighty-one percent of these units were single family owner-occupied structures. A total of 27,000 public housing units were improved, and another 14,000 rental units were upgraded. Furthermore, about 157,000 of the rehabilitated units incorporated energy conservation measures, such as insulation and storm windows, during the rehabilitation process.

Table B-18

Units Rehabilitated Each Year

1975	1976	1977	1978	1979*	TOTAL
27,401	50,988	73,519	79,797	29,987	261,692

*The number of units rehabilitated in 1979 was much higher than reported here. This figure represents only a partial year's activity.

While the relative proportion among types of rehabilitated units in the above categories remained nearly constant throughout the five years, the number of units in each category escalated every year. By 1977 and 1978 localities were heavily involved in rehabilitation, improving over 153,000 homes in those two years alone. The figure for 1979 represents only the units rehabilitated before September 30 of that year. Since 80 percent of the Entitlement Cities began their program year sometime after June, the figure in the Table undercounts the number of rehabilitated units produced in the 1979 program year. Considering budgeted and expended funds for rehabilitation over the five years, it can be projected that over 100,000 units were upgraded in 1979.

2. Section 312 Rehabiliation Loans

Section 312 of the Housing Act of 1964, as amended, provides for direct, low-interest, Federal loans to property owners for the rehabilitation of residential and mixed-use properties. Loans to owner-occupants for the rehabilitation of one-to-four unit properties are made at 3 or 11 percent interest (3 percent if the borrower's income is at or below 80 percent of the area median income and 11 percent to all others). Loans to owners of multifamily buildings and investor owners of one-family properties are made at 5 or 11 percent (5 percent if private funds for rehab equal or exceed the Section 312 loan amount and 11 percent for all others). The maximum term is 20 years and the maximum loan amount for residential properties is $27,000 per dwelling unit. Priority is given to applications from low- and moderate-income persons, or which will benefit low- and moderate-income tenants.

Initially loans under Section 312 were a part of a locality's urban renewal or concentrated code enforcement program aimed at bringing properties up to local code requirements. Since the enactment of the Housing and Community Development Act of 1974, a major use of Section 312 loans has been as a compliment to local property rehabilitation programs funded by the Community Development Block Grant (CDBG) programs. Due to limited availability of funds, during FY 1982 loans for single-family rehabilitation are being made only in HUD-approved urban homesteading areas for homesteaded properties and other one-family homes. The Department has proposed the termination of the Section 312 program because the CDBG program can and does accomplish the same type of rehabiltation that the Section 312 categorical program accomplishes, through a more cost-efficient system than that administered under the categorical program.

During fiscal year 1981, $84.7 million was available by apportionment for Section 312 loans. Of that amount, $84.5 million was reserved during the year representing approximately 3,378 loans and approximately 5.955 dwelling units.

From the beginning of the program (1965) a total of $1,067,940,174 in loans funds had been reserved as of September 30, 1980. This represents approximately 87,678 loans and about 121,555 dwelling units.

3. Urban Homesteading Program

The Urban Homesteading Program offers another means of encouraging localities to preserve urban neighborhoods. This program, begun in 1975 as a demonstration, became an operating program when regulations were published in December 1978.

The Urban Homesteading program was authorized by section 810 of the Housing and Community Development Act of 1974. The Act, as amended, permits the transfer of eligible properties owned by the Department of Housing and Urban Development (HUD), the Veterans Administration (VA), and the Farmers Home Administration (FmHA) at no cost to communities with HUD-approved homesteading programs. Local governments, in turn, offer the properties at nominal or no cost to homesteaders who agree to repair them to local code standards within 18 months after occupancy, and reside in them for a minimum of three years. Section 810 appropriations are used to reimburse the respective Federal agencies for the value of the units transferred to local homesteading programs.

At the end of this three-year period, if all conditions are met, the homesteader gets title to the property. Thus, the urban homesteading program allows families or individuals who are in need of housing to acquire homes for basically the cost of rehabilitation.

As of September 1980, 94 localities had HUD-approved Urban Homesteading programs, and they had received a total of 4,664 HUD properties for homesteading as of that date. In addition to using Federally-owned properties for homesteading, localities are encouragaed to homestead locally-owned properties and as of September 30, 1980, 608 locally-held properties were included. Although the Housing and Community amendments of 1979 authorized localities to acquire Veterans Administration (VA) and Farmers Home Administration (mHA) properties with Section 810 funds, regulations and inter-agency agreements were not in place. Of a total of 5,272 properties from HUD-held and locally-owned properties 3,908 had been conditionally conveyed to homesteaders.

For fiscal year 1981, $24,500,000 in Section 810 funds were allocated to participating localities; the related program target was the transfer of approximately 1,500 properties.

4. Housing Assistance Plans

The Housing Assistance Plan, which is a precondition for approval of a Community Development Block Grant, includes the locality's own perceptions of its housing conditions, the needs for housing assistance among its lower income households, its goals to obtain housing assistance to meet these needs from federal, state, and local resources, as well as indicating where such housing is to be located. In allocation of housing assistance

funds, HUD must assure "to the maximum extent practicable" that funds are allocated in accordance with HAP goals. In a HAP community, HUD may not approve an application for housing assistance where the application is inconsistent with the HAP.

F. Neighborhood Research

Neighborhood Study Research examines neighborhood change and designs and tests intervention techniques to stabilize and preserve neighborhoods. This work broadens our understanding of the causes, processes and consequences of neighborhood change. It has the objective of developing appropriate and effective public policies for neighborhood stabilization. Among the priority questions are: (1) what factors lead to spontaneous reinvestment in urban neighborhoods; (2) what is the impact of demographic changes in the population, and the relationship of new suburban construction to the stability of inner-city neighborhoods; (3) what are the effects of reinvestment on the displacement of resident population; (4) what level and intensity of public programs are required to stabilize declining areas; and, (5) what is the leveraging potential of various forms of government assistance to stimulate matching private investment.

A variety of research, demonstration and evaluation projects have been undertaken to address these questions. The Urban Homesteading program, described earlier, began as a demonstration and was subjected to an intensive evaluation of its impact and effectiveness. HUD also assisted

in the development of the Neighborhood Reinvestment Corporation and its Neighborhood Housing Services program through a series of demonstration grants over a five year period. An evaluation of the Corporation and its NHS programs has examined the way they support housing rehabilitation and maintenance through local partnerships. An evaluation of the Section 8 Neighborhood Strategy Areas program is focusing primarily on the effectiveness of local government as the implementer of coordinated approaches to housing rehabilitation and neighborhood revitalization. A recent research project examined the work of the Illinois Neighborhood Corporation and its subsidiary, the South Shore Bank, to assess the extent to which a local bank, sensitive to the needs of a lower income community, can be a leading force in stimulating both residential and commercial revitalization. Other projects have analysed the effectiveness of community based organizations and tenant groups as managers of abandoned multifamily housing and have produced a handbook for local government officials faced with the problems of coping with housing abandonment.

G. Farmers Home Administration Repair and Rehabilitation of Existing Housing Stock

Farmers Home Administration (FmHA) has a number of housing programs that can be used to finance repair and rehabilitation of existing rural housing. The Section 502 loan program to buy, build, or improve rural housing and Section 504 very low income loan and grant repair programs to owner occupants are regularly used for this purpose.

Section 502 loans are made to low and moderate income families who are unable to obtain credit elsewhere. The loans bear a market rate, but may be subsidized to as low as one percent, and are amortized over a period of up to 33 years. They may be used to buy, build, enlarge, repair, and rehabilitate housing, purchase a minimum adequate site and refinance debts under limited circumstances. 502 financed housing must meet minimum property standards.

Section 504 loans are extended to those with incomes too low to qualify for a 502 loan and are payable in up to 20 years at one percent interest. The loans are used to eliminate health and safety hazzards, and the dwellings need not necessarily meet minimum property standards. The limit for a combination of loan and grant is $7,500.

Section 504 grants are presently only available to the elderly, and are so restricted by appropriations legislation. They are used to supplement loan carrying ability. Legislation permits a combination loan and grant to total $7,500, but grants may not exceed $5,000.

Section 515 loans are made to individuals, partnerships, non-profit corporations and public bodies to provide rental housing for low and moderate income families. The loans bear a market interest rate, but may be reduced to as low as one percent dependent upon the income of the tenants, and are amortized over a period of up to 50 years. 515 rental housing must meet minimum property standards. The Section 515 rural rental

housing loan program is new-construction oriented and only occasionally is used to acquire and rehabilitate existing stock. Tables B-19 and B-20 show the number of units and the dollar amount involved in these programs in FY 1980 and FY 1981.

H. National Consumer Cooperative Bank

The National Consumer Cooperative Bank was created by Congress in 1978 and began making loans in 1980. The Bank makes loans and provides technical assistance to consumer cooperatives, including housing co-ops. Originally a mixed-ownership government corporation, the Bank Act was amended in 1981 to allow the Bank to go private and to give control to its borrower shareholders on December 31, 1981.

The Bank's Title I funds are loaned at prevailing rates of interest and its smaller Self Help Fund (Title II) can be loaned at less than market rates. Under "privatization" the Self Help Fund becomes a non-profit, tax deductible foundation which will be able to accept gifts from organizations and individuals. Since the Bank opened for business, it has approved loans of over $100 million to 120-co-ops throughout the country.

The Bank Act requires that officers and board use "best efforts" to make 35 percent of its loans to co-ops with low income members. The Bank has exceeded that goal with over half of its loans made to low income co-ops. Indeed, 80 percent of the total number of co-ops receiving housing loan approvals were low income and 80 percent were limited equity co-ops. A gap of 30 percent on housing loans was extended by the Congress from 1983 to 1985. At the end of FY 1981, over 70 percent of Bank's loans were to housing co-ops.

Table B-19

FmHA Programs
FY 1980 Use for Repair and Rehabilitation

Program	Units	Non-Repair Portion of Loans	Amount of Loans for Repairs
Section 502			
Purchase/w minor repair	5,370	150,950,000	8,941,000
Purchase/w rehab	7,390	201,336,000	16,824,000
Repair only	1,907	--	27,887,000
Rehab only	2,610	--	28,282,000
Refinance/w repair	87	1,564,000	776,000
Refinance/w rehab	123	1,657,000	1,226,000
502 TOTAL	17,487	355,507,000	83,936,000
Section 504 loans	7,570	--	21,923,910
Section 504 grants	8,589	--	23,999,990
504 TOTAL	16,159	--	45,923,900
Section 515 loans			
Purchase & rehab	Not Available	Not Available	Not Available
Rehab only	Not Available	Not Available	Not Available
TOTALS	33,646	355,507,000	129,859,900

Table B-20

FmHA Programs
FY 1981 Use for Repair and Rehabilitation

Program	Units	Non-Repair Portion of Loans	Amount of Loans for Repairs
Section 502			
Purchase/w minor repair	4,125	125,875,000	6,603,000
Purchase/w rehab	5,269	155,605,000	12,076,000
Repair only	1,382	--	22,606,000
Rehab only	1,958	--	22,184,000
Refinance/w repair	60	1,122,000	299,000
Refinance/w rehab	76	1,176,000	559,000
502 TOTAL	12,870	283,778,000	64,327,000
Section 504 loans	5,799	--	17,870,830
Section 504 grants	7,687	--	22,743,320
504 TOTAL	13,486	--	40,614,150
Section 515 loans			
Purchase & rehab	Not Available	Not Available	Not Available
Rehab only	Not Available	Not Available	Not Available
TOTALS	26,356	283,778,000	104,941,150

Loans to housing cooperatives have included acquisition loans, rehabilitation loans and permanent financing. These loans have financed conversion by tenants of buildings where landlords have decided to sell or convert to condominium. Loans have been used for the replacement of windows to conserve energy, for the cost of converting a large housing co-op to individual gas metering for energy conservation and for conversion to solar heating.

As of September 30, 1981, the Bank has approved a total dollar amount of $79,812,000 in Title I housing loans and Self Help Fund advances to 55 housing cooperatives for 7,997 units of housing. Each of the Bank's eight regions are represented in the geographical distribution of housing loans.

More of the Co-op Bank's loans went to limited equity co-ops where the equity remains with the co-op and the members' share in the unit on resale is limited to the initial money invested with interest, plus inflation during the period of occupancy. Limited equity loans have the effect of retaining reasonably priced units in the housing inventory. Loans have also been made by the Co-op Bank to market interest rate co-ops where the value of individual units rise with the increasing housing values in the community.

I. Community Investment Fund of the Federal Home Loan Bank

For three years, thrifts institutions have been quietly and effectively helping to revitalize America's housing. Using funds set aside by the Federal Home Loan Bank System to encourage creative lending efforts, over 1,260 members have joined with their local communities in a variety of programs designed both to halt blight and to open the doors of housing opportunity to low- and moderate-income consumers.

The impetus for these achievements is a tool unique to the thrift industry - the five-year Community Investment Fund established by the Bank System in June 1978. CIF provides up to $2 billion each year in advances at a preferential interest rate as an incentive to thrifts to increase their commitment to revitalizing their communities.

Through June 1981, participants in the Community Investment Fund (CIF) had used $5.6 billion in advances to produce loans totaling $8.3 billion for the construction or rehabilitation of over 319,000 homes.

- About one-half of the participants used CIF money in conjunction with CDBG, UDAG or other government programs to make loans on some 100,000 units.
- CIF in conjunction with state programs has produced another 33,000 loans.
- Private partnerships, including Neighborhood Housing Service and other programs, have resulted in nearly 1,000 loans; and about 31,000 loans have been made in targeted low- and moderate-income areas.

- o A number of lenders have chosen to pass through the favorable rate in the form of nearly 3,900 below-market rate loans.
- o Approximately 3,000 loans have been made in low- and moderate-income rural areas.

More than 80 percent of lenders using CIF now have community lending specialists, and nearly as many have begun or augmented affirmative marketing programs. More than two-thirds have used CIF's counseling programs, often including the establishment of separate counseling centers in low- and moderate-income areas.

These achievements have occurred without Federal dollars and burdensome red tape. Participants have discovered new business opportunities that could make an important difference in the thrift industry's efforts to adapt to a changing world.

APPENDIX C

Non-financial Resources for Housing Production

I. Manpower

A. Employment Requirements

Residential construction activity in 1981 continued the decline that started in the last quarter of 1979. Full-time equivalent jobs generated throughout the year dropped to 717,000 -- a decline of 66,000 from 1980 and 274,000 from 1979. High interest rates, high prices for homes, and slow growth in disposable income combined to depress the level of residential construction.

High interest rates and slowed economic activity also caused a decline in many categories of nonresidential construction during 1981. Full-time equivalent jobs generated throughout the year dropped to 1,331,000 -- a decline of 23,000 from 1980 and 55,000 from 1979. (See Table C-1.)

A moderate and tempered recovery of residential construction is expected to begin in late 1982, encouraged by pent-up demand for new homes. Because there are different views regarding the extent of the recovery in residential construction, alternative estimates of housing starts for 1982 were developed. The most probable is the low

Table C-1

Estimated On-Site Employment Requirements
for New Construction, Calendar Years 1979-82
(In thousands of year-long jobs 1/)

	1979	1980	1981	1982 Low	1982 High
Total new Construction	2,377	2,137	2,048	1,936	2,103
Residentiala2/	991	783	717	712	839
1 to 4 family units 3/	626	434	396	403	462
5 or more family units 3/	162	138	133	125	160
Other 4/	203	211	188	184	217
Nonresidential construction 5/	1,386	1,354	1,331	1,224	1,264
Annual percent change		1979-80	1980-81	1981-82	
Total		-10.1	- 4.2	- 5.5	2.7
Residential construction		-21.0	- 8.4	- 0.7	17.0
Nonresidential construction		- 2.3	- 1.7	- 8.0	- 5.0

1/ Year-long jobs calculated at 1,800 hours.
2/ Excludes mobile homes.
3/ Includes publicly owned units.
4/ Nonhousekeeping units, additions, and alterations. Previous reports have not included these items.
5/ Forecast based on Data Resources Incorporated projections and Bureau of Labor Statistics productivity and jobs data.

alternative, which would generate 712,000 full-time equivalent jobs, just below 1981. The high alternative, however, would have generated 839,000 full-time equivalent jobs, 122,000 more than in 1981.

During 1982, nonresidential construction is expected to continue to decline because of high interest rates, as contrasted with low inflation rates, gradual economic growth rather than short-term increases in economic growth, and federal budget cuts in public construction. Nonresidential construction is expected to generate between 1,224,000 and 1,264,000 full-time equivalent jobs, a decline of between 67,000 and 107,000 from the 1981 level.

During 1981, the number of full-time equivalent jobs in residential construction dropped for all but one of the crafts studied. Declines ranged from 10.2 percent for carpenters to 5.3 percent for electricians while ironworkers increased moderately. The number of full-time equivalent jobs also dropped for most crafts in nonresidential construction; however, these declines generally were smaller than in residential construction. Changes in nonresidential construction ranged from a 7.7 percent drop for operating engineers to a 9 percent increase for plumbers and pipefitters. (See Table C-2.)

Table C-2

Estimated On-Site Employment Requirements for New Construction by Occupation, Calendar Years 1980-82
(In thousands of year-long jobs 1/)

	1980	1981	1982		Percent changes		
			Low	High	1980-81	1981-82 Low	1981-82 High
Total new construction:							
All on-site occupations	2,137	2,048	1,936	2,103	- 4.2	- 5.5	2.7
Selected occupations 2/	1,421	1,368	1,295	1,411	- 3.7	- 5.3	3.1
Bricklayers	109	104	99	110	- 4.6	- 4.8	5.8
Carpenters	406	381	367	408	- 6.2	- 3.7	7.1
Cement finishers	71	67	66	70	- 5.6	- 1.5	4.5
Drywall installers	82	76	75	86	- 7.3	- 1.3	13.2
Electricians	156	156	145	155	0	- 7.1	-0.1
Ironworkers	106	103	96	101	- 2.8	- 6.8	-1.9
Operating engineers	150	139	130	137	- 7.3	- 6.5	-1.4
Painters	86	79	76	85	- 8.1	- 3.8	7.6
Plumbers and pipefitters	189	198	180	194	4.8	- 9.0	-2.0
Sheet-metal workers	66	65	61	65	- 1.5	- 6.2	0
All other on-site occupations	716	680	641	692	- 5.0	- 5.7	1.8
Residential:							
All on-site occupations	783	717	712	839	- 8.4	- 0.7	17.0
Selected occupations 2/	549	504	505	596	- 8.2	0.2	18.3
Bricklayers	52	48	47	56	- 7.7	- 2.1	16.7
Carpenters	225	202	202	238	-10.2	0	17.8
Cement finishers	20	19	20	23	- 5.0	5.3	21.1
Drywall installers	67	61	61	72	- 9.0	0	18.0
Electricians	38	36	37	43	- 5.3	2.8	19.4
Ironworkers	8	9	9	11	12.5	0	22.2
Operating engineers	20	19	19	22	- 5.0	0	15.8
Painters	50	45	44	52	-10.0	- 2.2	15.6

Table C-2 -- Continued

	1980	1981	1982		Percent changes 1980-81	1981-82	
			Low	High		Low	High
Plumbers and pipefitters	56	53	54	64	- 5.4	1.9	20.8
Sheet-metal workers	13	12	12	15	- 7.7	0	25.0
All other on-site occupations	234	213	207	243	- 9.0	- 2.8	14.1
Non-residential:							
All on-site occupations	1,354	1,331	1,224	1,264	- 1.7	- 8.0	- 5.0
Selected occupations 2/	872	864	790	815	- 0.9	- 8.6	- 5.7
Bricklayers	57	56	52	54	- 1.8	- 7.1	- 3.6
Carpenters	181	179	165	170	- 1.1	- 7.8	- 5.0
Cement finishers	51	48	46	47	- 5.9	- 4.2	- 2.1
Drywall installers	15	15	14	14	0	- 6.7	- 6.7
Electricians	118	120	108	112	1.7	-10.0	- 6.7
Ironworkers	98	94	87	90	- 4.1	- 7.4	- 4.3
Operating engineers	130	120	111	115	- 7.7	- 7.5	- 4.2
Painters	36	34	32	33	- 5.6	- 5.9	- 2.9
Plumbers and pipefitters	133	145	126	130	9.0	-13.1	-10.3
Sheet-metal workers	53	53	49	50	0	- 7.5	- 5.7
All other on-site occupations	482	467	434	449	- 3.1	- 7.1	- 3.9

1/ Year-long jobs calculated at 1,800 hours.
2/ Occupational estimates are based on information about work hour requirement for planned and forecasted construction developed by the Construction Labor Demand System of the Employment Standards Administration, U.S. Department of Labor.

For 1982, on-site job requirements in residential construction for selected craft occupations differ significantly between the low and high alternatives. Under the low alternative, changes from the 1981 level are expected to range from a 2.2 percent drop for painters to a 5.3 percent increase for cement finishers. For the high alternative, requirements increase substantially for all crafts, with changes ranging from a 15.6 percent increase for painters to a 25 percent increase for sheet-metal workers.

Under both the low and high alternatives, on-site job requirements for nonresidential construction are expected to drop in 1982 for all selected craft occupations. Declines in job requirements under the low alternative are expected to range from 4.2 percent for cement finishers to 13.1 percent for plumbers and pipefitters. Under the high alternative, reductions in job requirements range from 2.9 percent for painters to 10.3 percent for plumbers and pipefitters.

For 1982, the demand for 1,936,00 to 2,103,000 full-time equivalent jobs in residential and nonresidential construction could create jobs for 2.2 to 2.4 million workers, about the same number as in 1981. 1/ Because the overall demand for construction workers is not expected to change significantly, the current pool of these workers is expected to be sufficient to meet the demand.

1/ The ratio of all workers to full-time workers is about 1.14 to 1.

Although labor shortages occasionally may disrupt building activity in high growth areas, the occurrence of such shortages is expected to be limited.

B. Training for the Construction Industry

The construction industry draws on a variety of sources for its supply of skilled workers. Some workers pick up their skills informally on the job, others obtain their skills as a result of experience gained in other industries or service in the Armed Forces. Two programs administered by the Department of Labor are major sources of trained workers for the construction industry: (a) the Apprenticeship system, and; (b) the Comprehensive Employment and Training Act (CETA).

