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Report to the Chairman, Committee on
Government Operations, House of
Representatives

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PENSION PLANS

Investments in Affordable Housing Possible With Government Assistance





Human Resources Division

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The Honorable John Conyers, Jr.
Chairman, Committee on Government
Operations
House of Representatives

Dear Mr. Chairman:

You asked us for information on how pension funds help finance affordable housing¹ for low- and moderate-income families. You indicated that this information would be useful to the Congress in its consideration of new initiatives to encourage pension fund investment in this type of housing. This report discusses the features and common elements of 15 affordable housing arrangements financed, in part, by pension funds. Where data were available, we also discuss the expected rates of return on some of these housing investments because of fund managers' general interest in obtaining market-rate returns on investments. Although this report focuses on pension funds, there is a larger GAO effort to identify and evaluate alternative methods of financing affordable housing from all sources of capital.²

Results in Brief

The nature and extent of pension fund involvement in financing affordable housing varied widely among the investments we reviewed; however, three principal characteristics were common. First, in investing in affordable housing, pension funds funneled their assets primarily into fixed-rate securities that could be easily sold to other investors in a national market. Second, each investment had some type of government assistance, which pension fund managers recognized as important to the success of affordable housing ventures and critical to protecting their fiduciary interests. Finally, pension fund investments were set up by intermediaries, such as banks, state housing authorities, and nonprofit developers, who identified affordable housing investment opportunities and arranged financing. These intermediaries provided the staff and expertise that the pension funds lacked.

Information on rates of return was limited for most of the 15 pension fund investments we reviewed. However, for the five investments on which we

¹For purposes of this study, affordable housing included single- and multifamily rental and homebuyer programs. Housing was generally targeted to individuals and families with incomes ranging from 50 to 165 percent of an area's median income, depending on geographic location.

²Pursuant to the Cranston-Gonzalez National Affordable Housing Act of 1991, GAO will report in 1992 on alternatives for financing low- and moderate-income housing.

had information, at the time they were undertaken the pension funds generally received rates of return similar to other investments of comparable risk.

Background

Some in the Congress are concerned about a shortage of low- and moderate-income housing in an era of declining federal aid and tax law changes. According to budget statistics, since fiscal year 1980 federal funding for such housing programs declined from \$45.4 billion³ to \$11.5 billion in fiscal year 1990. In addition, the 1986 Tax Reform Act, while having certain positive effects, curtailed states' use of tax-exempt bonds to finance housing at below-market rates and reduced or eliminated tax incentives for low-income housing investments.

Responding to these changes, some developers have adopted new financing methods. Generally, this housing does not generate sufficient revenues to pay operating costs and repay mortgages at commercial interest rates. Thus, developers combine funds from different sources to finance housing projects at below-market interest rates. Typically, about one-third of the financing comes from market-rate loans and another third from the property owner. Federal, state, or local government-subsidized funds provide the rest. Generally, this government assistance reduces the interest rate that investors pay to finance housing and provides protection against losses.

Some housing advocates have suggested that private and public pension funds, with assets of over \$2.6 trillion in 1990, could provide a new source of capital to help finance affordable housing for low- and moderate-income families. To some extent, this has already occurred. During the past decade, pension funds have entered into less traditional investments such as affordable housing. Private pension fund managers may only make investments that comply with various fiduciary standards established by the Employee Retirement Income Security Act (ERISA), Taft-Hartley Act restrictions, Internal Revenue Code provisions, and common law. These fiduciary standards require fund managers to, among other things, carry out their duties with the same care, skill, and diligence as any prudent person. The standards have been interpreted to mean that

³Figure in 1990 dollars.

managers should obtain market-rate returns on investments.⁴ Fiduciary standards also prohibit pension fund managers from engaging in investment practices that would jeopardize a fund's ability to pay promised benefits to pension retirees and beneficiaries.

Public pension funds are not subject to fiduciary requirements that govern private funds. Nonetheless, state laws generally have established similar standards restricting a fund manager's discretion.

Scope and Methodology

To identify pension fund investments in affordable housing, we researched literature and contacted various organizations associated with low- and moderate-income housing. We also contacted representatives of 687 private and public pension funds in 10 states and the District of Columbia, many of which pooled resources to invest in such housing. We did not determine the extent to which pension funds have invested in such housing because aggregate information was not available. Although private funds report the nature of their investments to the Internal Revenue Service (IRS), they are not required to specifically identify their affordable housing investments. Public pension funds are not required to report on their investments to the IRS.

We based our selection of investments for review on the availability of information regarding the pension fund investment and the financing arrangements for the housing. Because the investments were not randomly selected, they do not represent all pension fund investments in affordable housing. However, these investments illustrate alternative methods of financing affordable housing with capital from pension funds.

The investments we reviewed were linked to programs designed to serve the housing needs of low- and moderate-income households. All but 1 of the 15 pension fund investments had a portion of their assets designated to finance single- or multifamily housing for households earning 20 percent or more below an area's median income. Eight of these investments were, in part, tied to housing programs for households earning one-half or less than an area's median. Although one investment had no explicit income criteria, a portion of its assets were funneled into low- and moderate-income housing.

⁴For example, pension fund managers may not invest in state-issued, tax-exempt bonds, commonly used to finance affordable housing. As pension funds are not subject to federal income taxes on their investment earnings, fund managers can obtain greater returns by purchasing high-quality, fully taxable bonds.

To determine the elements common to pensions' financing of affordable housing, we reviewed 15 pension fund investments in such housing. Of those reviewed, 14 contained assets from public employee pension funds and the other from private pension funds. We identified the type of investment, how the fund helped finance the housing, and the role of government assistance. Our information came from housing developers, pension fund managers, and federal, state, and local housing agency officials.⁵ We do not name the specific housing investments or pension funds involved in these ventures because of various restrictions under section 11016 (d) of the Single-Employer Pension Plan Amendments Act of 1986.