1. Apprenticeship

This is basically a private sector effort, supported and administered primarily by business and labor through voluntary Joint Apprenticeship Councils (JAC's). The JAC's are organized along craft lines and, at the local level, select apprentices, design and arrange for the training and oversee the progress of the apprentice. The Department of Labor, through the Bureau of Apprenticeship and Training supports the system by promoting the adoption of apprenticeship, assisting in the development and registration of standards and by providing technical assistance to the system.

The apprenticeship system is the primary source of the all-around highly skilled workers that form the nucleus of the construction industry's key workers. Apprenticeships generally average from 3 to 5 years and are designed to expose the apprentice to all facets of the particular craft.

At the end of 1979, (the latest period for which data are available), 197,500 apprentices were in training for the construction trades. During the year 24,500 apprentices completed training and 83,600 new apprentices entered training in construction.

Apprenticeship has grown substantially over the past several decades reflecting a long term trend to increasing use of the system. For example, enrollments in construction trades increased from about 100,000 in 1960 to 160,000 in 1970 and to a peak of almost 200,000 in 1979.

Table C-3 compares construction apprenticeship enrollments for selected years 1970-1979. As the table indicates, the level of apprentices in training varies considerably from year to year depending on the level of building activity. Because of the length of training a low level of new entrants in one year is reflected in a lower level of completions 3 to 4 years after when the demand for skilled workers may be at a peak. For example 1979, with 197,500 apprentices in training, represented the highest level of apprentices since the start of the program. However, completions in that year, at 24,500, were at the lowest level in several years, reflecting the low level of the program during the 1975-1976 period. (Table C-4).

Table C-3

Registered Apprentices in Construction Trades

Selected Years
1970-1979 1/

Trade	1970	1974	1976	1978	1979
Bricklayers, Stone & Tile Setters	10,227	9,170	6,657	8,423	9,312
Carpenters	33,683	42,491	33,437	43,174	48,850
Cement Masons	2,536	3,353	2,521	3,129	3,594
Dry-Wall Finisher	N/A 2/	1,391	674	1,770	1,831
Electricians	31,102	35,767	31,135	34,486	39,147
Floor Coverers	N/A 2/	1,730	1,187	1,705	1,901
Glaziers	1,552	1,691	1,174	1,155	1,319
Lathers	1,713	1,605	1,135	1,408	1,606
Line Erectors, Light and Power	N/A 2/	5,532	4,025	4,667	5,254
Operating Engineers	N/A 2/	6,247	5,810	5,431	6,539
Ornamental & Ironworkers	N/A 2/	436	285	202	185
Painters	6,957	7,425	6,057	6,825	7,726
Pipefitters, steamfitters, sprinkler-fitters	N/A 3/	17,036	16,743	16,417	16,863
Plasterers	1,297	1,244	1,024	1,233	1,588
Plumbers	32,682	19,306	16,850	17,627	18,768
Roofers	3,079	3,863	4,049	5,452	7,056
Sheet Metal Workers	15,062	13,454	10,753	11,188	12,676
Structural Steel Workers	8,204	9,508	7,677	8,211	10,273
Construction Workers, N.E.C.	13,012	1,981	2,202	2,800	3,031
TOTAL	161,106	183,230	153,395	175,303	197,519

1/ As of December 31 for all years.

2/ Included in construction workers, N.E.C.

3/ Included in plumber category.

Table C-4

Construction Apprenticeship
New Entrants and Completions
1970 - 1979

Year	New Entrants	Completions
1970	56,820	21,400
1971	43,730	21,730
1972	63,100	28,490
1973	85,440	27,560
1974	67,970	27,580
1975	47,920	29,930
1976	49,120	30,520
1977	63,927	32,280
1978	80,820	30,140
1979	83,644	24,510

2. Comprehensive Employment Training Act

A number of programs under CETA provide significant amounts of construction training. The Job Corps, a program of residential training for disadvantaged youth, operates 106 training centers. Many of these centers are located in national forests and public lands and specialize in providing training for the construction trades. In FY 1981 the Job Corps provided training to over 13,000 youths in a wide range of construction skills as shown in Table C-5. A number of national trade and labor organizations also provide construction training under national on-the-job training contracts with the Department of Labor. In FY 1980, almost 5,000 persons received training in construction skills under these programs.

In addition to these specialized programs, CETA provides grants to states and local communities to provide employment and training designed to meet local needs. Although no data are available on the specific occupations for which training has been provided under these grants, they provide a potential resource for local communities to respond to construction skill needs among others. Moreover, a relatively recent program designed to expand the involvement of the private sector in operating programs--The Private Sector Initiatives Program-has the potential for substantially expanding training for higher skilled occupations.

CETA authorization expires in FY 1982. The Administration and Congress are considering a possible replacement system for employment training, which would be available to support construction training as well as other local training needs.

Table C-5

Construction Training
in the Job Corps
FY 1981

TRADE	Number Trained
Bricklayer, stone & Tile Setters	2,800
Carpenters	3,020
Electricians	1,240
Operating Engineers	600
Painters	1,440
Plasterers	410
Plumbers	670
Construction Trades, N.E.C.	2,990
TOTAL	13,170

C. Wage-Rate Increases in the Construction Industry, 1981

First-year wage-rate changes in major labor agreements negotiated in construction in 1981 averaged 13.5 percent, compared to 13.6 percent in 1980 which was the highest in a decade. Over the year, the inflation rate, as measured by the Consumer Price Index (CPI-W), was 8.7 percent, below the 1980 rate (12.5 percent). On the other hand, employment in construction dropped in 1981 for the second year after reaching a peak in 1979, and the construction unemployment rate reached 15.9 percent in 1981, up from 14.2 percent in 1980.

The average first-year wage-rate adjustment negotiated in major construction industry collective bargaining units (those covering 1,000 workers or more) during 1981, was sharply higher than the adjustments of 8.8 percent in 1979, and 6.5 in 1978. The average first-year adjustment in compensation (wages and benefits combined) was 13.9 percent during 1981, 13.1 percent in 1980, 9.0 percent in 1979, and 6.3 in 1978. These measures of the size of settlements exclude potential changes under cost-of-living (COLA) clauses because the value of changes depends upon future price movements, which cannot be predicted.

As is generally true in other industries, negotiated wage increases in construction tended to be larger in the first than in subsequent contract years. The total negotiated wage-rate adjustment over the term of the contract, expressed at an annual rate, averaged

11.3 percent for settlements reached during 1981, compared with 11.5 percent for contracts negotiated in 1980. Average compensation adjustments over the life of contracts were 13.4 percent a year for contracts negotiated in 1981, and 11.0 percent for those negotiated in 1980, in contrast to the 1979 and 1978 average adjustments of 8.1 and 5.9 percent respectively.

The size of wage changes negotiated during 1981 varied considerably by region. First-year changes in the West Census region were the smallest, averaging 11.6 percent, while changes in the Northeast were the largest at 17.6 percent.

First-year wage changes for contracts reached in 1981 also varied by type of construction performed. Workers both in general building construction and special trades received the largest first-year changes, averaging 14.2 percent, while workers in general construction other than building received 11.7 percent. The total increase over the life of agreements negotiated in 1981, expressed at an annual rate, averaged 11.7, 12.0 and 10.1 percent in these respective classifications.

Collective bargaining agreements in the construction industry tend to be of shorter duration than those in other industries. Construction contracts negotiated during 1981 had an average duration of 27.6 months compared with 29.5 months for all major contracts negotiated in private nonfarm industries.

While wage and benefit changes resulting from newly negotiated settlements reflect current economic conditions, the majority of unionized workers are not affected by new agreements each year, but may receive increases from decisions in prior years, and/or the operation of automatic cost-of-living adjustments (COLA) clauses. Taken together, these three sources of change--current decisions, prior decisions ("deferred" increases), and COLA provisions--account for all the general wage-rate changes going into effect during a year. COLA clauses are provisions of a collective bargaining agreement which provide for automatic increases or decreases in pay rates on specified dates depending upon the movement of an economic indicator (such as the Consumer Price Index).

Approximately 593,000 workers received wage increases under contracts negotiated in 1981 in major bargaining units in the construction industry. About 985,000 received deferred wage increases during the year, and 107,000 received cost-of-living adjustments under COLA clauses. About 189,000 workers currently are covered by major construction industry collective bargaining agreements with COLA clauses--up from about 164,000 a year ago. Wage adjustments effective in 1981 from all these sources average 11.1 percent compared with 9.9 percent in 1980.

About 480,000 workers are under major agreements scheduled to expire or to be reopened during the year, compared with nearly 675,000 workers in 1981. On the other hand, the number of workers scheduled

to receive deferred wage increases in 1982 under major agreements is up, to about 1,070,000 from about 930,000 in 1981. The increases now scheduled for 1982 average about 10.5 percent. The comparable figure for 1981 was 9.9 percent. In addition, COLA reviews in 1982 are called for in major agreements covering 179,000 workers, nearly all of whom are slated to received a deferred wage increase during the year.

II. Construction Materials

A. Demand and Supply Situation for Building Products

1. 1978-81

The output of building products, particularly those used in new housing, reached a cyclical peak in 1978. For most of these products, however, output was somewhat lower in 1977-78 than during the 1972-73 building boom. By 1979, housing starts were declining, but carry-over demand from homes started in 1978 and the strength in nonresidential construction helped sustain the market for most of the year. Since 1979, building products output has experienced a prolonged slump, except for a short-lived recovery in the Fall of 1980 and into the Winter of 1980-81.

Scarcities of certain materials important to housing construction were evident in 1977 and 1978 but lessened in 1979 and virtually disappeared by 1980. The drop in demand left materials producing industries with a substantial amount of under-utilized capacity in 1980 and 1981, which resulted in widespread production curtailments, plant closings, and some bankruptcies.

Changes in the mix of new housing - single family/multi-family - also have had an influence on the total demand for building products and on the requirements for specific products. Generally, more materials are required per housing unit for single family structures than in multi-family structures. During the recession in the mid-1970's, the multi-family share of the housing market decreased significantly. However, the multi-family share increased beginning in 1977 and was up to about 35 percent by 1981 reflecting, in part, the devastating effects of high interest rates on the market for new single family homes, increasing high-rise condominium construction, and sharp increases in the costs for new single family detached units.

Table C-6

Mix of New Residential Construction

Year	Total Private Housing Starts (million units)	Single Family Percent of Total
1970	1.43	57
1973	2.05	55
1974	1.34	66
1975	1.16	77
1976	1.54	76
1977	1.99	73
1978	2.02	71
1979	1.75	68
1980	1.29	66
1981	1.08	65

Because many building products are sold in local or regional markets, regional trends in new housing activity are important in explaining materials demand and availability. Many products such as clay brick, heavy roof tiles (clay and concrete), stucco, and wood shingles are popular in some areas of the country but used little in others. Because cement/concrete is used more extensively in housing in the South than in northern localities, the increases over the years in the percentage of new housing starts accounted for by the South, and the decline in the shares accounted for by the Northeast and North Central Census regions, have helped to increase cement's share of demand. The share of new housing located in the West, a region which uses extensive amounts of wood and stucco, rose in the late 1970's but declined in 1980-81.

Table C-7

Geographic Location of New Housing Starts
(Percent Share of Total Private Housing Starts)

	Northeast	North Central	South	West
1970	15	20	43	22
1973	14	21	44	21
1974	14	24	41	21
1975	13	25	38	24
1976	11	26	37	26
1977	10	23	39	27
1978	10	22	41	27
1979	10	20	43	27
1980	10	17	50	24
1981	11	15	52	22

Table C-8

Private Housing Starts
(Percent Change from Previous Year)

	U.S.	Northeast	North Central	South	West
1973	-13	-16	- 1	-15	-19
1974	-35	-34	-28	-39	-34
1975	-13	-19	- 7	-20	- 3
1976	+32	+13	+36	+29	+45
1977	+29	+19	+16	+38	+35
1978	+ 2	- 1	- 3	+ 5	+ 1
1972-78*	- 2.5	- 8.0	+ 0.3	- 4.1	+ 0.6
1979	-14	-11	-23	- 9	-14
1980	-26	-30	-38	-14	-35
1981P	-16	-6	-24	-12	-22
1978-81*	-18.7	-16.3	-28.4	-11.9	-23.9

p - Preliminary
* - compound annual rate of change.

Mobile homes have become a major market for building materials. Annual shipments of mobile homes peaked in 1972 and 1973 at about 576,000 and 567,000 units respectively. During this period, many building materials producers developed products designed specifically for the mobile home market. During the 1975 recession, however, mobile home shipments declined dramatically to 213,000 and by 1977-79 they had recovered to only about 275,000 units per year. The 1980 recession brought shipments down again, this time to about 220,000 units.

Bucking the continued weakness in new housing starts and sales of existing homes, mobile home shipments rose about 9 percent in 1981 to 240,000 units.

The trend to longer and wider mobile homes has resulted in an increase in the average amount of materials used in building such homes. Multi-wide mobiles accounted for only about 10 percent of total shipments in 1970, but they accounted for about 30 percent of the total in both 1979 and 1980. In 1981, this trend was reversed as the multi-wide units share dropped to about 25 percent, indicating that the increase in shipments largely reflected increased sales of the less expensive, single-wide units.

Another construction sector of growing importance for building products is maintenance, repairs and additions to existing residential buildings. In periods of strong demand, this sector competes for available materials with new housing. When new housing start activity is down, maintenance, repairs and additions work often continues to grow as owners fix-up their existing property rather than buying new. Rising prices for new homes have encouraged fix-up and improvement work, as owners are confident that such work will be rewarded by even higher property values.

According to Census Bureau data, residential alterations, repairs, and additions expenditures (in current dollars) rose from 1973 through 1981 at a 12.3 percent compound annual rate. Outlays in 1981 totalled

over $46 billion. These expenditures include the cost of materials and hired labor but do not include an allowance for do-it-yourself labor. The average annual increase in the real value of such work, using the Census index for new one family homes (excluding lot value) as a deflator, was in the 2.0 to 2.5 percent range between 1973 and 1981.

Table C-9

Current Dollar Expenditures for Residential Alterations, Additions and Repairs

Year	Billion $	Percent Increase from Preceding Year
1973	18.5	5.7
1974	21.1	14.1
1975	25.2	19.4
1976	29.0	15.1
1977	31.3	7.9
1978	37.5	19.8
1979	42.2	12.5
1980	46.3	9.7
1981	46.4	0.2

The level of nonresidential construction activity also affects the demand for many products essential to housing. The mix of construction activity, therefore, is an important factor in the demand situation for specific products.

Table C-10

Mix of Construction Activity
(Billions of 1977 dollars)

	1973	1974	1975	1976	1977	1978	1979	1980	1981
Total Construction	199	170	152	163	173	182	179	161	156
Private, Total	152	126	109	122	135	141	141	124	121
Residential Buildings	87	66	56	68	81	81	76	61	55
Nonresidential Buildings	38	33	28	28	29	32	36	35	39
Public Utilities	23	21	19	21	20	22	24	22	22
Public, Total	46	44	44	41	38	41	38	38	35
Buildings	18	17	17	15	13	14	12	13	12
Highways & Streets	15	13	11	10	9	9	9	8	8

New residential construction makes up a large part of total new construction activity and, therefore, accounts for a large portion of building materials demand. Since 1973, residential buildings accounted for from 36 percent (1981) to as high as 47 percent (1977) of total construction put in place in constant dollars. The mix of construction is important, because many products used primarily in new housing also are consumed in significant quantities by other sectors of construction. Private and public nonresidential building construction requires many of the same materials as residential construction.

Furthermore, nonbuilding construction (highways, public works, utilities) also consumes large quantities of materials important to new housing such as cement/concrete, fabricated structural metal, asphalt pavements, etc.

2. 1982

Most forecasts call for a small increase in real construction activity in 1982 based mainly on some improvement in the levels of new industrial construction along with some continued strong performance in new office building construction. Partial year data indicates, however, that the constant (1977) dollar value of construction put-in-place should reach $154 billion (see Table C-10), a 1 percent decline.

Major forecasting services had forecast levels of housing starts in 1982 from 1.1 billion to 1.4 million units at the start of the year, but the current outlook is for 1.0 to 1.1 million million starts. With this level of housing starts, 1982 will be the third straight year of depressed starts. Any 1982 improvement in new housing activity could only occur in the last part of the year as interest rates decline. The expected mix of housing activity in 1982 will be toward single family construction, which should be 67 percent of new housing compared to 65 percent in 1981.

Mobile home shipment forecasts also varied from a 10 percent rise to almost 265,000 units, to the same or fewer shipments in 1982 compared to 1981. Because of their lower prices and the overall recessed condition of the economy, single-wide units are expected to continue to have the greatest demand in 1982.

The mobile home industry has, in recent years, made significant progress in solving many of its long term problems, such as gaining liberalized financing terms, decreasing zoning restrictions, and increasing community developments involving "for sale" mobile units. Also rapidly escalating costs for alternative housing have improved the appeal of this form of manufactured housing. The producer price index for mobile homes rose only 4 percent in 1981 and since 1975 it has grown at only a 7.4 percent compound annual rate compared to the 11.0 percent rate of increase in the Census single family home (excluding lot) index.

Materials demand from the residential upkeep and improvements market should be somewhat weaker in 1982 with expenditures (adjusted for inflation) expected to decline slightly from 1981 levels. Rising unemployment and uncertainties concerning continued employment may tend to cause homeowners to postpone some of this work. However, provisions in the 1981 tax bill can be expected to encourage more upkeep work in older nonresidential buildings beginning in the latter part of 1982.

Although detailed forecasts have not been prepared by the Bureau of Industrial Economics for the years after 1982, present expectations are for some improvement for housing with starts perhaps totaling 1.3 to 1.5 million units in 1983. Office building construction should peak in 1982 with total activity nationwide reduced in 1983. Industrial construction should be improving in this period. Little or no improvement is expected for public construction in 1983. In real terms, total construction should be up in 1983 but activity will be well below peak levels and serious building product delivery delays are not expected.

Other factors, in addition to construction activity levels and usual production costs, will affect materials availability and prices in 1982 and beyond. Sharply lower demand in 1980, 1981, and into 1982 has resulted in production line and plant closings. Many producers, mostly smaller and medium sized, will disappear from the market, more foreign investment is likely, and the stronger surviving firms will probably have a greater share of the market when the recovery develops. Although much of the closed capacity will reopen when demand improves appreciably, some will not and this could result in material availability problems if there is a construction boom situation like those in 1972-73 and 1977-79. This, however, is not likely to happen before 1984 or 1985.

Rapidly rising home building costs, sharply higher interest rates, and fuel cost escalation have resulted in a trend to less detached new housing and smaller new homes. For example, the number of bathrooms in a typical new single family home will likely continue to decline as it and the kitchen are the most expensive rooms to build. In 1980, for the first time in many years, the number of bathrooms per new housing unit declined. Also in 1980, and in 1981, there was a reversal in the previous trend of increased square footage per single family unit.

In future years, increased use will be made of materials with the best insulating values as a way to reduce fuel costs. New, more efficient ways to heat and cool our homes will not only change the comfort control equipment used but also affect design and other material selection. Builders, homeowners, and do-it-yourselfers will all demand products that are easy and cheap to install and which are easy to maintain and are durable.

The demand for prefabricated housing units (panels, mobiles, modulars) and components will probably increase in the decade of the 1980's. This increase is likely because of the need to control costs and quality, and because of shortages in many areas of qualified, on-site construction labor in times of strong activity. Another factor is the adverse impact of the current

three year slump on smaller builders as well as on skilled labor. Large builders are expected to play a greater role in housing in the future and they are considered to be more likely to use factory-built homes and components.

Usage of complete factory-built homes increased slowly in the decade of the 1970's. The manufactured housing industry was particularly hard hit by the severe housing recession because of its large capital investment. Over the 1970's, many firms entered the prefab home market and many have since left. Use of prefabricated components has generally grown faster than complete prefab homes, with factory-built roof trusses and some other components being widely used by conventional home builders.

B. Building Materials Output 1977-81

The 1980-81 construction slump is reflected in sharply reduced production/shipments levels for most construction products (see Table C-11). Although sharp decreases occurred in 1980, several products experienced sizable additional declines in 1981. Among the hardest hit industries, measured in terms of percent drop in volume over the 1980-81 period, were clay brick, nails, some types of plumbing fixtures, sand and gravel, gypsum boards, and lumber and wood products. Several other product categories would have suffered greater declines in output if it were not for their considerable usage in the relatively strong repairs, alterations and additions market, and the very active office building sector.

The relationship between the output of specific building materials in 1981 and that in the most recent peak years (1977 through 1979) provides a rough indication of the capacity of materials industries to meet the modest demand increase expected in 1982. This relationship suggests that no supply problems are likely this year assuming no major production or transportation curtailments.

C. Building Material Prices: 1977-81

According to the Bureau of Labor Statistics' Producer Price Index for all construction materials (ACMI), prices continued to rise in 1981 at about the same 6 percent annual rate experienced in 1980.

Table C-11

Output of Selected Construction Materials Used in Housing 1977-81

	1977	1978	1979	1980 p/	1981 1/	1979-80	1980-81
Lumber and wood:							
Softwood lumber (production in millions of board feet)	31,386	30,917	29,351	24,334	23,600	-16.0	- 3.0
Softwood plywood (production in millions of square feet)	18,877	19,492	19,744	16,734	16,230	-15.2	- 3.0
Iron and steel (shipments in thousand tons)							
Fabricated structural steel	3,486	3,485	4,099	3,925	3,925	- 4.2	0
Reinforcing bars (concrete)	4,179	4,704	5,303	4,683	4,450	-11.7	- 5.0
Galvanized sheets	5,657	6,431	6,342	5,244	6,550	-17.3	+24.9
Cast iron soil pipe	682	732	594	388	485	-34.7	+25.0
Nails	278	289	257	173	173	-32.7	0
Gypsum board products (shipments in millions of square feet)	15,391	16,445	16,729	14,131	13,800	-15.5	- 2.3
Heating equipment (shipments in thousand of units):							
Warm air furnaces, except electric	1,754	1,885	2,121	1,532	1,565	-27.8	+ 2.2
Water heaters	6,672	7,190	7,169	6,825	6,700	- 4.8	- 1.8
Prepared asphalt roofing (shipments in thousand of squares) 1978-81 data includes fiberglass mat shingles)	93,497	121,652	125,822	104,972	100,500	-16.6	- 4.3
Brick, unglazed, common & face (production in millions)	8,299	8,697	8,441	6,412	5,260	-24.0	-18.0
Plumbing fixtures (thousand of units, production):							
Lavatories	5,047	5,104	5,350	4,345	4,000	-18.8	- 7.9
Water closet bowls, flush tanks and urinals	15,393	15,626	15,906	14,919	13,600	- 6.2	- 8.8
Sinks and laundry trays	5,147	5,441	4,712	3,989	3,850	-15.3	- 3.5
Bathtub and shower stalls	3,211	3,751	3,594	2,605	2,550	-27.5	- 2.1
Copper water tubing (shipments in millions of pounds)	432	451	483	422	405	-12.6	- 4.0
Copper building wire (shipments in millions of pounds)	624	718	694	598	NA	-13.8	NA
Portland cement (destination of shipments data incl. imports - in thousands of short tons)	78,730	84,838	84,860	75,731	73,000	- 9.3	- 4.1
Fiberglass insulation, structural (production, million pounds)	2,082	2,246	2,357	2,211	2,025	- 6.2	- 8.4
Sand & gravel, (construction aggregates sold or used by producers - thousand tons)	897,900	963,300	945,500	764,000	735,000	-19.2	- 3.8

Source: Bureau of Industrial Economics, Construction Review, Bureau of the Census, Current Industrial Reports, and various other U.S. Department of Commerce and trade association data series.

1/ Estimated by Bureau of Industrial Economics, U.S. Department of Commerce.

p/ Preliminary data subject to revision.

These were the smallest annual increases recorded since the 6 percent rise in 1972. The ACMI rose from 160.9 (1967-100) in 1974 to 251.4 in 1979, a 9.3 percent compound annual rise.

Construction material prices are sensitive to demand fluctuations and therefore, are usually quick to respond to changes in the cycles of construction activity. In periods of falling demand, material producers often must absorb cost increases.

Labor, process fuel, raw materials and transportation costs are the principal costs of producing most building products. Materials such as cement, lime, gypsum boards, clay products, fiberglass insulation, and glass are very energy-intensive in their production. Asphalt products, plastics and fiberglass use petroleum and natural gas as raw materials. Transportation costs are important because most building products are bulky and heavy compared to their value.

Construction material price rises were a very important factor in construction cost increases in the 1973-1981 period (see Table C-12). In 1981, the all construction materials index rose at about the same rate as the Commerce composite construction cost index, but at a lower rate than the Census new one-family home, and Boeckh commercial and factory building indexes. Unlike material prices, the average hourly earnings of construction workers rose more rapidly from 1980 to 1981 than in preceding years. The 1980-81 increase in hourly earnings amounted to 8.2 percent, the highest increase in a decade.

Table C-12

Annual Increases in Construction Materials Prices, Construction Wage Rates and all Construction Costs

Year	All Construction Materials Producer (ACMI) Price Index	All Construction Workers-Average Hourly-Earnings	Department of Commerce Composite Construction Cost Index	Bureau of Census New One Family Houses Sold Index (excl. Census lot value)	Boeckh Commercial & Factory Building Cost Index
1972-73....	9.4	5.8	8.7	9.5	6.6
1973-74....	16.2	6.2	16.7	10.3	10.8
1974-75....	8.1	7.3	9.1	8.9	10.4
1975-76....	7.9	5.5	4.0	7.2	8.5
1976-77....	9.2	5.1	8.6	12.0	8.0
1977-78....	11.4	6.9	12.4	14.0	7.5
1978-79....	10.1	7.0	13.6	12.8	8.9
1979-80....	6.0	7.0	11.3	10.8	9.1
1980-81....	6.2p	8.2p	6.6p	8.3 1/	9.7p

1/ Third quarter 1981 over third quarter 1980.

p Preliminary.

Although prices for most building products continued rising in 1980 and 1981, the rate of escalation was generally slower than it was when demand was stronger (see Table C-13). Major price declines for certain wood products occurred over the last 2 years. Products experiencing larger price increases in 1980 and 1981 than in the late 1970's included building paper and board, heating equipment, builders' hardware, and wire nails. Other categories with relatively high price rises in 1980, but small increases or declines in 1981, were prepared asphalt roofing, plumbing fixtures and fittings, prepared paint, and hardsurfaced floor coverings. Categories with prices rising at about the same pace in the late 1970's and early 1980's included fabricated steel for buildings, steel structural shapes, metal sash and doors, aluminum sidings, sand and gravel, and asphalt paving mixtures.

The rate of change in construction materials prices in 1982 will depend mainly on the speed and strength of the anticipated recovery in new housing activity. Expectations are for a continual rise in overall construction material prices, but at a rate below the 6 percent of 1980 and 1981.

D. Major Product Categories

1. Cement, concrete, concrete products and aggregates

Portland cement is used in virtually all types of construction work. It is estimated that in most recent years, about 30 to 33 percent of cement output was consumed by the new residential construction sector. The industrial/commercial sector consumed about 20 to 23 percent, public buildings 7 percent, public works 17-18 percent, transportation construction 17-19 percent, and all other construction work accounted for 3-4 percent.

Consumption of Portland cement, based on destination of shipments data (including imports), totaled about 76 million tons in 1980 and 72 million tons in 1981. All time peak shipments of 88.5 million tons were recorded in 1973; during the construction upturn of the late 1970's shipments reached 84.9 million tons (1979). Cement shipments in 1982 are expected to decline about 4 percent bringing them to about 69 to 70 million tons nationally, far below levels which would cause supply problems.

Although Portland cement supplies have been adequate since mid-1979, shipment delays and resulting construction project delays were widespread in the two boom periods of the 1970's. These shortages resulted when housing and nonresidential construction peaked simultaneously and when, in some areas, transportation and output interruptions occurred.

With demand expected to remain weak in 1982 and only a moderate recovery anticipated in 1983, delivery delays, if any, should be minimal. In fact, considerable under-utilization of cement capacity will likely continue through this period in most market areas. The construction industry remains concerned, however, regarding the ability of the cement industry to meet demand in high growth market areas, particularly when construction recovers from the current slump.

Because of the high costs of transporting cement and the shortages of rail cars for transport, cement capacity and distribution point locations are key factors in the cement availability situation. In 1972-73, serious supply problems existed in the East and parts of the South but plenty of cement was available out West. In 1977-78, there was adequate cement in the Northeastern and Middle Atlantic States but there were widespread shortages in most other markets, particularly the South and West. Because most of the growth in demand has been occurring in the southern half of the country and in the West, most new capacity addtions have been in those areas and most plant and kiln closings have been in the low growth Northeast and North Central States.

The extended periods of weak demand and severe under-utilization of capacity in the last 20 years have limited the need for substantial overall additions to cement capacity as well as the ability of the industry to generate the huge capital required to add capacity where needed. Since the early 1970's, the industry has added some new capacity and adjusted capacity locations. It is estimated that the U.S. Portland cement industry can presently produce 92 million short tons of cement clinker annually and can grind about 107 million tons of finished cement.

The industry has been required over the years to install air pollution control equipment, switch to coal from other more scarce fuels for kiln firing, and begin the long range shift from wet process to the much more energy efficient dry process, which uses preheater and flash calciner technologies. All these changes were extremely time consuming and costly. New plants can take up to 4 to 5 years to plan, obtain regulatory approvals, build, and attain full operation. It can also cost over $100 million to build a 1 million ton capacity new facility.

Portland cement capacity additions announced for opening in 1982 are sizable although kiln and plant closings will reduce the net capacity gain. Major expansions will add capacity in 1982 in

California, Iowa, Maryland, Nebraska, Florida, Pennsylvania, Utah, and Washington. Most of these projects were initiated in the late 1970's when demand was strong. Capacity additions to be opened in 1983-84 appear to be much smaller than those coming into operation in 1982; this reflects the weakened demand since 1979. Several projects involving new plants and additions have been postponed, waiting for needed capital and improved demand.

Cement imports rose in response to increases in demand in the two construction boom periods of the 1970's but dropped off considerably as demand fell. Many U.S. producers themselves became major importers in these high demand periods. Import penetration, particularly from Canada, has been significant in the Northeast and North Central States.

Table C-13

Portland Cement Imports

Year	Million Tons	Percent Change from Previous Years
1972	4.9	+ 58
1973	6.7	+ 37
1974	5.7	- 15
1975	3.7	- 35
1976	3.1	- 16
1977	4.0	+ 29
1978	6.6	+ 65
1979	9.4	+ 42
1980	5.3	- 44
1981	4.0	- 25

Export sales do not significantly reduce the amount of cement that is available in the domestic market. U.S. cement is high priced in the world market; therefore, this country's export volume is small, usually only about 0.2 to 0.3 percent of domestic production. There is a tendency to export more from the United States in periods of weak demand and export less when domestic needs are strong.

Concrete, concrete products, and aggregates (sand, gravel, crushed stone and lightweights) will also be in adequate supply in 1982 to prevent substantial price increases. Some parts of the country lack sufficient local sources of supply for aggregates but are accustomed to shipping in their needs from other areas. Other concrete-related products should also be in more than adequate supply (i.e., reinforcing bars and mesh, admixtures, and prestressing steel strand).

The only substitutes for Portland cement in concrete are "blended cements" in which fly ash and slags are used in place of some of the Portland cemnt (10-15 percent) in a concrete mixture. Blended cements were not used extensively in the 1970's, but it is expected that they will become more popular in the 1980's. The new slag cement plant which opened in Sparrows Point, Maryland in

the spring of 1982 will produce a high quality slag cement that can replace up to about 50 percent of the Portland cement in concrete used for some applications. This cement will be available in most eastern states.

Concrete and concrete products can be replaced by numerous other materials if provisions for the substitute are made in the planning stage of a project. For structural applications, metals, wood and brick can be substituted. Asphalt pavements, clay bricks, and the new sulphur pavements are substitutes in the street, parking lot, sidewalk, and highway markets. Other concrete products, depending on use, can be replaced by items of metal, plastic, clay, wood, stone, and glass.

Prices for cement, concrete, and aggregates tend to respond to demand changes. Reduced demand in recent years has generally resulted in lower price increases rather than actual declines. Energy costs and transportation costs are the most significant cost variables. Reflecting the lower demand and more stable energy costs, prices increases for these products were more moderate in 1981 than in the late 1970's and 1980. The BLS producer price index for Portland cement rose 5.7 percent in 1981 compared to 9.7 percent in 1980 and 12.7 percent in 1979. The 1981 increase was the lowest since the oil embargo and the major energy cost

increases which begin in 1973. The compound annual rise in Portland cement prices from 1974 to 1979 was 11.8 percent. In 1981, lower rates of price increase were also recorded for ready mix concrete and concrete block (see Table C-14). Prices for sand, gravel and crushed stone continued to rise at a double digit rate in 1981. Prospects for 1982 are for increases at about the same rates as in 1981 for most of these products.

2. Clay Brick

Over the years there has been a decline in the share of the siding market accounted for by brick, yet it still has about 28 percent of the total U.S. market and in many parts of the country it remains the preferred cladding material. In the South Census Region, for example, almost 50 percent of all new homes are brick clad.

In most years, about 55 to 60 percent of brick production goes to new residential construction. For this reason the housing slump of the early 1980's has left the industry with much unused capacity. Production in 1981 totaled less than 5.3 billion bricks, down from 8.7 billion in the peak years of 1973 and 1978. Delivery delays were widespread in both of these years when 2 million or more housing units were started. The slight increase in starts forecast for 1982 will only marginally increase brick demand and brick supplies should remain more than adequate even through 1983.

Table C-14

Indexes of Price and Price Change for Selected Construction Materials Used in Housing 1977-81
(1967=100)

Product	1977	1978	1979	1980	1981 1/	Percent Change 1978-79	1979-80	1980-81
Producer Prices--All Commodities	194.2	209.3	235.6	268.8	293.4	12.6	14.1	9.2
All Construction Materials	204.9	228.3	251.4	266.4	283.0	10.1	6.0	6.2
Selected Building Product Categories:								
Lumber and wood products	236.3	275.4	300.4	288.9	292.9	9.1	-3.8	1.4
Millwork	193.7	235.4	254.3	260.4	273.4	8.0	2.4	5.0
Softwood lumber	296.2	345.7	380.0	345.1	343.2	9.9	-9.2	-0.6
Softwood plywood	295.8	326.4	322.3	308.8	306.7	1.3	-4.2	-0.7
Gypsum products	183.5	229.1	252.3	256.3	256.2	10.1	1.6	*
Building paper and board	157.0	187.4	182.4	206.2	231.3e	-2.7	13.0	12.2
Fabricated structural steel for buildings	212.9	232.8	251.9	272.8	299.9	8.2	8.3	9.9e
Reinforced bars (concrete)	185.8	208.4	261.1	274.8	275.4	25.3	5.2	*
Galvanized steel sheets	221.0	240.6	267.8	274.9	312.8	11.3	2.7	13.8
Finished steel structural shapes	241.2	272.0	300.4	329.9	368.2	10.4	9.8	11.6
Metal sash, doors and trim	188.7	207.6	229.6	255.2	279.1	10.6	11.1	9.4
Heating equipment	165.5	174.4	187.1	206.5	223.9	7.3	10.4	8.4
Warm air furnaces	152.0	162.0	178.1	200.4	225.1	9.9	12.5	12.3
Water heaters (domestic)	170.9	176.8	188.7	207.3	218.2	6.7	9.9	5.3
Portland cement	228.6	251.3	283.3	310.8	328.5	12.7	9.7	5.7
Ready mixed concrete	196.6	218.9	249.6	281.2	299.9	14.0	12.7	6.7
Concrete building blocks	183.6	201.6	232.8	256.9	269.7	15.5	10.4	5.0
Prepared asphalt roofing	246.4	288.8	315.2	372.6	358.4	9.1	18.2	-3.8
Clay building brick	204.0	234.4	263.1	280.8	300.6	12.2	6.7	7.1
Clay tile	158.8	158.1	171.3	181.2	195.5	8.3	5.8	7.9
Plumbing fixtures and brass fittings	186.6	199.1	217.1	246.7	267.4	9.0	13.6	8.4
Brass fittings	186.5	197.6	216.8	250.0	272.1	9.7	15.3	8.8
Enameled & iron plumbing fixtures	214.6	223.6	239.7	268.1	293.1	7.2	11.8	9.3
Vitreous china fixtures	174.2	189.8	207.7	235.4	255.7	9.4	13.3	8.6
Builders hardware	175.4	187.7	205.0	229.0	255.5	9.2	12.0	11.2
Aluminum siding, noninsulated, manufacturer to distributor	184.9	211.8	223.2	233.7	245.3e	5.4	4.7	5.0e
Prepared paint	182.4	192.3	204.4	235.3	249.9	6.3	15.1	6.2
Wire nails 8D common	261.3	273.5	298.5	331.9	356.9	9.1	11.2	10.8
Sand, gravel, and crushed stone	170.7	185.8	207.1	237.3	262.5	11.5	14.6	10.6
Plastic construction materials Dec. 1969=100)	133.2	136.4	147.5	154.2	154.9	8.1	4.5	*
Building lime	220.1	247.7	273.3	308.5	331.8	10.3	12.9	7.6
Hardsurfaced floor coverings	172.0	180.7	199.2	228.5	240.3	10.2	14.7	5.2
Paving mixtures and block (asphalt & bituminous)	278.4	311.8	371.3	489.0	587.1	19.1	31.7	20.1
Mobile homes	116.8	126.4	138.1	150.2	156.4	9.3	8.8	4.1

Source: Bureau of Labor Statistics, U.S. Department of Labor and Bureau of Industrial Economics, U.S. Department of Commerce.

1/ Average computed on unrevised data for September, October, November and December 1981.

* Less than 1/2 of 1 percent change.

e Estimate based on data for less than 12 months.

To help cushion the demand for brick from the severe cycles of new housing activity and to offset the erosion in its share of the home siding market, the industry has been promoting the use of brick in new applications by offering larger clay brick units, factory and site-produced brick panel technology, and special shaped units. Expanded brick usage is anticipated in the areas of passive solar technology, paving blocks, security and privacy barriers as homes are built closer together, and in load bearing structural applications in medium and higher rise structures.

Residential siding products which compete with brick include wood, vinyl, steel, aluminum, stucco, concrete and stone. For cladding nonresidential building, various curtain walls, precast concrete panels, and dimension stone are alternatives to brick.

Clay brick prices have tended to fluctuate in response to changes in demand and the costs for process fuel and transportation. Over the 1974-79 period when fuel costs increased sharply, the producer price index for brick rose at a rapid 12.9 percent compound annual rate. A more modest 7 percent rate of increase was recorded in both 1980 and 1981. The small demand increase expected in 1982, coupled with rising natural gas prices, will likely result in a price rise in the 7 to 8 percent range. Most brick plants currently utilize natural gas but some are converting

to coal and others are experimenting with wood pellets and waste materials to fuel their kilns. A few have drilled their own natural gas wells.

3. Gypsum board

The gypsum board industry usually is dependent on new housing for about 50 percent of its sales. In years of depressed new housing such as 1980-82, a smaller share of output is consumed by the housing industry. A growing market for gypsum boards in nonresidential buildings along with the continued strength of office building construction have partially offset declining sales volume in recent years to the home construction market. Board sales, which totaled a record high of 16.7 billion square feet in 1979, amounted to about 14.1 billion in 1980 and to 13.8 billion in 1981. Because gypsum board is one of the last products installed in a new home or building, board sales often benefit from construction work started several months earlier. Hence, sales in 1979 benefited from the high volume of homes started in 1978. Also, the housing recovery expected to start later in 1982 will not likely add appreciably to gypsum board sales until 1983 and, even then, capacity will likely be more than adequate.

Although no gypsum board supply problems are expected through 1983, future gypsum board availability is of concern to the home building industry mainly because of the serious supply shortfalls experienced in the boom periods of the 1970's. Considerable new capacity has been added in the last 2 years, particularly in the market areas with the supply problems in the past and with the greatest expected future growth. Much capacity is presently closed due to weak demand, but it is likely that most of this capacity will be reopened as demand dictates, as it is owned by larger firms able to survive the slump.

There are few substitutes for gypsum board, which is relatively low priced, easy to install, and has a "Class A" flame spread rating. At present no other wall product supplies a major part of the total market. Depending on application and building codes, substitutes can include gypsum plasters, wood paneling and a variety of wood and mineral based panels that are primarily used for ceilings.

Prices for gypsum boards tend to vary with demand. Producer prices for gypsum products rose less than 2 percent in 1980 and were basically unchanged in 1981, compared to a 12.9 percent compound annual rate of increase in the 1974-79 period. Paper, transportation and process fuel costs account for a large part of

the total costs of production. Gypsum board price levels in 1982 will reflect natural gas prices as well as the timing of the anticipated turn-around in housing starts.

4. Asphalt and other roofing products

In most years, about 60 percent of the shipments of asphalt roofing products goes to the replacement and repairs market and 40 percent goes to new homes and buildings. Shipments of prepared asphalt roofing products dropped more than 20 percent over the last 2 years, from 125.8 million sales squares in 1979 to as estimated 100.5 million in 1981. In 1982, shipments should rise marginally to a level of from 104 to 107 million squares assuming housing construction begins to recover by summer. At this level, capacity will be more than adequate to meet demand in 1982 and there should be no supply problems in 1983.

Asphalt roofing products continue to dominate the U.S. sloped roof market, although in the case of flat roofs, inroads are being made by "single ply" sheet roofing products and by liquid coating materials. In the southern tier of states, concrete and clay tiles are widely used for sloped roofs. Wood shingles are used mostly in the West and for vacation homes. For sloped roofs on nonresidential and farm structures, metal and cellulosic-asphaltic panels are used extensively. Slate and asbestos cement shingles are limited in use today mainly to replacing and repairing existing roofs of the same material.

A most important development in asphalt roofing is the replacement of the organic felt base product by the fiberglass mat asphalt shingle. Although available for several years, fiberglass mat shingles and roll roofing did not become popular until recently because they were considerably more expensive than the organic felt base roof. However, the fiberglass product is now very competitive because it contains significantly less high-cost asphalt and economies have been achieved as a result of large scale production. Fiberglass shingles offer good appearance, substantial architectural appearance options, are long lasting, and the manufacturers offer longer warranties. It is believed that by the mid-1980's most manufacturers will have shifted the bulk of their output to fiberglass mat asphalt roofing.

Changes in asphalt and waste paper prices along with changes in demand have been the major determinants of price movements for asphalt roofing. In 1980, sharply higher asphalt prices resulted in an 18 percent increase in the Producer Price Index for prepared asphalt roofing. During the 1974-79 period, this index rose at a compound annual rate of 10.7 percent. In 1981, however, raw asphalt prices softened as the year progressed and this, along with the continuing demand decline, resulted in a 4 percent drop in the index. Price changes in 1982 should primarily reflect asphalt prices.

5. Plumbing fixtures and fittings

Plumbing fixture demand is very dependent on new residential construction activity. In most years, about 60 percent of shipments are for use in new housing, about 15 to 20 percent for use in new nonresidential buildings, and the remainder goes for replacements and additions in existing buildings. For fittings and brass goods, in most years, about 40 to 50 percent goes each to the new housing and to the replacements and additions markets, with the remainder used in new nonresidential buildings.

In the 1970's, plumbing equipment generally was in adequate supply although during the high demand periods there were some spot shortages involving particular colors or types. During the 1972-73 housing boom, a major work stoppage in the East resulted in severe delivery delays. With new housing still at low levels in 1982, no supply problems are anticipated.

In periods where there are delivery delays, builders can select from a wide variety of fixtures produced from different materials and can seek out goods from several large nation-wide producers or from a sizable number of smaller local or regional manufacturers. Bathtubs can be made of iron, steel or fiberglass reinforced plastic; flush tanks can be vitreous, metal or plastic; kitchen sinks can be vitreous, plastic or composition (marbilized

coating on concrete); shower stalls can be of a combination of glass, metal, concrete and plastic; and , in the water closet bowl market, plastics are beginning to compete with vitreous. For fitting and brass goods, plastics can be substituted for many of the traditional brass, copper and ferrous products.

The plumbing fixtures and fitting Producer Price Index rose in 1980 and 1981 at a slightly faster rate than in the 1970's. The compound annual rise from 1974 to 1979 was 7.8 percent. In 1980, the index was up 13.6 percent and it rose another 8.4 percent in 1981. A similar rise in the 8 to 9 percent range can be anticipated in 1982.

6. Heating Equipment

Different types and sizes of heating equipment are characteristic of the three basic markets (new single family homes, nonresidential buildings, and the residential replacements market). High energy costs have strengthened the replacements market vis-a-vis the other markets, as considerable heating equipment has been replaced earlier than necessary in order to reduce heating costs. Purchases of supplemental heating equipment (stoves, kerosene units, fireplace inserts, other space heaters) have grown rapidly because of the often higher costs of operating central heating systems.

In the new home heating, the general replacements, and the space heating markets, the wide choice of products available (using different fuels) virtually insures adequate heating equipment supplies.

Delivery delays can occur, however, for specific types or models. Purchasers can choose equipment utilizing several alternative fuels depending on local grid hookups (natural gas, fuel oil, electricity, wood, coal, propane and solar). Central system alternatives are warm air furnaces, hydronic (hot water) systems, and heat pumps. Space heater options include electric radiant and baseboard units, room wall heaters, wood and coal burning stoves, fireplace inserts and various solar energy system (central or space).

About 85 percent of the new homes built in 1980 had central systems (67 percent warm air furnaces, 29 percent heat pumps and 4 percent hydronic). The remaining 15 percent of the homes had built in space heaters of which 59 percent were electric (based on data collected for HUD by the Bureau of the Census).

Heating equipment prices have risen at a somewhat slower rate than plumbing equipment prices. The Producer Price Index for heating equipment, which rose at a compound annual rate of 6.7 percent from 1974 to 1979, was up to 10.4 and 8.4 percent rates in 1980 and 1981. An increase of about 8 percent can be expected in 1982.

7. Building insulation and related products

The energy crisis resulted in a sharp upswing in demand for insulation products. The industry initially lacked the capacity to meet these expanded needs and shortages developed in 1977 when retrofit demand was high and housing starts rose to the 2 million unit level. The introduction of many new insulation products and considerable capacity expansion virtually eliminated such problems by the summer of 1978. Excess capacity has existed since that time.

The volume of retrofit work in existing buildings and homes has been sizable, due to efforts to reduce heating and cooling costs and take advantage of the tax incentives, but the volume has failed to reach the levels anticipated by the industry. Relatively weak demand from the new housing sector and only a fair retrofit market in 1982 will leave the producers with much unused capacity.

The degree of substitutability among insulation products depends largely on building codes, product characteristics, and health and safety considerations. Ceiling or attic insulation

alternatives include blown-in or batt fiberglass; poured, blown-in or batt rock wool; loose fill or sprayed cellulose; perlite; vermiculite; and reflective foil. Wall cavity products include fiberglass, rock wool, cellulose, plastic foam (boards, poured, frothed or sprayed), perlite, vermiculite, and foil. Flat roof insulation board products include plastic and mineral boards, and combinations involving perlite.

Demand for other energy conservation building products should be strong in 1982 as a result of the frigid winter, but supplies should be more than adequate to meet the needs without substantial price increases. Such products include storm windows and doors; prime insulated doors and thermal-paned windows; pipe, duct, and water heater insulation; weather stripping; and caulking materials.

8. Other building products

Materials shortages are not anticipated in 1982 and 1983 for this broad range of products if there are no major production curtailments. The items at issue here include electrical products, various types of pipe, floor and wall coverings, builders' hardware, various metal products (siding, studs, fabricated structural metal, duct work, etc.), paint, asphalt paving, etc.

Price increases should be moderate in 1982 with most about the same as in 1981 or lower.

9. Softwood sawtimber

Consumption of softwood sawtimber products, which dropped sharply in 1980, continued down in 1981, as further declines in new housing use more than offset rising use in other markets. Based on preliminary data, consumption in new housing construction--the Nation's most important softwood sawtimber products market--is estimated at 12.8 billion board feet (lumber tally) in 1981 (Table C-15). This is some 2.5 billion board feet below 1980 and 8.4 billion under use in 1979. Although consumption in other markets rose about 4.6 percent to 36.6 billion board feet in 1981, use in these markets remained below the level reached in 1979. Total use in 1981 is estimated at 49.4 billion board feet, about one billion less than in 1980 and more than 9 billion under total consumption in 1979.

Based on beginning-of-year low and high forecasts of housing production shown in Table C-15, demand for softwood sawtimber products in new housing would have ranged between 13.2 and 15.3 billion board feet in 1982. Actual consumption will be less than 12.8 billion board feet. Estimates of a small rise in real economic growth suggest that activity in most other markets would increase. Given this expectation, total demand for softwood sawtimber with the original low estimate of housing starts in 1982 increases to 50.5 billion board feet; the actual is now expected to be under 50.0 billion board feet. These volumes remain below annual consumption during the 1976-79 period when housing starts averaged more than 1.8 million units.

Table C-15

Consumption and supply of softwood sawtimber 1979-81, with estimates for 1982

(Billion board feet, lumber tally)

	1979	1980	1981	1982	
				Low	High
Consumption:					
New housing	21.2	15.3	12.8	13.2	15.3
Other	37.4	35.0	36.6	37.3	37.3
Total	58.6	50.3	49.4	50.5	52.6
Supply:					
Log harvest					
National forests	10.1	8.8	7.0	8.5	8.5
Other lands	43.5	37.7	37.6	37.6	37.6
Total	53.6	46.5	44.6	46.1	46.1
Log exports	4.5	3.7	2.7	3.1	3.1
Log imports	.1	.1	.1	.1	.1
Logs for U.S. mills	49.2	42.9	42.0	43.1	43.1
Lumber imports 1/	11.4	9.6	9.6	9.6	9.6
Lumber exports 1/	2.0	2.2	2.2	2.3	2.3
Total supply	58.6	50.3	49.4	50.4	50.4
Supply-demand balance	0	0	0	-.1	-2.2

1/ Includes plywood.

Note: Estimates of consumption in new housing are based on the following forecasts: 1981--1,090,000 housing starts plus 250,000 mobile home shipments; 1982 low--1,100,000 housing starts plus 220,000 mobile home shipments; 1982 high--1,300,000 housing starts plus 240,000 mobile home shipments. The harvest and import estimates for 1982 are the volumes assumed to be available at prices prevailing in late 1981.

Source: U.S. Department of Agriculture, Forest Service.

In response to the declines in demand, softwood timber product prices have been trending down since 1979 (Table C-16). The average for all softwood lumber items in 1981, as measured by the producer price index, was 342.9 (1967=100), 1 percent below the 1980 average and more than 15 percent under the high reached in September 1979. Softwood plywood prices exhibited the same general trends as those for softwood lumber. Average plywood prices in 1981 were only slightly below the year-earlier level, but some 5 percent below those in 1979.

Softwood stumpage prices also fell in 1980 and 1981. For example, stumpage prices for southern pine sawtimber sold from private lands in Louisiana during the third quarter of 1981 were about 1 percent below third quarter 1980 prices and down some 18 percent from prices during the similar period in 1979. Average stumpage prices for the major softwood sawtimber species sold from the National Forests also declined.

The total supply of softwood sawtimber products in 1981 was 49.4 billion board feet, down 2 percent from 50.3 billion in 1980 and nearly 16 percent below the total for 1979. Supplies from domestic forests were 44.6 billion board feet, almost 2 billion under 1980 and 9 billion less than 1979. Most of the decline in 1981 was due to a reduction in harvests on the national forests;

Table C-16

Producer price indexes 1/ for softwood lumber and plywood, 1979-81

Year and month	Softwood lumber				Softwood plywood		
	All	Douglas-fir, dressed	Southern pine, dressed	Other softwood, dressed	All	Western	Southern
1979	(380.0)	(383.9)	(324.2)	(400.3)	(322.3)	(328.8)	(157.0)
January	357.8	357.2	307.0	378.2	346.7	354.3	168.0
February	361.8	360.1	306.4	385.1	340.0	351.7	158.7
March	375.5	371.0	315.7	402.5	341.4	351.5	161.7
April	381.2	381.1	319.0	407.4	334.0	345.6	155.8
May	380.3	381.8	315.8	407.0	319.5	329.8	150.1
June	380.1	378.3	315.2	408.8	295.2	304.1	139.6
July	380.4	387.4	320.7	401.8	314.4	319.1	155.5
August	394.1	408.4	333.7	411.8	325.8	324.3	170.2
September	405.6	424.0	343.6	422.0	330.7	327.6	175.1
October	400.3	410.4	344.4	417.2	325.7	327.4	165.5
November	381.8	378.7	341.1	396.7	301.4	309.4	144.0
December	360.5	368.8	328.2	365.5	292.6	300.4	139.6
1980	(345.1)	(353.0)	(297.4)	(359.8)	(308.8)	(310.9)	(156.2)
January	355.7	363.3	322.0	362.0	288.9	293.8	142.0
February	363.0	367.1	322.2	374.9	299.3	308.0	141.9
March	362.4	358.8	317.2	380.7	294.4	302.3	140.4
April	323.4	327.1	281.2	337.5	251.6	256.9	122.2
May	312.6	329.6	280.1	314.7	276.0	275.4	143.2
June	328.6	353.2	287.3	331.9	298.5	301.7	149.4
July	348.1	358.7	296.4	363.7	321.7	324.5	161.8
August	356.9	360.0	304.1	376.5	351.9	346.2	189.7
September	349.4	357.1	295.1	368.0	326.6	324.0	172.3
October	340.2	354.5	282.3	357.9	324.2	324.2	167.8
November	345.2	352.9	286.9	366.4	330.3	330.3	169.3
December	355.7	353.4	293.7	383.6	343.3	343.3	174.9
1981	(342.9)	(311.8)	(290.4)	(379.0)	(306.8)	(314.0)	(148.6)
January	352.9	347.2	291.9	381.0	325.3	326.4	165.6
February	347.1	330.4	292.2	377.7	323.3	330.0	158.1
March	346.0	321.8	294.7	378.3	315.7	323.3	153.0
April	355.5	332.7	308.4	385.6	326.1	332.2	160.1
May	358.2	328.5	313.9	392.7	314.7	319.7	155.3
June	357.0	333.1	309.5	390.4	320.7	329.4	154.1
July	349.0	320.4	289.9	389.6	312.7	323.2	147.6
August	347.7	318.2	287.8	390.9	303.0	311.9	144.2
September	335.2	295.3	277.0	378.6	294.6	302.9	140.7
October	324.8	276.1	271.4	367.0	278.3	283.8	135.5
November	319.9	268.2	271.2	357.9	277.7	286.7	131.0
December	321.4	269.3	277.0	357.7	289.3	298.1	137.9

1/ All index bases 1967=100, except southern plywood, which is December 1968=100.

Source: U.S. Department of Labor, Bureau of Labor Statistics.

however, the percentage drop over the two-year period 1979 and 1981 was about the same for all ownerships. Net imports of softwood sawtimber products fell about 26 percent in 1981 to 2.8 billion board feet.

Softwood sawtimber harvests from the national forests are expected to rise to 8.5 billion board feet in 1982, up about 1.5 billion. Assuming a continuation of 1981 price levels, potential supplies from other domestic sources and foreign trade are likely to remain about the same. As a consequence, total supply rises to 50.4 billion board feet.

Comparisons of estimated potential softwood sawtimber supplies with anticipated demands show that the anticipated increases in supplies at late-1981 price levels are sufficient to meet increases in demand. This suggests no pressures on product and stumpage prices in 1982.

Many analysts estimate that in the mid-to-late 1980's the high level of household formations resulting from the large number of births in the 1940's and 50's, and the growing needs for replacements, due in part to past use of mobile homes, will result in a return to higher levels of new housing demand. Continued increases in timber demands in other markets also can be expected as population rises and the general economic situation improves. On the other hand, supplies are likely to increase slowly. Thus, the longer-run outlook is one of probable continued upward pressures on prices of softwood stumpage and softwood timber products.

III. Land

The role of land costs in the price of new or existing housing units can be estimated from four basic statistical data series. Since 1969, the Bureau of the Census has collected information for HUD don the value of improveed lots of new, speculatively-built, one-family homes sold in the United States.3/ There are no estimates of the land value for owner- or custom-built or rental single family houses, or for multifamily buildings. The data on lot size by location are available from the Census Bureau for 1974 and following years, and are published only in this report. The Federal Housing Administration has published two series of land cost data for FHA-insured (Section 203) new and existing single family properties since 1935. The fourth series provides data on the value of farm acreage, which is a major source of raw land converted to suburban development; these data are relaased as of March 1 and November 1 each year by the Economics and Statistics Service of the U.s. Department of Agriculture in a national series extending back through 1960.

National data representative of the value of improved lots for new, one-family houses sold in the United States during the years 1970 through 1980 are shown in Table C-17.

3/ The data were published annually from 1969 to 1974 in HUD and Bureau of the Census Construction Report, Series C-25, Characteristics of New One-Family Homes.

Table C-17

New One-Family Houses Sold, 1970 - 1980: Average Value of Improved Lot (In Current Dollars) and Ratio of Lot Value to Sales Price

Year	Average Value of Improved Lot	Ratio of Lot Value to Sales Price*
1970	4,800	18.3%
1971	5,200	18.3
1972	5,500	18.1
1973	6,200	17.6
1974	6,500	16.9
1975	7,500	17.6
1976	8,900	18.5
1977	10,100	18.6
1978	11,600	18.6
1979	13,800	19.2
1980	14,600	19.1

* Ratio of average lot value to average sales price of house.

Source: Bureau of the Census, U.S. Department of Commerce, and Office of Policy Development and Research, U.S. Department of Housing and Urban Development, New One-Family House Sales Survey.

Lot values increased continuously during the 1970s the average value of improved lots increasing 204 percent over the decade. From 1974 to 1979, year to year increase in lot values were substantial, ranging from 13.5 to 19.0 percent. In 1980, lot values increased only 5.8 percent to $14,600. The downward movement of the ratio of lot value to sales price of house was reversed in 1975, with the ratio climbing to 19.2 percent by 1979. The ratio declined slightly to 19.1 percent in 1980.

Since 1974 the Bureau of the Census has collected information on lot sizes of houses that were built for sale. Table C-18 presents the median lot size of completed houses by location, for detached and attached houses combined and for detached houses only. As seen in the table, median lot size for both types of single-family house decreased in 1980. Perhaps the most astonishing aspect of the data in Table C-18 is the disparity among the regions in median lot size. In the case of detached houses, the median lot size for homes completed for sale in 1980 was larger in the ostensibly crowded Northeast and North Central than in the "open spaces" of the South and West.

Table C-18

Median Lot Sizes of Completed Houses Built for Sale
By Location-Total and Detached Only, 1976-1980

Location	Total Detached and Attached Median Lot Size (Square Feet)											
	1976	1977	1978	1979	1980	% Change '79-'80	1976	1977	1978	1979	1980	% Change '79-'80
United States	10,338	10,200	9,891	9,638	9,059	- 6.0%	10,524	10,500	10,188	10,023	9,506	- 5.2%
Inside SMSA	9,795	9,795	9,376	9,209	8,819	- 4.2	10,058	10,097	9,711	9,647	9,284	- 3.8
Outside SMSA	12,094	12,094	12,449	11,487	10,204	-11.2	12,246	13,401	12,742	11,608	10,383	-10.6
Northeast	15,626	15,626	15,962	13,866	12,885	- 7.1	16,583	16,366	17,124	15,102	13,769	- 8.8
North Central	11,041	11,041	10,774	11,139	10,783	- 3.2	10,975	11,200	10,882	11,233	10,956	- 2.5
South	10,861	10,861	10,923	10,119	9,316	- 7.9	11,475	11,475	10,776	10,609	9,834	- 7.3
West	8,166	8,166	7,902	7,778	7,746	- 0.4	8,117	8,342	8,292	7,934	7,936	-

Source: U.S. Department of Commerce, Bureau of the Census, from HUD-Census New One-Family House Sales Survey.

Federal Housing Administration data on the characteristics of one-family housing units insured under Section 203 include information on lot size and price per square foot of land. This information for new units is shown in Table C-19

Table C-19

New One-Family Housing Units Insured by FHA Under Section 203: Average Lot Price, Size of Lot, Price Per Square Foot, and Lot Price as a Percent of Total Value 1968 - 1980 (In Current Dollars)

Year	Market Price	Square Feet	Price Per Square Foot*	Lot Price as Percent of Total Value
1968	$ 4,154	9,274	$0.65	20.8%
1969	4,300	9,299	0.68	20.4
1970	4,982	8,851	0.84	21.2
1971	5,176	8,254	1.02	21.2
1972	5,420	7,616	1.19	21.4
1973	5,341	7,127	1.32	21.2
1974	5,482	6,98	1.24	19.9
1975	6,382	7,852	1.24	18.8
1976	6,954	7,984	1.24	19.2
1977	7,335	8,111	1.06	19.2
1978	7,764	8,006	NA	18.5
1979	9,816	7,987	1.49	19.5
1980	11,809	8,342	1.95	20.5

* Based on lots reporting both size and price.

Source: U.S. Department of Housing and Urban Development report.

FHA data on new units do not necessarily report on similar type units each year. In addition, such factors as FHA mortgage limits and relative market shares affect lot size and price so that the data do not fully reflect price trends. However, several items are worth noting, particularly the contrast between the periods 1968-74 and 1974-80. Between 1968 and 1974, average lot prices increased almost 32 percent, an average annual rate of increase of about 4.7 percent. Prices then increased by 115 percent between 1974 and 1980, an average annual increase of almost 13.7 percent. This compares with almost 125 percent in this period for all new speculative homes, or over 14.4 average annual increase. Meanwhile, average lot size decreased almost 25 percent between 1968 and 1974, and increased almost 19 percent between 1974 and 1980. This is in contrast to all new speculatively built houses which had a 2 percent increase from 1974 to 1975, and then a decrease every year since. Amounting to 14 percent from 1975 to 1980. For those FHA units where both lot size and price are given, the price per square foot increased more than 90 percent between 1968 and 1974. Between 1974 and 1976, the price per square foot remained unchanged at $1.24, but declined to $1.06 in 1977. By 1980, it had increased to $1.95. In addition, although lot price as a percent of the total value of land and improvements remained stable between 1970 and 1973, at around 21.2 percent, this ratio has fluctuated at lower levels through 1980. The ratio has increased each yar since 1978, however, to reach 20.5 percent in 1980. Since 1968 the ratio of lot value to total value has consistently been higher for the lower priced FHA homes than for all speculatively built new houses.

The data on FHA-insured existing properties under Section 203 follow the pattern for newly constructed housing, but with lot prices lower, lot sizes higher, and prices per square foot lower than for newly constructed Section 203 insured sales - (See Table C-20, C-21, and C-22).

Table C-20

Selected Series of Average Values of Land, 1968-1980

Year	New Sec. 203 (1)	Existing Sec. 203 (2)	Index of Average Value Per Acre of Farmland (USDA) 1/ (3)
1968	$ 4,128	$ 3,617	107
1969	4,277	3,717	113
1970	4,952	3,973	117
1971	5,150	4,021	122
1972	5,420	4,306	132
1973	5,341	3,982	150
1974	5,482	4,519	187
1975	6,382	5,468	213
1976	6,954	5,632	242
1977	7,335	5,828	283
1978	7,764	6,985	308
1979	9,816	8,145	351
1980	11,809	10,105	404
1981	NA	NA	440

Table C-21

Average Lot Size and Price Per Square Foot for 1-Family Homes, 1/ 1968-1980

Year	Average Size of Lots in Square Feet		Average Price Per Square Foot	
	New Sec. 203 (1)	Existing Sec. 203 (2)	New Sec. 203 (3)	Existing Sec. 203 (4)
1968	9,274	9,358	$ .65	$ .55
1969	9,299	9,317	.68	.57
1970	8,851	9,213	.84	.63
1971	8,254	9,292	1.02	.61
1972	7,616	8,354	1.19	.68
1973	7,127	7,644	1.32	.71
1974	6,986	7,846	1.24	.78
1975	7,852	8,299	1.24	.89
1976	7,984	8,172	1.24	.94
1977	8,111	8,485	1.06	.93
1978	8,006	8,540	NA	NA
1979	7,987	8,714	1.49	1.28
1980	8,342	8,675	1.95	1.59

1/ Financed by FHA-insured loans.

2/ Based on lots reporting both size and price.

Source: U.S. Department of Housing and Urban Development reports.

Table C-22

Lot Prices as a Percent of Total Value of Land and Improvement

Year	Lot Price as a Percent of Total Value	
	New Sec. 203 (1)	Existing Sec. 203 (2)
1968	20.8%	22.0%
1969	20.4	21.7
1970	21.2	21.6
1971	21.2	20.7
1972	21.4	21.3
1973	21.2	20.4
1974	19.9	20.4
1975	18.8	19.9
1976	19.2	20.1
1977	19.2	19.5
1978	18.5	19.8
1979	19.5	19.8
1980	20.5	21.1

Source: U.S. Department of Housing and Urban Development reports.

Farm real estate values per acre provide some measure of raw land costs. As reported by the Department of Agriculture, 4/ average acreage value increased from 1973 through February 1981 at the following rates (for the preceding 12-month period):

Table C-23

Annual Increases in Average Acreage Value of Farm Real Estate

1973	-	March	13.6%
		November	20.6%
1974	-	March	24.7%
		November	20.6%
1975	-	March	13.9%
		November	11.8%
1976	-	February	13.6%
		November	17.1%
1977	-	February	16.9%
		November	10.9%
1978	-	February	8.8%
		November	12.2%
1979	-	February	14.0%
		November	15.7%
1980	-	February	15.1%
1981	-	February	9.3%

Although these figures are influenced primarily by economic conditions in agriculture, they are used here to illustrate trends in the value of raw land.

4/ Economics and Statistics Service, U.S. Department of Agriculture, Farm Real Estate Market Developments.

The USDA also collects data on expected price changes for farm real estate in semi-annual surveys of farm real estate brokers, local bankers, county officials and other persons knowledgeable in the field of farm sales. These expectations may be an indication of price trends in the farm sector. The March 1981 survey indicated that 48 percent of reporters expected land values to increase by 5 percent or more in the year following March 1981. The percent of the reporters expecting increase (5 percent or more) in prices over the next 12 months, little change (less than 5 percent), or decreases (5 percent or more) in prices over the next 12 months was as follows since 1973:

Table C-24

Reporting Period			Increases	Little Change	Decreases
1973	-	March	71	28	1
		October	70	28	2
1974	-	March	70	28	2
		October	42	46	12
1975	-	March	23	54	23
		October	45	49	6
1976	-	March	47	48	5
		October	50	43	7
1977	-	March	59	35	6
		October	39	44	17
1978	-	March	47	45	8
		October	59	37	3
1979	-	March	66	32	2
		October	66	31	4
1980	-	March	48	40	12
		October	55	39	6
1981	-	March	48	44	8

APPENDIX D

Availability of Mortgage Funds for Housing

I. Introduction

This appendix seeks to ascertain the adequacy of funds available for residential mortgage lending in 1982. The volume of residential mortgage financing is largely determined by supply and demand factors affecting the real cost of credit in both the money and capital markets. Other sectors of the capital market competing for available funds include the U.S. Treasury, state and local governments, domestic and foreign corporations, and foreign governments. Consequently, the estimates must be derived from a model which solves for a solution of all the credit supply and demand forces, given assumptions concerning exogenous events and conditions.

The method of forecasting used in this appendix consists in utilizing the quarterly model developed by Data Resources, Inc., (DRI), with HUD substituting its own assumptions concerning exogenously determined variables. The DRI model generates changes in outstanding mortgage debt held by FNMA and GNMA, the principal Federal mortgage investors, and by the four principal private mortgage investor groups: savings and loan associations, mutual savings banks, commercial banks, and life insurance companies. These estimated net changes are then extrapolated into gross mortgage originations, purchases and sales, etc., by types of property, based on past data taken from HUD's survey of gross mortgage lending. In 1981, the above four private lender groups accounted for 59 percent of all net acquisitions of long-term residential mortgage loans and over 87 percent of all residential construction loans. Of the nearly 41 percent remaining long-term

net acquisitions, 21.3 percent was in the form of federally and privately insured mortgage pools. Nearly 10 percent was accounted for by federal credit agencies, and the other 10 percent was attributed to state and local credit agencies and other private investors.

The assumptions and analyses underlying the 1982 projections are discussed below, followed by a summary of the projected mortgage credit flows and the number of units financed. This section is followed by a more detailed discussion of the competing credit demands of the various sectors of the capital market, as well as the contribution of mortgage funds by the major participants of the mortgage market. Details of the projections are set forth in tables that appear at the end of this appendix. In each table the 1982 projections are compared with the actual figures for each of the years 1978-1981.

II. Summary of Assumptions and General Financial Outlook

The outlook for 1982 is greatly tempered by the curious amalgam of events in 1981 which started out as a first year of economic recovery and ended neither as a recovery nor a classic postwar recession. In 1982 the economy will attempt another recovery but a variety of constraining forces may not only inhibit the pace of this recovery, but may forestall it until late in the year, or even until 1983.

The largest single constraint will be the level of real interest rates, which are likely to remain high with the federal government borrowing heavily -- at a projected record peace time pace in FY 1982 -- in the context of continued monetary restraint. The Federal Reserve

is not likely to ease monetary policy to accommodate the Treasury's needs. In the middle of this tight monetary stance, the Treasury's heavy financing needs will compete with heavy corporate financing needs. Consequently, nominal average annual rates will not fall very far from the high levels of 1981. And since inflation rates have fallen considerably from the 13.5 percent average in 1980, real interest rates (the difference between nominal rates and inflation) have remained near historic highs. Such levels of real rates will deter needed capital investment expenditures, greatly curtailing the real production gains typical of the early stages of normal business recoveries.

In projecting mortgage activity for 1982, other key assumptions were necessary regarding both expected demand and supply of mortgage funds. Despite record mortgage interest rates in 1981, the demand for mortgage credit did not fall as much as would have been expected in previous years. Demographic changes in the population as well as social changes (such as the sharp rise in two earner households) have boosted the underlying demand for housing for several years to come.

While the underlying demand for housing due to demographic changes will continue to provide a floor for housing demand, some of the inflation-hedge advantage of homeownership has deteriorated. The sharp rise in home prices from 1977 to 1980 has hurt the ability of first-time buyers to save enough for downpayments, under-cutting this segment of house buying demand. Moreover, despite the sizable increases in home values, the rapid increase in home mortgage rates to levels exceeding 16 percent,

means that homeowners considering trading up to more expensive homes would incur sizable capital losses in giving up their considerably cheaper mortgages on their present houses. More importantly, nominal mortgage rates have greatly exceeded existing home price appreciation since the fourth quarter of 1981 and will likely continue to do so throughout 1982. Real mortgage interest costs will therefore continue near historic highs, making the purchase of a home in 1982 substantially less attractive than it was during the 1977-1980 period when real mortgage costs were effectively negative (see chart 1.) Therefore while graduated payment mortgages, shared appreciation mortgages and other new mortgage instruments attempt to qualify more households for new mortgages, housing will not become an attractive investment again until real interest costs recede to more normal levels, i.e., either through a sharp rise in home price inflation, or more preferably, a reduction in nominal mortgage interest rates.

Indeed, lower interest rates are the key to a better future for the mortgage market, not only in terms of demand, but also supply. In the past, the supply of mortgage funds largely depended on the limited ability of thrift institutions to compete for funds in the money markets. Only recently (1978), have thrift institutions been given greater opportunities to compete for funds in tight credit periods, using a variety of certificates of deposit. Time deposits and special certificates now represent over 80 percent of thrift savings capital. However, the new regulations allowed variable costs of loanable funds without regard

to a portfolio made up of predominantly fixed rates of return. This imbalance reached critical proportions in 1981, as thrift institutions suffered record declines in net worth. FSLIC and FDIC have met the problem by assisting the merger of troubled thrifts with stronger ones. Thrift problems will continue until lower market rates improve the spread between mortgage yields and the cost of new funds. However, lower short-term rates will not foster an immediate boost in the availability of mortgage credit. The first priority for thrifts will be to readjust their liability structure and improve their liquidity position.

While the thrift industry attempts to work out of its financial problems, the mortgage market will continue to rely on secondary markets as a major source of credit. Since 1975 the secondary markets have played an increasing role in the mortgage market. In addition to federally guaranteed mortgage-backed securities, and the market assistance provided by FNMA, GNMA, FHLMC and other assorted federal credit agencies, state and local housing agencies have supplied increasing amounts of assistance to the residential markets. Altogether mortgage-backed pools plus federal and state and local credit agency efforts provided nearly 38 percent of the credit used for residential mortgage originations in 1981, more than double their relative importance (17.8 percent) provided in 1977. For both periods, guaranteed mortgage-backed securities were the most efficient and prevalent form of secondary market instrument, representing 57 percent of the 1-4 family mortgage secondary market.

Tax-exempt mortgage revenue bonds, their negative effects for the U.S. Treasury not withstanding, were an important secondary market source of credit to the mortgage market in 1980 and 1981. Such issues are expected to provide only a marginal source of funds in the first half of 1982 since tax-exempt yields on revenue bonds will be at such levels as to sharply reduce the incentive to their use. As interest rates fall towards the end of the year, new issues of tax-exempt, mortgage revenue bonds are likely to be heavy.

III. Summary Forecast of Housing Finance in 1980

As depicted in Table D-5, the volume of residential long-term mortgage loan originations is expected to total $99.5 billion in 1982, slightly below 1981's $110.9 billion, and less than half the record $209.9 billion that was extended in 1979. Of the 1982 total, $87.6 billion represents originations of long-term mortgage loans on 1-4 family homes with $11.9 billion going for mortgages on multifamily projects.

A. Loans for 1-4 Family Homes

As detailed in Table D-6, long-term loan originations for new 1-4 family homes are projected to total $30.3 billion in 1982, more than 19 percent below the $37.5 billion originated in 1981. The number of newly constructed homes sold in 1982 is assumed to decline to 372,000 units in a 14.7 percent fall from the 436,000 units sold in 1981. The average loan per dwelling is expected to rise from $61,800 in 1981 to $62,100 in 1982.

For existing homes, the volume of long-term mortgage loan originations is expected to fall slightly from $61.2 billion in 1981 to $ 57.3 billion in 1982. The volume of sales of existing homes is expected to decline from 2,351,000 in 1981 to 1,909,000 in 1982. However, despite the decline in sales there should be an increase in the number of existing home purchases that are financed through a traditional mortgage lender. Therefore, while existing home sales decline nearly 19 percent, financing by traditional lenders will decline by less than half as much. Both primary and second trust "take backs" by existing home sellers are expected to decline with the improvement in the availability of mortgage funds towards the end of 1982, as well as with the greater realization of the riskiness of such ventures on the part of the sellers.

B. Multifamily Properties

Long-term mortgage loans for newly constructed multifamily residential properties are projected to decline from the $7.9 billion originated in 1981 to $7.5 billion in 1982. (See Table D-7.) This amount will finance an estimated 222,000 new multifamily units in 1982 compared to 234,500 units in 1981. The average loan per dwelling unit is expected to rise from $32,800 in 1981 to $33,800.

The supply of long-term loans for existing multifamily properties is projected to rise from $4.0 billion in 1981 to $4.4 billion in 1982. The number of units financed will increase from 174,800 in 1981 to 183,000. The average loan amount per dwelling is estimated to rise from $22,300 to $24,000.

C. Mobile Home Financing[1]

Mobile homes have long been a source of less expensive housing. Because of improvements in quality and amenities, and in response to the price inflation of conventional housing of the past few years, demand for mobile homes has increased steadily. Mobile homes are generally not financed by long-term mortgage loans. They are usually financed by consumer loans repayable on an installment basis over a period considerably shorter than the typical maturity for home mortgage loans, but substantially longer than the repayment period for automobiles and other durable consumer goods. The interest rate on mobile home credit is also significantly higher than normal mortgage credit. The depreciable nature of mobile homes over time increases the risk of loss in case of default relative to normal residential mortgages.

The volume of credits required to finance mobile home purchases rose steadily between 1975 and 1979. However, inflation and high interest rates as well as economic contractions in 1980 reduced the demand for mobile homes and mobile home credit. In 1981, high real interest rates and a significant slowdown in the price of mobile homes made these units more affordable than regular fixed structures and improved mobile home effective demand. Mobile

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[1] The projections of mobile home credit are estimated differently from residential mortgage credit. Estimates are obtained through the DRI model for new mobile home shipments. These estimates are expanded by estimates of average loan amounts based on VA and Federal Reserve Board statistics.

home credit extended in 1982 is projected to total $5.8 billion. Roughly $4.5 billion will be used to finance purchases of new mobile homes. The lower volume of credit extended will reflect the marginal improvement in the affordability of fixed structure homes.

IV. Projected Credit Demand in the Security Markets

A. Treasury Securities

Projections for the unified budget deficit for calendar year 1982, presented in Table D-1, depict a deficit of $126.2 billion compared to a deficit of $83.7 billion in 1981. This forecast utilizes the following assumptions: (1) the provisions of the Economic Recovery Tax Act produce a tax cut of $47 billion; (2) real defense purchases rise 6.6 percent; (3) real non-defense expenditures rise only .4 percent; (4) the Federal Reserve moves to a less restrictive monetary policy while the economy remains in recession, tightening only when a stronger economy begins to generate higher monetary growth. Such a policy will moderate the growth in net interest paid as the federal deficit widens over the year. It is estimated that the $126.2 billion deficit will require $155.3 billion from the domestic market, with the remaining financing needs being satisfied by acquisitions by U.S. Investment Accounts, Federal agencies and sales of U.S. securities to foreign governments and corporations.

B. Federally Supported Securities

Most Federal agencies now borrow to finance their needs from the Federal Financing Banks. The remaining Federally supported securities sold in the market consist of the debt instruments of the Government sponsored agencies -- Federal National Mortgage Association (FNMA), Federal Home Loan Bank Board (FHLBB), Federal Intermediate Credit Banks and Banks for Cooperatives, and the mortgage-backed-securities guaranteed by the Government National Mortgage Association (GNMA), Federal Home Loan

Mortgage Corporation (FHLMC) and most recently (late 1981) by FNMA. Mortgage-backed-securities are also guaranteed by the Farmers Home Administration, but they are now sold entirely to the Federal Financing Bank. Taken together, the total net increase in outstanding Federal Government supported market securities is projected at $65.9 billion for 1982, compared to $55.3 billion in 1981. Most of this volume will again derive from a substantial increase in new issues of federally supported mortgage pools - especially the new FNMA conventional mortgage-backed securities, and FHLMC participation certificates.

C. Municipal Securities

Ordinarily, most of the long-term municipal bonds issued by state and local governments are used to finance public facilities. In recent years, municipal tax-exempt financing has also served to provide funds for pollution control facilities at privately owned industrial plants, privately owned hospitals, and industrial plants leased to private companies. More recently, many state and local governments took advantage of federal tax laws to issue tax-exempt mortgage revenue bonds for below-market-rate single family and multifamily mortgage financing. However, in December 1980, Congress passed legislation which limits the benefits of such issues to buyers who had not been homeowners during the previous three years. The legislation further limits such financing by price and targeted areas. Finally, the legislation will completely prohibit single family housing bonds after December 31, 1983.

Despite the limitations, the issues remained politically popular in the face of current house prices and the spread between tax-exempt bond rates and historically high conventional mortgage interest rates, and it is likely that there will be more tax-exempt mortgage revenue bonds issued in 1982.

There are several factors working against state and local governments in 1982. They are: (1) an economic recession which raises welfare requirements and cuts down sales and income tax revenues; (2) a cut back in federal grant programs which will require more local expenditures for the same degree of public service improvement in 1982; (3) a weaker muncipal bond market with sharply lower federal individual marginal tax brackets (the maximum was reduced from 70 percent to 50 percent) and the likely loss of property-liability companies and commercial banks as other primary investors. Many of the above factors will cause reductions in bond ratings for some states and localities which will further weaken the market position of municipal securities. For these reasons muncipal bond yields are not likely to fall as far as other security yields as the recession bottoms out and may likely rise to historically high levels when the competition for funds intensifies as the economy recovers and the Treasury begins its heavier financing program.

Despite all of these adverse conditions, state and local governments have no choice but to increase the level of new muncipal offerings. The loss of Federal grants and expanding public power needs will require

additional financing. In addition, despite calls from federal levels for their limitation, tax-exempt offerings for pollution control and for industrial purposes will continue to rise. In their efforts to bolster local economies, local housing authorities will increase their issues of tax-exempt mortgage revenue bonds as a means to support local housing construction. Such issues may account for as much as 22 percent of the volume of long-term issues sold in 1982, up from 15.6 percent in 1981

Gross new long-term muncipal bond issues are expected to increase to $66.4 billion, surpassing the record $47.1 billion issued in 1980. Revenue bonds which accounted for 69 percent of muncipal bonds sold in 1981 will account for 20 percent in 1982. Meanwhile, the volume of new issues of short-term tax-exempts will rise even more sharply - mainly because of the difficulty in refinancing last year's large short-term volume into longer-term securities. Therefore most of this increase in short-term debt represents a roll over of maturing issues. The net increase in total outstanding municipal debt will total $34.6 billion in 1982.

D. Intermediate and Long-Term Corporate Bonds

In 1981, new issues of intermediate and long-term corporate bonds declined sharply from the record issue volume of 1980. High and volatile interest rates which dominated last year's markets served to postpone the usual recession/revival expansion in corporate debt. In fact, were

it not for a sharp drop in yields late in 1981, the annual volume of new corporate issues would have fallen sharply. For several years, many of the issues of new corporate debt have been offered in intermediate-term form.

This financial strategy has tended to weaken both aggregate corporation liquidity and debt maturity ratios. During the current recession, profits will be low, reducing the amount of available internal funds, and raising external financing requirements. Given the growing structural imbalances in corporate financing and a need for a disproportionate amount of corporate refunding, and adding further needs for external financing, 1982 corporate financing needs will surpass 1980's record issue level. Because it appears that long-term interest rates will not fall as far relative to short-term yields in 1982, as in prior years, corporations will once more make more intensive use of short-term financing.

Non-financial corporations are expected to issue $36.9 billion in intermediate and long-term bonds, up from $32.8 billion issued in 1981. Real Estate and financial corporations will need to refund a large volume of maturing issues and will therefore increase their new issues to $11.1 billion. Taken together, nearly $49.9 billion in new issues are projected to be sold, increasing corporate bonds outstanding by $37.9 billion.

V. Major Mortgage Market Participants

This section reviews in detail the projected mortgage market activity of the major mortgage lender groups plus net issues of mortgage pools. Detailed discussions are provided for savings and loan associations, mutual savings banks, commercial banks, life insurance companies, mortgage companies, federal credit agencies, state and local housing credit agencies, and mortgage pools. More detailed data can be found for these lender groups and all of the other identifiable lender groups in Tables D-9 to D-19.

A. Savings and Loan Associations

Savings and loan associations generally invest more than seventy five percent of their capital in mortgage loans. Over the years, they have been the most important source of mortgage credit in the U.S. Consequently, their ability to attract deposits and borrow funds in the market largely determines the availability of mortgage credit. In recent years, new regulations which enabled thrift institutions to compete more freely in the market place helped thrifts stave off deposit outflows in 1979 and 1980. However, as the money markets became increasingly competitive, other more liquid forms of securities, especially money market mutual funds, outperformed thrifts in attracting savings capital. The competition for funds, besides causing an outflow of savings capital, caused a marked change in the liability structure of thrifts toward higher cost time deposits and certificates. This substantially

higher cost deposit base, relative to a lower-yield, fixed-return asset base, has caused the thrift industry to suffer record losses in net worth.

Despite net deposit outflows of over $25 billion in 1981, and a sharp reduction in loan repayments, S&Ls managed to originate $42.0 billion in 1-4 family long-term mortgages and increase their holdings of all mortgages by $15.1 billion. The source of funds for this advance was through a record volume of interest credited on the higher cost deposit base ($39.3 billion) and near-record other borrowings ($8.7 billion) and FHLBB advances ($15.7 billion). Net sales of $2.1 billion of mortgage loans also provided additional loanable funds.

The outlook for S&L lending in 1982 is guarded. Nominal market rates are expected to remain high while inflation edges downward, keeping real interest rates near historic highs. High real interest rates should depress demand for mortgage finance to levels below 1981's low volume. Such low volumes will make it difficult for S&Ls to alter their long term portfolios while the competition for funds will keep the cost of their liabilities high. Consequently, S&Ls will likely continue to lose net worth well into 1982, allowing them to make only a very small net addition to their mortgage portfolios. S&L sales of mortgages to secondary markets are expected to be very high.

As interest rates fall in late 1982 and inflation expectations wane, 2 1/2 year small savers certificates and other more flexible rate instruments associated with IRA accounts should improve net savings inflows. However, with the need to restore liquidity positions, S&L investment in mortgages will be only marginal in 1982.

B. Commercial Banks

For several years, commercial banks have remained a major source of consumer installment credit and residential mortgage loans. In 1981 despite a 25.4 percent drop in the total market volume of mortgage lending, commercial banks' net residential mortgage acquisitions fell by only 21 percent.

There are several reasons why commercial banks are likely to remain a major source of mortgage credit in 1982. First of all, commercial banks have enjoyed a considerable advantage in their competition for savings with thrift institutions since the removal of the quarter point differential on short-term savings certificates. As a result, most of the rise in bank loanable funds will derive from the continued increases in small time and savings accounts. A diversified asset and liability structure should provide commercial banks with a more stable supply of loanable funds. Secondly, mortgage interest rates are not likely to fall as much as yields on alternative investments, making them attractive long-term additions to a mostly short-to-intermediate term portfolio.

Gross mortgage originations by commercial banks are expected to move with the market, essentially maintaining a relative share. Commercial bank originations of 1-4 family mortgages are projected to total $20.2 billion in 1982, down very little from $21.7 billion originated in 1981. By the end of 1982, commercial banks are expected to hold a total of $299.1 billion in mortgage loans. (For further detail see Table D-10)

C. Mutual Savings Banks

Mutual savings banks (MSBs) invest in a wide variety of loans and securities and are the fourth largest investor group in the U.S. Unfortunately, MSBs have suffered through three years of record net deposit outflows (eleven straight quarters), $6.9 billion in 1979, $5.3 billion in 1980, and $14.0 billion in 1981. MSBs, located in areas with large marginal state tax rates, have very interest-rate sensitive depositors, and could not compete well against either the liquidity and after-tax yields of U.S. Treasury issues or of money market funds centered in their operating areas. Nevertheless, given the high yield of long-term mortgages relative to returns on other capital market investments, mutual savings banks still provided modest amounts of residential mortgage credit in 1981, mostly through mortgage repayments and maturation of other securities.

The outlook for mutural savings banks in 1982 is for very little improvement. Like S&Ls, MSBs are expected to continue to have difficulty in competing with short-term money market funds until interest rate expectations change markedly. When the market perceives that both short-term and long-term yields are headed downward, longer-term instruments offered by thrift institutions should gain favor with investors and provide MSBs the funds needed to rebuild a solid liquidity base. Consequently, mutual savings banks' net investment in mortgages will likely decline in 1982 for the second year in a row. By the end of 1982, mutual savings banks are forecasted to hold $96.4 billion in mortgage loans.

D. Life Insurance Companies

With the marked increase in interest rate volatility during 1980 and 1981, life insurance companies began tapering off their investments in mortgages and switching instead to short and intermediate-term securities. Nevertheless, life insurance companies remained major investors in mortgages, with the bulk of their mortgage investment in the form of commercial, industrial, and farm properties. After raising $5.0 billion in 1979, life insurance net acquisitions of residential mortgages fell to $4.5 billion in 1980 and only $1.1 billion in 1981.

However, these figures are somewhat misleading because they represent only direct investment in mortgages. Life insurance companies, like other long-term investors, have turned increasingly to federally and privately insured mortgage-backed securities. The guarantee of a

somewhat predictable cash flow and the liquidity assured by a large secondary market have made investment in mortgages through such instruments less tedious and risky.

In 1982, given the uncertainties of the course of long-term yields, life insurance company investment in direct residential mortgages will likely fall off further in favor of short and intermediate-term securities, and to some extent, more insured mortgage-backed securities. Life insurance holdings of direct mortgage investments will increase only $4.4 billion by the end of 1982 to $139.8 billion. (See Table D-12 for further detail.)

E. Mortgage Pools

Introduced in 1970, mortgage-backed pass-through securities have developed into a major source of mortgage credit by converting mortgage loans into a more convenient and liquid form of long-term investments. Net issues of federally insured mortgage pools accounted for 17.0 percent of all long-term residential mortgage originations in 1981. The success of federally guaranteed mortgage pools encouraged the inauguration of privately insured pools of conventional mortgage loans, begun in 1977. More recently, in late 1981, FNMA sold its first pools of conventional mortgage-backed pass-through securities.

In 1982, with thrift institutions expected to continue to have liquidity problems, the mortgage market will continue to rely on secondary markets as a major source of mortgage credit. Federally supported

mortgage pools, which include GNMA mortgage-backed securities, Federal Home Loan Mortgage Corporation (FHLMC) participation certificates (PCs), and beginning September 1981, new issues of FNMA conventional mortgage-backed securities (CMBS), are expected to issue a record net volume of $46.2 billion in pools of residential mortgage loans. Of that volume, $38.5 billion will represent 1-4 family mortgages, an amount more than twice the 1981 volume. Most of the increase will accrue from the new FNMA CMBS program and a record volume of FHLMC PCs through which thrift institutions are expected to channel much of their 1982 origination volume. In addition, privately insured pools are expected to grow by $5.8 billion. Combined, mortgage pools will finance nearly 46 percent of all residential mortgage originations in 1982, up from 22.7 percent in 1981.

F. Federal Credit Agencies

As of the end of 1981, Federal Credit Agencies held a combined 8.5 percent of all residential mortgage debt outstanding, up from 8.2 percent ten years ago. On the other hand, Federal Credit Agencies held nearly 59 percent of all farm debt outstanding, up from less than 40 percent in 1971. In the past, Federal Credit Agencies were important counter-cyclical secondary market sources of funds for mortgages. Together FNMA and GNMA provided the bulk of such secondary market funds. In more recent years Federally guaranteed mortgage-backed securities have absorbed a large part of that function.

Federal Credit Agencies will likely maintain and possibly increase their support of single family mortgages. Farm mortgage support will likely represent nearly 40 percent of the increase in Federal Credit Agency holdings during 1982. By the end of 1982, Federal Credit Agencies are projected to hold a total of $153.2 billion in long-term mortgage debt.

G. State and Local Credit Agencies

Over the past three years, no lender group has increased its relative share of residential mortgage debt as quickly as state and local credit agencies. By selling mortgage-backed tax-exempt revenue bonds, such entities have offered mortgages with below-market coupons to middle and low-income homebuyers. The explosion of such debt and its harmful effect on U.S. tax revenues prompted legislation in 1980 which greatly restricted the tax-exemption on single family issues and which will outlaw such issues by December 31, 1983. Issues for multifamily mortgages are not affected.

In 1982, the economic factors which will work against municipal bond issues in general will also affect tax-exempt mortgage revenue bond issues. With revenue bond rates not expected to fall far from their record high levels, the spread between these yields and conventional mortgage yields will shrink, reducing the incentive to issue such securities. However, when rates do fall, new issues of tax-exempt mortgage revenue bonds will likely be heavy.

TABLE D-1

Federal Fiscal and Financing Operations
(dollars in billions)

	Calendar Years				
	Actual			Projected	
Federal Budget	1978	1979	1980	1981	1982
1. Receipts	$416.9	$480.5	$533.0	$625.5	$602.4
2. Outlays	460.7	508.7	600.9	686.4	725.0
3. Surplus, or Deficit (-)	-43.8	-28.2	-67.9	-60.9	-122.6
4. Trust Funds	16.1	13.7	1.8	16.0	17.5
5. Federal Funds	-59.9	-41.9	-69.7	-76.9	-105.1
Off Budget Surplus or Deficit (-)					
6. Federal Finance Bank	-10.2	-13.6	-15.3	-20.6	-19.1
7. Other	-1.1	-.4	-.1	-2.2	-2.0
U.S. Budget Plus Off Budget					
8. Surplus or Deficit (-) financed by	-53.0	-41.4	-83.3	-83.7	-126.2
9. Borrowing from Public	53.7	37.4	79.2	88.8	155.3
10. Cash and Monetary Assets	-1.7	-5.8	-10.2	-10.2	-1.5
11. Other	1.0	9.9	14.3	5.1	-27.6
Federally Supported Market Securities					
Net Change in:					
Agency Debt	.7	1.2	3.9	3.0	.9
Sponsored Agency Debt	23.9	25.0	26.0	36.4	22.2
Guaranteed Securities	18.3	28.1	21.0	15.9	42.8
Total	42.9	54.3	50.9	55.3	65.9
Memo Item					
Treasury Operating Balance	16.3	15.9	12.3	17.1	15.4
F.R. Banks	4.2	4.1	3.1	3.6	4.0
Tax and Loan Accounts	12.1	11.8	9.2	13.5	12.5
Other Award Accounts	*	*	*	*	*

* Less than $50 million

Sources: Treasury Bulletin, Federal Reserve Bulletin, Securities and Exchange Commission, data from individual agencies, and Department of HUD estimates and projections.

TABLE D-2

State and Local Government Securities
(dollars in billions)

	Calendar Years				
	Actual			Projected	
Bond Issues	1978	1979	1980	1981	1982
General Obligation	$17.9	$12.7	$16.3	$13.9	$19.9
Revenue Bonds	28.3	29.6	30.8	31.4	46.5
Total New Issues	46.2	42.3	47.1	45.3	66.4
(Refunding)	9.3	1.9	1.6	1.2	2.5
Bonds Repaid	16.1	24.9	25.6	27.2	33.0
Net Increase	29.8	17.4	21.5	18.1	30.9
Notes					
New Issues	21.6	20.9	26.5	34.3	43.9
Maturities	20.6	20.1	23.6	28.3	40.2
Net Increase	1.0	.8	2.9	6.0	3.7
Total Change in Muncipal Debt	30.7	18.2	24.4	24.1	34.6
Total Outstanding Muncipal Debt	269.9	288.1	312.5	336.6	371.2

Source: 1978-1981: Federal Reserve Bulletin, Weekly Bond Buyer, and estimates of the Department of HUD.

1982: Department of Housing and Urban Development projections.

TABLE D-3

Intermediate and Long-Term Corporate Bonds
(dollars in billions)

	Calendar Years				
	Actual			Projected	
Gross Sales	1978	1979	1980	1981	1982
Publicly Offered	$19.8	$25.8	$41.6	$37.7	$39.2
Privately Offered	17.1	14.4	11.6	7.0	10.7
Total	36.9	40.2	53.2	44.6	49.9
Issues Sold by Industry Group					
Financial & Real Estate	9.6	11.1	11.5	11.8	14.0
Manufacturing	9.6	9.7	15.4	12.3	13.6
Other Non-Financial	17.7	19.4	26.3	20.5	22.3
Adjustments & Maturities	9.7	11.5	12.3	14.6	12.0
Estimated Net Change	27.2	28.7	40.9	30.0	37.9

Sources: 1978-1981: U.S. Securities and Exchange Commission, Federal Reserve Bulletin, and Department of Housing and Urban Development estimates.

1982: Department of Housing and Urban Development projections.

TABLE D-4

Net Acquisitions of Long-Term Mortgage Loans on Residential Properties by Identifiable Lender Groups
(dollars in billions)

	Calendar Years					
	Actual					Projected
1-4 Family Homes	1977	1978	1979	1980	1981	1982
Savings & Loan Associations	$86.5	$85.2	$76.3	$58.0	$39.6	$12.1
Mutual Savings Banks	11.4	11.9	11.1	5.7	3.8	2.0
Commercial Banks	32.6	38.8	36.3	25.6	20.3	16.2
Credit Unions	.7	.7	.7	.8	.6	.5
Life Insurance Companies	.6	1.6	3.3	2.9	.4	.8
Mortgage Companies	2.4	3.2	6.5	1.3	1.7	3.0
Federal Credit Agencies	4.8	14.5	14.4	11.5	9.8	13.1
Federally Supported Mortgage Pools@	22.1	21.8	29.1	23.5	18.0	38.5
Privately Insured Mortgage Pools	.2	1.1	2.8	5.3	6.3	5.4
State & Local Credit Agencies	1.3	2.3	5.3	8.4	6.6	3.2
State & Local Retirement Funds	.4	.4	.5	.6	.4	.3
Mortgage Investment Trusts	.1	.1	*	*	*	*
Non-Insured Pension Funds	.1	.4	.4	.3	.2	.1
Total	163.2	182.0	186.7	143.9	107.7	95.2
Multifamily Properties						
Savings & Loan Associations	6.9	6.2	4.9	3.0	2.4	2.8
Mututal Savings Banks	1.8	1.4	1.0	.6	.6	.6
Commercial Banks	1.8	2.0	1.9	1.3	1.7	2.4
Life Insurance Companies	1.0	1.9	1.7	1.5	.7	.6
Mortgage Companies	.6	.2	.5	.3	.4	.3
Federal Credit Agencies	1.1	.9	1.1	2.3	1.4	.3
Federally Supported Mortgage Pools	1.3	1.9	2.4	.9	1.2	7.7
State & Local Credit Agencies	1.2	.8	1.3	1.4	1.4	1.6
State & Local Retirement Funds	.2	.9	.9	.6	1.1	1.1
Mortgage Investment Trusts	.1	.1	*	.1	.1	.1
Non-Insured Pension Funds	.1	*	.1	*	*	*
Total	16.1	16.3	15.8	12.0	11.0	17.5

Under $50 Million

Sources: 1977-1981: HUD News Releases
1982: Department of Housing and Urban Development Projections

@ Includes New Pools to be issued by FNMA in 1982.

TABLE D-5

Total Originations of Long Term Mortgage Loans on Residential Properties by Identifiable Lender Groups
(dollars in billions)

	Calendar Years					
	Actual					Projected
1-4 Family Homes	1977	1978	1979	1980	1981	1982
Savings & Loan Associations	$86.3	$90.0	$82.8	$61.1	$42.0	$34.7
Mutual Savings Banks	8.7	9.4	9.0	5.4	4.0	3.5
Commercial Banks	36.7	43.9	40.7	28.8	21.7	20.2
Life Insurance Companies	.4	.8	2.0	1.7	.5	.6
Mortgage Companies	25.7	34.4	45.3	29.4	24.0	23.7
Federal Credit Agencies	3.1	4.8	4.4	4.4	4.5	3.1
State & Local Credit Agencies	.8	1.3	2.1	2.6	1.6	1.3
State & Local Retirement Funds	.1	.1	.1	.2	*	*
Mortgage Investment Trusts	.1	.1	*	*	*	*
Non-Insured Pension Funds	.1	.2	.2	.1	.1	*
Credit Unions	.7	.7	.7	.8	.6	.5
Total	162.7	185.7	187.2	134.5	98.9	87.6
Multifamily Properties						
Savings & Loan Associations	6.8	6.2	4.9	3.1	2.3	3.0
Mutual Savings Banks	1.5	1.2	.9	.5	.6	.6
Commercial Banks	1.9	2.1	1.9	1.2	1.5	1.6
Life Insurance Companies	1.0	1.8	1.6	1.4	.8	.6
Mortgage Companies	2.0	1.8	2.0	1.6	2.1	1.0
Federal Credit Agencies	1.0	1.7	2.6	2.9	3.2	3.7
State & Local Credit Agencies	1.2	.9	1.2	1.3	1.4	1.4
State & Local Retirement Funds	.2	.4	.4	.1	.1	*
Mortgage Investment Trusts	.2	.2	.1	.1	.1	*
Non-Insured Pension Funds	.1	*	.1	*	*	*
Total	15.8	16.3	15.7	12.2	12.0	11.9

*Under $50 Million

Sources: 1977-1981: HUD News Releases.
1982: Department of Housing and Urban Development Projections.

TABLE D-6

Total Originations of 1-4 Family Long Term Mortgage Loans
by Identifiable Lender Groups
(dollars in billions)

	Calendar Years					
	Actual				Projected	
New 1-4 Family Homes	1977	1978	1979	1980	1981	1982
Savings & Loan Associations	$24.5	$27.7	$28.1	$23.0	$17.3	$11.7
Mutual Savings Banks	1.6	1.7	1.5	1.1	.9	.8
Commercial Banks	9.5	11.5	11.3	8.1	6.6	6.4
Life Insurance Companies	.1	.2	1.0	1.0	.2	.2
Mortgage Companies	8.7	14.0	16.3	13.5	10.1	9.1
Federal Credit Agencies	1.8	2.3	2.0	2.0	2.1	1.8
State & Local Credit Agencies	.1	.3	.1	.3	.1	.1
State & Local Retirement Funds	*	*	*	*	*	*
Mortgage Investment Trusts	.1	*	*	*	*	*
Non-Insured Pension Funds	*	.2	.2	.1	.1	*
Credit Unions	.2	.2	.2	.3	.6	.2
Total	46.6	58.1	60.7	49.4	37.5	30.3
Existing 1-4 Family Homes						
Savings & Loan Associations	$61.8	$62.2	$54.7	$38.1	$24.7	$23.0
Mutual Savings Banks	7.0	7.6	7.4	4.3	3.1	2.7
Commercial Banks	27.1	32.4	29.3	20.7	15.1	13.8
Life Insurance Companies	.3	.6	1.1	.8	.3	.4
Mortgage Companies	17.0	20.4	29.0	15.9	13.9	14.6
Federal Credit Agencies	1.3	2.5	2.5	2.3	2.4	1.3
State & Local Credit Agencies	.8	1.0	2.0	2.3	1.4	1.2
State & Local Retirement Funds	.1	*	.1	.2	*	*
Mortgage Investment Trusts	*	*	*	*	*	*
Non-Insured Pension Funds	*	*	0	0	*	*
Credit Unions	.5	.5	.5	.5	.4	.3
Total	116.1	127.6	126.5	85.1	61.2	57.3

*Under $50 million

Sources: 1977-1981: HUD News Releases.
1982: Department of Housing and Urban Development projections.

TABLE D-7

Total Originations of Mortgage Loans on Multifamily Properties by Identifiable Lender Groups
(dollars in billions)

	Calendar Years					
	Actual				Projected	
New Multifamily Units	1977	1978	1979	1980	1981	1982
Savings & Loan Associations	$1.7	$1.9	$1.7	$1.5	$.9	$ .9
Mutual Savings Banks	.2	.2	.3	.2	.2	.2
Commercial Banks	.5	.4	.6	.4	.4	.5
Life Insurance Companies	.5	.9	1.0	1.0	.5	.4
Mortgage Companies	1.5	1.1	1.0	1.5	1.6	.8
Federal Credit Agencies	.9	1.6	2.4	2.7	3.1	3.6
State & Local Credit Agencies	.3	.6	1.1	1.2	1.1	1.1
State & Local Retirement Funds	*	0	.1	.1	*	*
Mortgage Investment Trusts	*	*	.1	.1	*	*
Non-Insured Pension Funds	-	*	*	*	*	*
Total	5.6	6.7	8.2	8.5	7.9	7.5
Previously Occupied Units						
Savings & Loan Associations	$5.2	-4.3	3.2	1.6	1.4	2.1
Mutual Savings Banks	1.3	.1	.6	.3	.4	.4
Commercial Banks	1.4	1.7	1.3	.8	1.1	1.1
Life Insurance Companies	.5	.9	.7	.5	.2	.2
Mortgage Companies	.5	.7	1.0	.1	.4	.2
Federal Credit Agencies	.1	.1	.2	.2	.1	.1
State & Local Credit Agencies	.9	.4	.1	.2	.3	.3
State & Local Retirement Funds	.1	.4	.3	*	*	*
Mortgage Investment Trusts	.1	.1	.1	.1	.1	*
Non-Insured Pension Funds	*	*	*	0	*	*
Total	10.2	9.6	7.5	3.7	4.0	4.4

*Under $50 million

Sources: 1977-1981: HUD News Releases.
1982: Department of Housing and Urban Development Projections.

TABLE D-8

Financing of Mobile Homes
(Dollars in Billions)

	Calendar Years				
	Actual		Projected		
Loan Requirements	1978	1979	1980	1981	1982
New Mobile Homes	$4.4	$4.8	$4.2	$4.7	$4.5
Used Mobile Homes	1.0	1.7	.9	1.4	1.3
Total Requirements	$5.4	$6.5	$5.1	$6.1	$5.8
Loans Extended					
Commercial Banks	3.7	4.5	2.9	3.0	2.9
Finance Companies	.9	.8	.9	1.3	1.3
Savings & Loan Associations	.6	.9	1.1	1.6	1.4
Credit Unions	.2	.2	.1	.2	.2
Total Supplied	5.4	6.5	5.1	6.1	5.8

Source: 1978-1981: Manufactured Housing Institute (new home shipments); Veterans Administration and HUD estimates.

1982: Department of Housing and Urban Development projections.

TABLE D-9

Gross Flows of Mortgage Loans: Savings & Loan Associations
(Dollars in Billions)

	Calendar Years				
	Actual			Projected	
Long-Term Loans on 1-4 Family Homes	1978	1979	1980	1981	1982
Total outstanding at year end	$343.5	382.2	$409.7	$424.6	$411.1
Net acquisitions during year	85.2	76.3	58.0	39.6	12.1
Gross acquisitions during year	100.2	94.4	73.5	52.0	52.7
Loan purchases	10.3	11.6	12.4	10.0	18.0
Loan sales	15.0	18.7	15.5	12.4	40.6
Loan originations, total	90.0	92.3	68.5	42.0	34.7
New properties	27.7	28.1	23.0	17.3	11.7
Existing properties	62.2	54.7	38.1	24.7	23.0
Long-Term Loans on Multifamily Properties					
Total outstanding at year end	32.7	34.3	34.3	35.8	37.0
Net acquisition during year	6.2	4.9	3.0	2.4	2.8
Gross acquisitions during year	6.6	5.2	3.4	2.5	3.5
Loan purchases	.4	.3	.3	.2	.5
Loan sales	.4	4.9	3.1	.2	.7
Loan originations, total	6.2	4.9	3.1	2.3	3.0
New properties	1.9	1.7	1.5	.9	.9
Existing properties	4.3	3.2	1.6	1.4	2.1
Long-Term Loans on Non-residential & Farm Properties					
Total outstanding at year end	30.4	32.0	32.7	33.1	33.8
Net acquisitions during year	5.6	4.6	4.5	3.7	3.7
Gross acquisitions during year	6.0	4.9	4.8	3.9	5.7
Loan purchases	.5	.3	.5	.4	1.5
Loan sales	.4	.3	.3	.3	2.0
Loan originations	5.4	4.6	4.3	3.6	4.2
Acquisitions of Construction Loans					
1-4 Family Homes	20.1	18.6	13.5	10.3	6.9
Multifamily properties	2.4	2.0	1.4	1.3	1.6
Non-residential properties	2.2	2.1	2.0	2.3	3.1
Construction Loans Outstanding	21.8	21.7	20.5	18.3	17.8
Land Loans Outstanding	4.5	5.3	5.5	6.1	6.5
Total Mortgage Credit	432.8	475.8	502.8	517.9	506.2

*Under $50,000

Sources: 1978-1981: HUD Releases.
1982: Department of Housing and Urban Development Projections.

TABLE D-10

Gross Flows of Mortgage Loans: Commercial Banks
(Dollars in Billions)

	Calendar Years				
	Actual			Projected	
Long-Term Loans on 1-4 Family Homes	1978	1979	1980	1981	1982
Total outstanding at year end	$117.9	$136.8	$146.9	$155.0	$158.3
Net acquisitions during year	38.8	36.3	25.6	20.3	16.2
Gross acquisitions during year	45.6	42.8	33.1	24.8	21.5
Loan purchases	1.7	2.2	4.3	3.1	1.3
Loan sales	6.8	6.6	7.5	4.5	5.3
Loan originations, total	43.9	40.7	28.8	21.7	20.2
New properties	11.5	11.3	8.1	6.6	6.4
Existing properties	32.4	29.3	20.7	15.1	13.8
Long-Term Loans on Multifamily Properties					
Total outstanding at year end	5.7	6.3	6.5	7.1	8.0
Net acquisitions during year	2.0	1.9	1.3	1.7	2.4
Gross acquisitions during year	2.1	2.0	1.4	1.7	2.4
Loan purchases	*	*	.1	.2	.8
Loan sales	.1	.1	*	*	*
Loan originations, total	2.1	1.9	1.2	1.5	1.6
New properties	.4	.6	.4	.4	.5
Existing properties	1.7	1.3	.8	1.1	1.1
Long-Term Loans on Non-residential & Farm Properties					
Total outstanding at year end	62.1	68.0	72.3	75.6	79.3
Net acquisitions during year	20.4	18.1	15.0	15.9	16.9
Gross acquisitions during year	21.1	19.2	15.9	16.8	17.2
Loan purchases	.4	.3	.5	.8	.9
Loan sales	.7	1.2	.9	.9	.3
Loan originations	20.8	19.0	15.3	16.0	16.3
Acquisitions of Construction Loans					
1-4 Family Homes	12.2	14.9	12.6	11.0	7.7
Multifamily properties	4.5	5.0	6.0	5.7	5.5
Non-residential properties	12.8	16.8	5.6	19.7	27.5
Construction Loans Outstanding	23.0	28.2	31.5	39.9	48.2
Land Loans Outstanding	4.0	4.5	5.1	5.0	5.3
Total Mortgage Credit	212.7	243.8	262.3	282.7	299.1

*Under $50,000

Sources: 1978-1981: HUD Releases.
1982: Department of Housing and Urban Development Projections.

TABLE D-11

Gross Flows of Mortgage Loans: Mutual Saving Banks
(Dollars in Billions)

	Calendar Years				
	Actual		Projected		
Long-Term Loans on 1-4 Family Homes	1978	1979	1980	1981	1982
Total outstanding at year end	$62.4	$67.3	$68.2	$67.9	$65.8
Net acquisitions during year	11.9	11.1	5.7	3.8	2.0
Gross acquisitions during year	12.2	11.6	6.4	4.3	3.7
Loan purchases	2.8	2.6	1.7	.2	.2
Loan sales	.3	.5	.7	.4	1.5
Loan originations, total	9.4	9.0	5.4	4.0	3.5
New properties	1.7	1.5	1.1	.9	.8
Existing properties	7.6	7.4	4.3	3.1	2.7
Long-Term Loans on Multifamily Properties					
Total outstanding at year end	15.0	15.0	14.7	14.2	13.9
Net acquisitions during year	1.4	1.0	.6	.6	.6
Gross acquisitions during year	1.5	1.0	.7	.6	.6
Loan purchases	.3	.1	.3	*	*
Loan sales	*	.3	.3	*	*
Loan originations, total	1.2	.9	.5	.6	.6
New properties	.2	.3	.2	.2	.2
Existing properties	.1	.6	.3	.4	.4
Long-Term Loans on Non-residential & Farm Properties					
Total outstanding at year end	15.1	15.3	15.4	15.0	14.7
Net acquisitions during year	1.8	1.1	1.1	.7	.8
Gross acquisitions during year	1.9	2.4	1.1	.8	.8
Loan purchases	.1	.1	.1	.1	.1
Loan sales	*	.3	*	*	*
Loan originations	1.7	1.3	1.0	.6	.7
Acquisitions of Construction Loans					
1-4 Family Homes	1.0	1.0	.6	.7	.4
Multifamily properties	.6	.7	.6	.7	.5
Non-residential properties	.5	.5	.5	.6	.6
Construction Loans Outstanding	1.7	1.9	1.6	1.9	1.8
Land Loans Outstanding	.2	.2	.2	.2	.2
Total Mortgage Credit	94.4	99.7	100.0	99.3	96.4

*Under $50,000

Sources: 1978-1981: HUD Releases.
1982: Department of Housing and Urban Development Projections.

TABLE D-12

Gross Flows of Mortgage Loans: Life Insurance Companies
(Dollars in Billions)

	Calendar Years				
	Actual			Projected	
Long-Term Loans on 1-4 Family Homes	1978	1979	1980	1981	1982
Total outstanding at year end	$13.9	$15.6	$17.4	$16.8	$16.6
Net acquisitions during year	1.6	3.3	2.9	.4	.8
Gross acquisitions during year	1.7	3.5	3.0	.6	.9
Loan purchases	.8	1.5	1.3	.2	.3
Loan sales	*	.2	.1	.2	.1
Loan originations, total	.8	2.0	1.7	.5	.6
New properties	.2	1.0	1.0	.2	.2
Existing properties	.6	1.1	.8	.3	.4
Long-Term Loans on Multifamily Properties					
Total outstanding at year end	18.2	18.5	19.0	18.8	18.5
Net acquisitions during year	1.9	1.7	1.5	.7	.6
Gross acquisitions during year	1.9	1.7	1.5	.8	.6
Loan purchases	*	.0	.0	*	*
Loan sales	0	0	0	.1	*
Loan originiations, total	1.8	1.6	1.4	.7	.6
New properties	.9	1.0	1.0	.5	.4
Existing properties	.9	.7	.5	.2	.2
Long-Term Loans on Non-residential & Farm Properties					
Total outstanding at year end	69.8	80.0	90.3	98.6	103.5
Net acquisitions during year	13.3	14.3	13.7	11.4	8.3
Gross acquisitions during year	13.3	14.3	13.7	11.4	8.3
Loan purchases	.6	.1	1.0	.7	.6
Loan sales	.0	.0	.0	.1	*
Loan originations	12.7	17.4	16.0	10.8	7.7
Acquisitions of Construction Loans					
1-4 Family Homes	*	*	*	0	*
Multifamily properties	*	*	*	*	*
non-residential properties	.3	.5	.7	.7	.9
Construction Loans Outstanding	.4	.7	.8	.9	.9
Land Loans Outstanding	.5	.4	.3	.3	.3
Total Mortgage Credit	102.9	115.1	127.9	135.4	139.8

*Under $50,000

Source: 1978-1981: HUD Releases.
1982: Department of Housing and Urban Development Projections.

TABLE D-13

Gross Flows of Mortgage Loans: Mortgage Companies
(Dollars in Billions)

	Calendar Years				
	Actual			Projected	
	1978	1979	1980	1981	1982
Long-Term Loans on 1-4 Family Homes					
Total outstanding at year end	$ 7.3	$10.5	$ 7.6	$ 7.5	$ 10.5
Net acquisitions during year	3.2	6.5	1.3	1.7	3.0
Gross acquisitions during year	38.3	51.0	32.8	28.3	27.5
Loan purchases	3.8	5.7	3.4	4.3	3.8
Loan sales	35.0	44.4	31.5	26.6	24.5
Loan originations, total	34.4	45.3	29.4	24.0	23.7
New properties	14.0	16.3	13.5	10.1	9.1
Existing properties	20.4	29.0	15.9	13.9	14.6
Long-Term Loans on Multifamily Properties					
Total outstanding at year end	.7	.6	.7	.8	.8
Net acquisitions during year	.2	.5	.3	.4	.3
Gross acquisitions during year	2.0	2.0	1.6	2.2	1.0
Loan purchases	.2	*	*	.1	*
Loan sales	1.8	1.5	1.3	1.8	.7
Loan originations, total	1.8	2.0	1.6	2.1	1.0
New properties	1.1	1.0	1.5	1.6	.8
Existing properties	.7	1.0	.1	.4	.2
Long-Term Loans on Non-residential & Farm Properties					
Total outstanding at year end	1.0	1.0	1.1	1.2	1.0
Net acquisition during year	.7	.8	.5	.5	.1
Gross acquisitions during year	6.5	6.2	4.6	2.6	1.1
Loan purchases	*	.1	*	.2	*
Loan sales	5.8	5.4	4.2	2.1	1.0
Loan originations	6.5	6.1	4.6	2.4	1.1
Acquisitions of Construction Loans					
1-4 Family Homes	3.4	3.6	2.1	1.8	1.4
Multifamily properties	1.2	1.3	1.2	1.0	.7
Non-residential properties	1.6	2.4	1.9	2.0	2.0
Construction Loans Outstanding	3.5	3.1	3.5	1.9	1.3
Land Loans Outstanding	.6	.6	1.2	.4	.4
Total Mortgage Credit	13.3	15.8	12.4	11.8	14.0

*Under $50,000

Sources: 1978-1981: HUD Releases.
1982: Department of Housing and Urban Development Projections

TABLE D-14

Gross Flows of Mortgage Loans: Federal Credit Agencies
(Dollars in Billions)

	Calendar Years				
	Actual			Projected	
	1978	1979	1980	1981	1982
Long-Term Loans on 1-4 Family Homes					
Total outstanding at year end	$46.1	$56.7	$64.3	$70.6	$79.9
Net acquisitions during year	14.5	14.4	11.5	9.8	13.1
Gross acquisitions during year	23.6	20.2	18.7	16.0	36.8
Loan purchases	18.8	15.7	14.4	11.5	33.7
Loan sales	9.1	5.8	7.2	6.2	23.7
Loan originations, total	4.8	4.4	4.4	4.5	3.1
New properties	2.3	2.0	2.0	2.1	1.8
Existing properties	2.5	2.5	2.3	2.4	1.3
Long-Term Loans on Multifamily Properties					
Total outstanding at year end	13.5	13.9	15.8	16.8	17.1
Net acquisitions during year	.9	1.1	2.3	1.3	.3
Gross acquisitions during year	3.6	4.1	3.8	4.0	8.5
Loan purchases	1.9	1.5	.9	.8	4.8
Loan sales	2.7	3.0	1.6	2.7	8.2
Loan originations, total	1.7	2.6	2.9	3.2	3.7
New properties	1.6	2.4	2.7	3.0	3.6
Existing properties	.1	.2	.2	.2	.1
Long-Term Loans on Non-residential & Farm Properties					
Total outstanding at year end	29.7	35.4	42.3	50.0	53.2
Net acquisitions during year	7.6	9.6	10.8	12.4	8.8
Gross acquisitions during year	9.1	10.7	12.5	14.3	10.7
Loan purchases	1.2	.6	1.0	.9	1.7
Loan sales	1.5	1.1	1.7	1.9	1.9
Loan originations	7.9	10.1	11.5	13.4	9.0
Acquisitions of Construction Loans					
1-4 Family Homes	.0	0	0	0	0
Multifamily properties	.3	.5	.8	.9	.9
Non-residential properties	.0	0	0	0	0
Construction Loans Outstanding	.3	.9	1.7	2.6	3.0
Land Loans Outstanding	0	0	0	0	0
Total Mortgage Credit	89.6	106.8	124.2	140.0	153.2

*Under $50,000

Sources: 1978-1981: HUD Releases.
1982: Department of Housing and Urban Development Projections.

TABLE D-15

Gross Flows of Mortgage Loans: State and Local Credit Agencies
(Dollars in Billions)

	Calendar Years				
	Actual			Projected	
	1978	1979	1980	1981	1982
Long-Term Loans on 1-4 Family Homes					
Total outstanding at year end	$7.1	$12.5	$21.3	$27.6	$30.4
Net acquisitions during year	2.3	5.3	8.4	6.6	3.2
Gross acquisitions during year	2.3	5.3	8.4	6.6	3.2
Loan purchases	1.0	3.2	5.8	5.0	1.9
Loan sales	2.0	0	0	0	0
Loan origination, total	1.3	2.0	2.6	1.6	1.3
New properties	.3	.1	.3	.2	.1
Existing properties	1.0	2.0	2.3	1.4	1.2
Long-Term Loans on Multifamily Properties					
Total outstanding at year end	6.7	8.7	10.0	11.1	12.4
Net acquisitions during year	.8	1.3	1.4	1.4	1.6
Gross acquisitions during year	1.1	1.3	1.5	1.4	1.6
Loan purchases	*	.1	.2	.1	.2
Loan sales	.3	*	*	*	*
Loan originations, total	1.0	1.2	1.3	1.4	1.4
New properties	.6	1.1	1.2	1.1	1.1
Existing properties	.4	.1	.2	.3	.3
Long-Term Loans on Non-residential & Farm Properties					
Total outstanding at year end	2.1	2.8	3.2	3.6	4.3
Net acquisitions during year	.2	.5	.5	.7	1.0
Gross Acquisitions during year	.2	.5	.5	.7	1.0
Loan purchases	0	3.4	0	0	0
Loan sales	0	0	0	0	0
Loan origination, total	.2	3.8	4.4	.7	1.0
Acquisitions of Construction Loans					
1-4 Family Homes	*	*	*	*	*
Multifamily properties	.3	.6	.9	.7	1.5
Non-residential	0	0	*	*	*
Construction Loans Outstanding	1.2	1.3	1.6	1.5	1.4
Land Loans Outstanding	*	*	*	*	*
Total Mortgage Credit	17.1	25.3	36.1	44.0	48.5

*Under $50,000

Sources: 1978-1981: HUD Releases.
1982: Department of Housing and Urban Development Projections.

TABLE D-16

Gross Flows of Mortgage Loans: Mortgage Pools
(Dollars in Billions)

	Calendar Years				
	Actual			Projected	
	1978	1979	1980	1981	1982
Long-Term Loans on 1-4 Family Homes					
Total Outstanding at year end	$75.5	$99.9	$119.4	$134.2	$169.1
Net acquisitions during year	21.8	29.1	23.5	18.0	38.5
Gross acquisitions during year	23.2	29.9	26.7	21.1	41.6
Loan purchases	23.2	29.9	26.7	21.1	41.6
Loan sales	1.4	.8	3.2	3.1	3.1
Long-Term Loans on Multifamily Properties					
Total outstanding at year end	4.6	6.6	7.2	8.2	15.7
Net acquisitions during year	1.9	2.4	.9	1.2	7.7
Gross acquisitions during year	2.0	2.4	.9	1.2	7.7
Loan purchases	2.0	2.4	.9	1.2	7.7
Loan sales	0	0	0	*	0
Long-Term Loans on Non-residential & Farm Properties					
Total outstanding at year end	4.8	5.4	6.2	7.3	7.6
Net acquisitions during year	.5	*	.8	1.2	.4
Gross acquisitions during year	1.5	1.3	1.7	1.9	1.9
Loan purchases	1.5	1.3	1.7	1.9	1.9
Loan sales	1.0	.5	.8	.7	1.5
Total Mortgage Credit	84.9	111.8	132.8	149.6	192.4

*Under $50,000

Sources: 1978-1981: HUD Releases.
1982: Department of Housing and Urban Development Projections.

TABLE D-17

Gross Flows of Mortgage Loans: State & Local Retirement Funds
(Dollars in Billions)

	Calendar Years				
	Actual		Projected		
	1978	1979	1980	1981	1982
Long-Term Loans on 1-4 Family Homes					
Total outstanding at year end	$ 2.8	$ 3.1	$ 3.5	$ 3.8	$ 3.8
Net acquisitions during year	.4	.5	.6	.5	.3
Gross acquisitions during year	.5	.6	.6	.5	.3
Loan purchases	.4	.5	.4	.5	.3
Loan sales	*	*	*	*	*
Loan originations, total	.1	.1	.2	*	*
New properties	*	*	*	*	*
Existing properties	*	.1	.2	*	*
Long-Term Loans on Multifamily Properties					
Total outstanding at year end	2.7	3.2	3.7	4.8	6.1
Net acquisitions during year	.9	.9	.6	1.1	1.5
Gross acquisitions during year	.9	.9	.6	1.1	1.5
Loan purchases	.5	.5	.5	1.1	1.5
Loan sales	*	*	*	0	0
Loan originations, total	.4	.4	.1	.1	*
New properties	0	.1	.1	*	*
Existing properties	.4	.3	*	*	*
Long-Term Loans on Non-residential & Farm Properties					
Total outstanding at year end	2.9	3.1	3.4	4.0	4.9
Net acquisitions during year	.3	.4	.4	.6	1.1
Gross acquisitions during year	.3	.4	.4	.6	1.1
Loan purchases	.1	.2	.2	.5	1.1
Loan sales	*	0	0	*	*
Loan originations	.2	.2	.2	.1	.1
Construction Loans Outstanding	.2	.2	.2	.2	.2
Land Loans Outstanding	0	0	*	*	*
Total Loans Outstanding	8.6	9.6	10.9	12.7	15.0
Total Mortgage Credit					

*Under $50,000

Sources: 1978-1981: HUD Releases.
1982: Department of Housing and Urban Development Projections.

TABLE D-18

Gross Flows of Mortgage Loans: Private Non-Insured Pension Funds
(Dollars in Billions)

	Calendar Years				
	Actual		Projected		
	1978	1979	1980	1981	1982
Long-Term Loans on 1-4 Family Homes					
Total outstanding at year end	$ .9	$ 1.2	$ 1.3	$ .7	$ .8
Net acquisitions during year	.3	.4	.3	.1	.1
Gross acquisitions during year	.4	.5	.3	.1	.1
Loan purchases	.2	.3	.2	*	.1
Loan sales	*	*	*	*	*
Loan originations, total	.2	.2	.1	.1	*
New properties	.2	.2	.1	.1	*
Existing properties	*	0	0	*	*
Long-Term Loans on Multifamily Properties					
Total outstanding at year end	.5	.5	.2	.1	.1
Net acquisitions during year	*	.1	*	*	*
Gross acquisitions during year	*	.1	*	*	*
Loan purchases	0	*	*	*	*
Loan sales	.1	*	*	*	*
Loan originations, total	*	.1	*	*	*
New properties	*	*	*	*	*
Existing properties	*	*	0	0	0
Long-Term Loans on Non-residential & Farm Properties					
Total outstanding at year end	1.4	1.4	2.0	.5	.6
Net acquisitions during year	*	.2	.6	.3	*
Gross acquisitions during year	*	.2	.6	.3	*
Loan purchases	*	*	.1	.1	*
Loan sales	*	.1	*	0	0
Loan originations	*	.2	.5	.2	*
Construction Loans Outstanding	*	*	*	*	*
Land Loans Outstanding	*	*	.1	*	*
Total Mortgage Credit	2.8	3.1	3.7	1.3	1.5

*Under $50,000

Sources: 1978-1981: HUD Releases.
1982: Department of Housing and Urban Development Projections.

Appendix E

Additions To The Housing Supply By Means Other Than New Construction

I. Introduction

Additions to the housing inventory are needed for three basic purposes: (1) to house the net increase in households that results from population growth and the trend toward smaller households; (2) to replace units lost temporarily or permanently from the inventory in order to continue to house all current households; and, (3) to ensure an adequate supply of vacant units to (a) accommodate mobility, provide adequate time for property transfers, and other demands for vacant primary residences, and (b) meet the demand for second homes and other special-use housing units that are not primary residences but are included in the vacant stock of housing.

The Nation's housing stock is in a continual state of flux, undergoing changes of several sorts. Existing units have turnovers in occupancy; tenures shift from owner to renter and back; structures are altered and rearranged. Units are lost temporarily or permanently from the inventory through casualty losses, demolitions, and removals from site, or through conversion to nonresidential uses. There are also several types of additions to the inventory, besides familiar, conventional new housing construction and less familiar new production of manufactured housing (mobile homes).

The various types of additions from sources other than new housing production are the focus of this appendix. They have been less recognized because until recently there has been no recurrent data reflecting this activity. The major sources of non-new-construction additions are (1) restoration of uninhabitable housing units, (2) conversion of large, obsolete units into smaller, upgraded units, and (3) conversion of nonresidential structures to residential use. These other sources often require less investment in infrastructure and in construction materials and other resources than new construction.

These inventory addition activities have been described as the "shadow housing market" by Oliver R. Witte, 1/ because they are not included in the statistics on housing production that are used by most analysts to measure the growth of the housing stock.

An uninhabitable housing unit is not defined as a housing unit in housing surveys and, therefore, is not counted as part of the housing stock. Restoration of uninhabitable housing returns those structures to the housing stock and avoids the need for new construction to replace loss. The structures may have been abandoned or vandalized, but if the basic structures are still sound they can be renovated. However, even if a building permit must be issued to authorize the work, the unit will never appear in housing production statistics; it is not included in the leading economic indicator, "housing permits issued," which reports on new construction only. Similarly, housing used for seasonal purposes in many areas may not be fit for year-round use, but often it can be upgraded to provide year-round, all-weather housing when demand in those areas warrants such investment. This upgrading is reported in inventory statistics, but not in production statistics.

Residential conversions, wherein one large unit is converted to two or more units, usually result in permanent additions to the stock. The equipment additions and structural changes, which require substantial investment, are unlikely to be withdrawn to return the units to their former state of one larger unit. In the process, obsolete equipment and amenities can be replaced to achieve better quality and design. Declining household size and the often superior urban locations of many large, older units make such conversions a potentially important source of additions to the housing stock. Again, the results of this activity can be obtained only from inventory data.

Conversions of structures from nonresidential to residential uses also may be a significant resource for non-new-construction additions to the housing stock, averting the need for completely new construction. Many older commercial, warehouse, manufacturing, educational and other types of structures are well located and are of sound construction suitable for such conversion. Surveys or censuses that focus solely upon residential structures have had difficulties in measuring such conversions, since the conversions may occur in unexpected locations.

Another type of inventory addition is a clear offset against one type of loss. Residential structures moved from a site, which are counted as losses, are counted as additions when placed on a new site. These removals may improve the location and extend the useful life of the structure.

In this appendix, data from the Annual Housing Survey and from other sources are used to demonstrate that additions from sources other than new construction have become more important in the last decade[2/], and that part of their growing importance is due to the fact that they tend to be countercyclical to new housing production, while housing production cycles have become more extreme in the 1970s. They tend to be countercyclical because households had the economic means to satisfy their housing demand by other methods even during periods of housing production downturns. An additional explanation for the growing importance of these additions is that the rapid appreciation in the value of housing during the 1970s relative to other assets (due to demographic pressures, tax policies, and other factors) made conservation and conversion to residential use a rational response to economic conditions.

The data sources used to measure housing inventory additions are described in an addendum to this appendix.

II. The Inventory Change Record

Results from the 1980 Annual Housing Survey indicated a net increase of approximately 18,023,000 units from the April 1970 inventory of 70,184,000 occupied and vacant year-round and seasonal housing units to an October 1980 estimate of 88,207,000 total housing units. This net increase resulted from additions of 20,306,000 new construction units and 4,903,000 units that entered the inventory from sources other than new construction, and from losses of 7,186,000 units (see Chart 1).

The net effect of the components of inventory change over the last three decades is displayed in Table 1. Total requirements arising from net changes in occupied housing units and vacant units, and from total inventory losses, were met to varying degrees by new construction and by additions from other sources. Non-new-construction additions met the requirement for 1 out of 10 additional units in the 1950's and 1960's.

The supply from this source was very small from 1970 to 1973, when new construction was at its peak in the United States. In the 1973 to 1980 period net household formations increased, but new construction did not keep pace with demand, so that non-new-construction supplied over one-fourth of the additional units needed. In fact, during this period, both single and multifamily additions from sources other than new construction outperformed new multifamily construction (which is often equated with demand for new rental construction) by almost 30 percent. Multifamily completions averaged only 520,000 units per year, while other additions averaged 670,000 units or 150,000 more units per year. As shown in Chart 1, new construction during the 1970's added about 6,400,000 occupied and vacant rental units to the housing stock, while net additions of owner and renter units from sources other than new construction over the decade added about 4,900,000 units (tenure classification for these units is not available).

Chart 1

Sources of the 1980 Housing Inventory

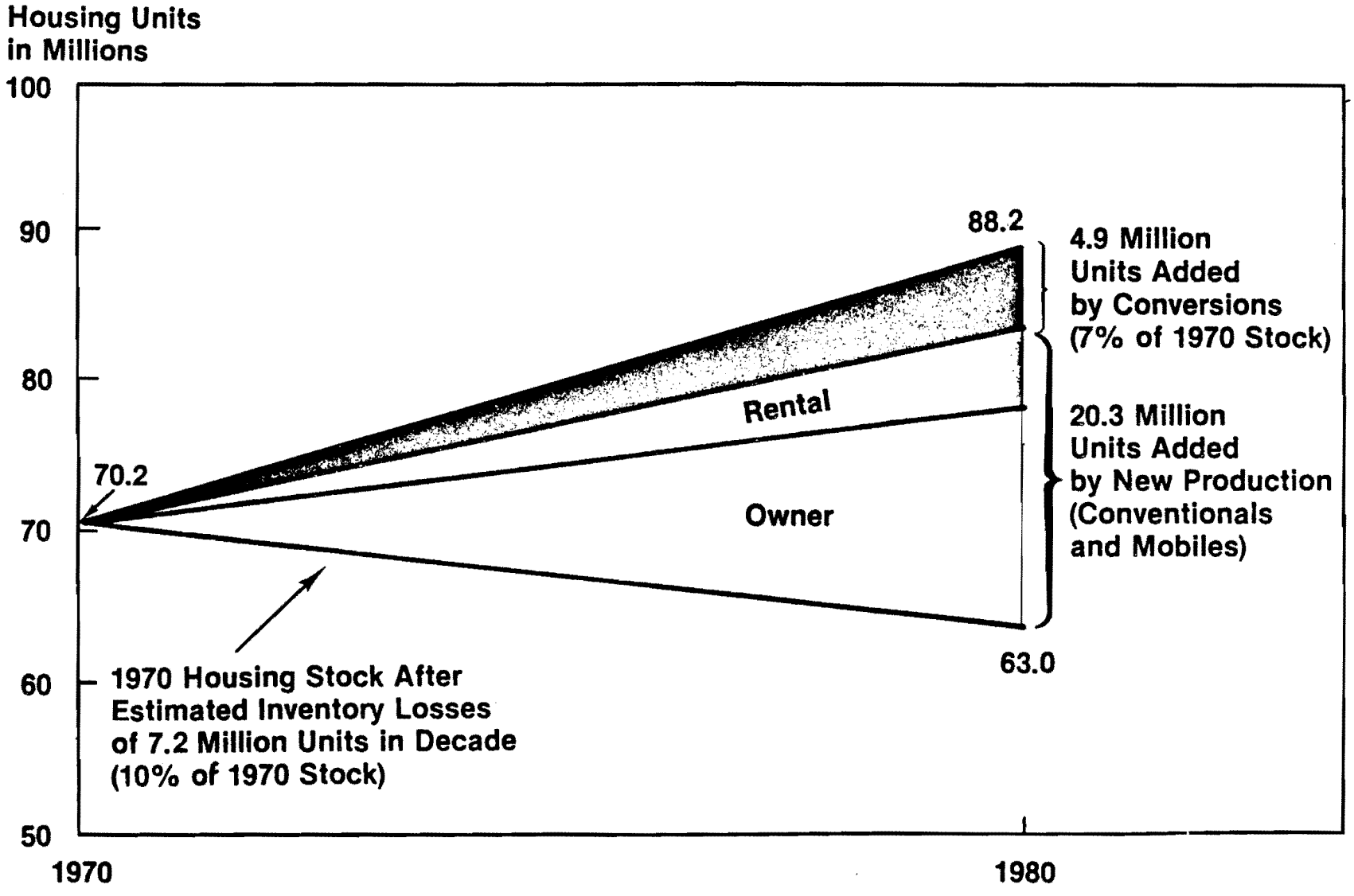


Table E-1

Satisfaction Of Basic Housing Requirements In The United States
1950 to 1979
(in thousands of units)

	Requirements Arising From				Requirements Met By		
	Net Change In Occupied Hsg. Units	Net Change In Vacant Hsg. Units	Losses	Total Require-ments	New Construction	Additions From Sources Other Than New Construction	Percent of Requirements Met by Non-New-Con-struction Additions
PERIOD TOTALS							
4/1/50-12/31/59	10,198	1,991	4,530	16,719	14,862	1,857	11.1%
4/1/60-4/1/70	11,326	532	6,716	18,574	16,616	1,958	10.5
4/1/70-10/31/73	4,987	798	2,414	8,199	8,000	199	2.4
10/31/73-10/31/80	10,735	1,503	4,772	17,010	12,306	4,704	27.7
ANNUAL AVERAGES							
4/1/50-12/31/59	1,046	204	465	1,715	1,524	191	11.1%
4/1/60-4/1/70	1,133	53	672	1,858	1,662	196	10.5
4/1/70-10/31/73	1,392	223	674	2,289	2,233	56	2.4
10/31/73-10/31/80	1,534	215	682	2,430	1,758	672	27.7

Sources: 1950-1960 Census of Housing, Components of Inventory Change, U.S. Department of Commerce, Bureau of the Census.

The 1980 Decennial Census of Housing and Population also confirms the existence of housing additions from sources other than new construction. Over one million more housing units and households were found than had been expected or than could be accounted for by new housing production. Almost all of the unexpected growth took place in the rental inventory, where 28.6 million occupied units were found, rather than the expected 27.4 million units. A higher rental vacancy rate was also found. Although other explanations might be advanced for this disparity, they are not plausible. The hypothesis that construction reports underestimated new construction during the 1970s is unlikely because the well-designed construction surveys contain numerous statistical controls and cross-checks. The possibility that the 1980 Census double-counted many renters is also highly unlikely, given past problems with undercounts in many renter groups. The most likely explanation is that there were additions from sources other than new construction. The 1980 Census results are not surprising to those who have followed AHS reports.

The 1980 Census results prompted two researchers to analyze the situation. They estimated that in 1979 alone as many as 500,000 illegal conversions took place. -These were unpermitted and unreported conversions of single-family units into two or more units in residential areas zoned for single-family occupancy.[3]/

III. Annual Inventory Changes - Evidence of Counter-Cyclicality

Estimates of annual changes in the housing inventory from 1973 to 1980 and the annual contribution of new construction and of additions from other sources (Table 2) suggest that the other types of additions become more important when new production declines and less important when new production increases. These two sources of supply moved in opposite directions in four of the six years for which changes are shown, while in the other two years they moved down or up together, apparently being affected by overall economic conditions.

Data reporting on investment in the existing inventory, when compared with investment in new residential construction, support the premise that conservation, upgrading, and more intensive use of the existing inventory occur when new residential construction declines. In 1978, when new construction was at a peak, $75.8 billion was expended on new residential construction, while less than half as much, or $37.5 billion, was expended on maintaining, repairing, and making construction improvements to the existing inventory. New investment was $77.1 billion in 1979 while existing inventory investment rose to $44.5 billion. New investment fell to $63.1 billion in 1980 and $62.0 billion in 1981, but investment in maintenance, additions and alterations of the existing inventory rose to $46.3 billion in 1980 and $46.4 billion in 1981, or three-fourths as much as the new investment activity.[4]/

Table E-2

Sources of the Housing Inventory
1973 to 1980
(in thousands of units)

	1973	1974	1975	1976	1977	1978	1979	1980
All Housing Units, Current Year	75,969	77,601	79,087	80,881	82,420	84,618	86,374	88,207
Increase Over Previous Year:								
Number	NA	1,632	1,486	1,794	1,539	2,198	1,756	1,833
Percent	NA	2.1	1.9	2.3	1.9	2.7	2.1	2.1
Units Added by New Construction	NA	2,094	1,594	1,549	1,795	2,059	2,114	1,670
Units Lost, Total 1/	NA	1,211	954	512	585	519	547	444
Demolition or Disaster	NA	187	289	267	337	256	217	249
Other Means 1/	NA	1,024	665	245	248	263	330	195
Loss as Percent of Previous Year's Inventory	NA	1.6	1.2	0.6	0.7	0.6	0.6	0.5
Net, Non-new-construction Additions 2/	NA	749	846	757	329	658	189	607

NA = Not Available

1/ Net of retrievable losses returned to the housing inventory.

2/ Net of additions from returned retrievable losses, conversions from fewer to more units, changes from nonresidential use to residential use, and units moved to site, offset by losses from mergers and units built in 1974 to 1979 but lost by 1980. The number also reflects sampling and nonsampling errors; data are not reliable on the individual components.

Source: Annual Housing Survey reports, with new construction additions adjusted to conform to Housing Completions Survey and Mobile Home Placements Survey reports; these annual adjustments also affect the non-new-construction additions, which are a residual.

The countercyclical nature of additions and alterations when compared with the value of new residential construction put in place is shown by Chart 2. It demonstrates first, that housing cycles became more extreme in the 1970's than in the 1960's and, second, that investment in the existing residential inventory usually increases when expenditures on new units decline, as households make more intensive use of older housing units to make up for the reduced supply of new units. Alterations and upgrading of the interior equipment and layout of existing houses, including subdivision of single-unit structures into multiple-unit structures, and newly-built additions to older houses, are the most important of these investments that adapt and modernize the housing stock.

Taking replacements, maintenance, and repair into account, expenditures on existing housing relative to expenditures on new housing have risen significantly since 1960. Existing housing expenditures were 20 percent of total expenditures on new and existing housing in 1960, 33 percent in 1970, and 42 percent in 1980.

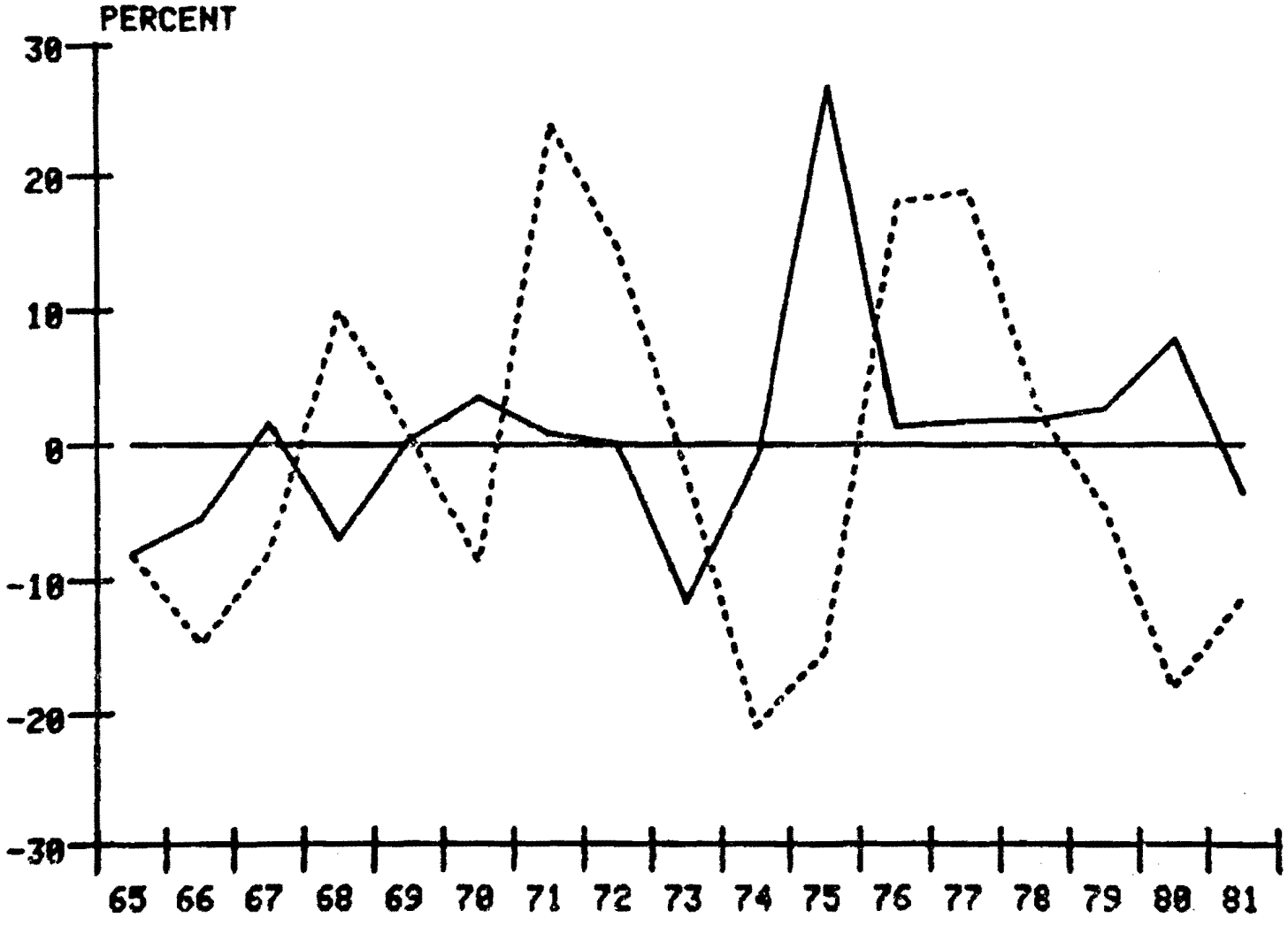
Increased incomes during the 1970's allowed households to spend more on housing. Per capita disposable personal income, in 1972 (constant) dollars, rose 22 percent from $3,665 in 1970 to $4,473 in 1980. Per capita personal consumption expenditures rose 25 percent over the same period, from $3,277 to $4,108 in 1972 dollars. Personal consumption expenditures for nonfarm housing rose 32 percent for owners and 15 percent for renters, in constant dollars. Thus, as real incomes increased, households invested more in housing, even in periods of cyclical downturns in new housing production.

Table 2 also shows the net changes in annual losses from the inventory due to demolition or disaster or to other means. In the last five years, losses seem to have stabilized at about five-tenths to seven-tenths of 1 percent of the inventory. Again, there is some indication that losses are reduced when new production declines. That is, the existing inventory is conserved and used more intensively when less new production takes place.

The losses in Table 2 are derived from estimates of inventory changes over periods of several years. Table 3 indicates that when estimates of actual annual losses are made each year, the numbers of losses that are found are larger than the average annual estimates of losses derived from comparison of the housing inventory over longer time spans. A principal reason for this is that there are two types of losses, permanent and retrievable. Permanent losses include destroyed or demolished units and units moved from site; retrievable units include burnt-out, but still standing structures, and structures converted to nonresidential uses. Permanent losses are counted only once in both the long-term comparison and the annual estimates. Retrievable losses are units that can move in and out of the housing stock several times. These may be counted more than

CHART 2

ADDITIONS AND ALTERATIONS TO THE HOUSING STOCK OFFSET NEW RESIDENTIAL CONSTRUCTION



___ PERCENT CHANGE IN ADDITIONS AND ALTERATIONS AS PERCENT OF GNP

---- PERCENT CHANGE IN VALUE OF CONSTRUCTION PUT IN PLACE (NON FARM RESIDENTIAL) AS PERCENT OF GNP

Table E-3

Annual Estimates of Losses: October 1973 through October 1980
(in thousands of units)

Twelve-month period (October to October)	Total	Permanent		Retrievable	
		Number	Percent	Number	Percent
1973-1974	1,211	NA	NA	NA	NA
1974-1975	1,581	587	37.1	994	62.9
1975-1976	1,322	469	35.5	853	64.5
1976-1977	1,456	604	41.5	852	58.5
1977-1978	1,335	526	39.4	809	60.6
1978-1979	1,390	468	33.7	922	66.3
1979-1980	1,213	485	40.0	728	60.0

NA = Not available

Source: Annual Housing Surveys, 1973 to 1980 National data, U.S. Department of Commerce, Bureau of the Census, and U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

once in the annual estimates, but they are counted only once in the long-term comparison if they are out of the inventory at the end of the period. Up to two-thirds of the losses in any one year may be retrievable, according to analyses of data on type of housing loss found during the Annual Housing Surveys. Retrievable losses are one source of "shadow market" additions to the inventory; estimates of the annual volume are not available.

A second important source of additions is the conversion or subdivision of single dwelling units into multiple units. One analysis of the volume of some of these inventory additions estimates that between 1970 and 1978 an average of 318,000 one-unit structures were converted each year to structures with two or more units. 5/ These estimates do not include any similar activity taking place in multi-family structures, which are smaller on an average and therefore somewhat less susceptible to such subdivision.

To date, no estimates are available on the annual volume of conversions from nonresidential structures to residential structures. The retrievable losses cited above include the conversions going from residential to nonresidential, but even these are not broken out by the Bureau of the Census and distinguished from the other types of retrievable losses.

IV. The Future Potential

Further conversions of single-family houses to two or more units, and of nonresidential structures to residential use, are very likely to occur. Almost 68 percent of the year-round housing inventory, or 58.3 million units, is made up of single-family units. The size of all housing units has increased by half a room since 1950, rising from a median number of 4.6 rooms per unit to 5.1 rooms today. The average size of new one-family houses has increased from less than 1,000 square feet in the 1940's and early 1950's to between 1,500 and 1,760 square feet in the 1970's. Meanwhile, average household size has steadily declined from 3.67 persons per household in 1940 to less than 2.8 persons per household in 1980. During the 1970's, single-person households increased 59 percent to include over 22 percent of all households in 1980, while two-or-more person households increased only 19 percent. The proportion of households with two or more rooms per person increased from 32 percent in 1940 to over 60 percent in 1980 (due in part, of course, to the increase in the proportion of single-person households). The incidence of overcrowding declined from 20 percent of occupied units in 1940 to about 4 percent today. 6/

As a result of these trends, many owner-occupants have homes with excess space. Economic conditions, market opportunities, and other considerations may encourage many to develop a separate rental unit. Only a fraction of the possible conversions has occurred. There are over 8.5 million renter-occupied single-family units. Many of these, as well as some large multifamily units, are also potential candidates for subdivision into more units. There are no data on the stock of nonresidential buildings suitable for conversion to housing purposes, but the rate and scale of land use changes occurring in many urban areas suggest a substantial supply of potential candidates from this source as well.

The conversions that have occurred appear to be providing American households with sufficient space and amenities. While additions from sources other than new production were increasing to unprecedented levels in the 1970's, the quality of America's housing, by whatever measure used, continued to improve, as documented by the Annual Housing Survey. The expectations and housing preferences of today's households should continue to ensure that as long as the housing market is able to function these quality standards will be maintained.

In the 1970's, regardless of the level of new construction, both the owner-occupied and the renter-occupied inventories increased each year. The market responded to provide Americans with a steadily increasing quantity of housing of steadily increasing quality. In any estimate of the means available to meet the housing requirements of America, the role of housing additions from sources other than new construction must be regarded as an important factor.

Footnotes

1. Oliver R. Witte, "Countless Uncounted" in Real Estate Weekend, The Washington Star, March 8, 1981.

2. This point is made for the 1973 to 1976 period in Duane McGough, "Housing Needs and Housing Supply: The Effectiveness of Estimates and Responses," in The Housing Delivery System, Symposium Proceedings Columbus, Ohio: the Ohio State University, October 1979, p. 31; for the 1973 to 1979 period in Duane McGough, "Housing Inventory Losses as a Requirement for New Construction", United Nations Economic Commission for Europe, Seminar on the Forecasting and Programming of Housing, Madrid, Spain, April 1981. See also "Quantifying 1980's Demand," a Subscribers' Special Report of U.S. Housing Markets, Advance Mortgage Corporation, Detroit, Michigan, July 31, 1981.

3. James Hughes and George Sternlieb, "The Future of Rental Housing," Center for Urban Policy Research, Rutgers University, 1982.

4. The data in this paragraph are from the Survey of Residential Alterations and Repairs, Construction Report C-50, and the Value of New Construction Put In Place, Construction Report C-30, Bureau of the Census, U.S. Department of Commerce.

5. Thomas Thibodeau, "Estimating Dwelling Conversions During the 1970's," unpublished paper, Washington, D.C., The Urban Institute, 1982.

6. These data are from the decennial censuses, the Annual Housing Surveys, and the Survey of New House Sales, Construction Report C-25, U.S. Bureau of the Census, U.S. Department of Commerce and the Office of Policy Development and Research, U.S. Department of Housing and Urban Development.

Addendum

Data Sources for Housing Inventory Additions

Conventionally-built new housing production is measured and reported by the Bureau of the Census, Department of Commerce, in three monthly publications: "Housing Units Authorized by Building Permits and Public Contracts," Construction Report C-40; "Housing Starts," Construction Report C-20; and "Housing Completions," Construction Report C-22 (this last sponsored by the Department of Housing and Urban Development). Production of the mobile home type of manufactured housing is not included in the two statistical series on housing starts and completions, but is reported in a separate data series. Mobile home shipments data (shipments from manufacturers to dealers and developers) are collected by the National Conference of States on Building Codes and Standards under contract with the Department of Housing and Urban Development to help HUD fulfill its responsibility to monitor and enforce the Manufactured Housing Construction and Safety Standards. The shipments data are published by the Manufactured Housing Institute as well as by the Bureau of the Census in the monthly C-20 Construction Reports. Mobile home placement data that report units placed on-site and ready for occupancy (the equivalent of conventional housing completions) are collected by the Bureau of the Census under the sponsorship of the Department of Housing and Urban Development and published quarterly in the C-20 Construction Reports.

Investment in new housing is reported in "Value of New Construction Put In Place," Bureau of the Census Construction Report C-30. Investment in the existing housing inventory in the form of maintenance and repairs, additions, alterations, and major replacements of equipment or structural components such as roofs or siding is reported by the Bureau of the Census in "Residential Alterations and Repairs," Construction Report C-50. These data are reported in dollar terms only and do not specify how many, if any, additional habitable housing units are created.

Before 1973, the only data on inventory additions from sources other than new housing production came from the Components of Inventory Change surveys of the Bureau of the Census. Estimates of national housing inventory changes in the United States were first produced by the Bureau in 1958, for the period 1950 to 1956. Since then, they have been provided for 10-year periods by sample surveys conducted in conjunction with the 1960 and 1970 decennial censuses of housing.

In 1973 the Annual Housing Survey began. This is a national longitudinal sample which, from 1974 to 1980, included 76,000 to 80,000 housing units each year, or a sample of about 1 in 1,000. It was designed to provide a current series of information on the size and composition of the housing inventory, the characteristics of its occupants, indicators of housing and neighborhood quality, the characteristics of recent movers, and the characteristics of urban and rural units. It was also designed to provide information on the changes in the inventory resulting from new construction and from losses. Data are collected by personal interview during a three to four month period in the autumn of each year. The 1980 Components of Inventory Change Survey, conducted in conjunction with the 1980 Decennial Census of Population and Housing, used the 1980 National Annual Housing Survey to obtain the results.

Similar surveys have been conducted in 15 to 20 metropolitan areas each year, using a sample of 5,000 to 15,000 housing units in each. Sixty metropolitan areas distributed about the United States have been included in these longer term longitudinal surveys.

Because the national Annual Housing Survey returns to the same housing units during each survey, except for new construction and other units entering the sample for the first time, it can determine inventory losses. However, it is much more difficult to discover and survey the unanticipated non-new-construction additions to the inventory from certain sources, such as conversion of nonresidential buildings to residential use. Intensive canvasses in designated geographic sample areas have proved to be a feasible solution to this problem. The accumulation of yearly longitudinal data from the Annual Housing Survey since 1973 has led to a growing realization of the dynamic nature of the housing inventory, and of the growing importance of non-new-construction additions. A large unit may be subdivided into two or more smaller units in one year, and the units may be merged in a later year to form a single unit again. A house may be converted to nonresidential use, and it may subsequently be converted back to residential at a later time, or a nonresidential unit may be converted to residential use for a time before reverting to its original use. Surveys over long periods, such as a decade, miss such activity, but a survey such as the AHS which returns to the same address each year has a vastly better chance to discover these changes in use.

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