We compared the expected rates of return to expected yields on alternatives at the time the investments were made. Sufficient information to do this was available on 5 of the 15 affordable housing investments we reviewed. We did not examine the investments' long-term performance because most were made too recently to permit analysis. In any event, failure of an investment to perform as a manager expects in and of itself does not constitute a breach of fiduciary responsibility.

Our review was conducted between August 1990 and August 1991 in accordance with generally accepted government auditing standards.

Pension Funds Invested in Fixed-Rate, Liquid, Affordable Housing Securities

Pension funds invested directly in mortgages by purchasing them outright or purchasing bonds⁶ tied to a pool of mortgages. Six of the investments were directly in mortgages, while nine were in taxable mortgage-backed bonds. In the latter case, the pension fund holds a fixed-income security that has one or more mortgages as collateral.

For all but one investment, pension funds provided the permanent financing for first mortgages.⁷ While construction was underway, pension funds also made long-term permanent financing commitments at a fixed rate, up to 18 months in advance, while banks would not, according to project developers. In six cases, the pension funds also provided

⁵See app. I for a discussion of the elements common to the pension fund housing investments we reviewed. Appendix II contains detailed descriptions of the 15 investments reviewed for this report.

⁶Bonds are issued to purchase mortgages and retired when the mortgages are repaid. The interest on the mortgages pays the interest on the bonds.

⁷A first mortgage is a contract to transfer land or building property conditionally as security for a debt where all other debt is subordinated to it. Thus, in the event of foreclosure the proceeds from the sale of the property first would be used to repay the debt associated with the first mortgage. The remainder would be available to repay any other debt such as a second mortgage.

short-term loans to pay for costs incurred while the building was being rehabilitated.

The secondary mortgage market provides investors with liquidity by allowing them to quickly convert their mortgages or bonds to cash, if needed. Eleven of the pension fund investments we reviewed could be sold through secondary mortgage or bond markets. Mortgages sold through the secondary market usually conform to various government guidelines, which lessens the risks for buyers. Investors purchase these so-called conforming investments because they can ascertain the risk involved and be sure that they can resell them. However, investors are less likely to buy mortgages that do not conform to certain government guidelines because the risks are less certain.

Government Assistance Important to Pension Funds and the Success of Housing Investments

Affordable housing projects need government assistance to keep the housing profitable, within the economic means of low- and moderate-income households, and relatively safe for investors. This need stems from the existence of a gap between what it costs to build and operate affordable housing and the rents and mortgages that these households can afford to pay. For example, a family with a \$10,000 annual income can afford to pay rent of about \$250 per month (30 percent of income), according to government guidelines. However, this amount is insufficient to allow property owners to make mortgage payments, pay operating expenses, set aside reserves for major repairs or rehabilitation, and earn a profit.

All the investments we reviewed received some form of government assistance. It generally took the form of subsidized funds that directly helped finance housing and investment safeguards that minimized investment losses that could result from defaults. The presence of government assistance was important to pension fund managers' decisions to invest in affordable housing. For the investments we reviewed, fund managers were aware of the role of this assistance and had an interest in its nature and extent.

Subsidized Funds Contributed Directly to Financing Housing

Most of the pension-financed housing we reviewed received subsidized funds directly related to building and operating housing. For 13 investments, federal, state, or local governments subsidized the housing costs with income tax credits, construction grants, low-interest loans, or

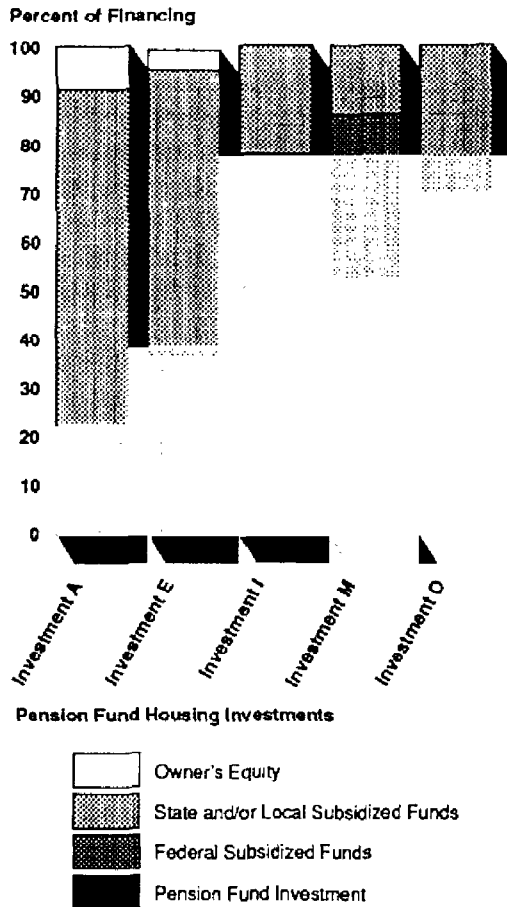
in-kind gifts of land or buildings.⁸ In two cases, housing investments were not subsidized because, while they served low- and moderate-income households, they were not exclusively targeted to such households.

Although information on financing sources was available for only five housing investments, the extent of subsidized funds varied considerably (see fig. 1). For investment A, state and local government-subsidized funds provided 69 percent of the financing while pension funds financed only 22 percent. By contrast, subsidized funds for investment I accounted for 22 percent of the financing while pension funds provided 78 percent.⁹

⁸For this analysis, we included owners' contributions as federal subsidies when they qualified for the federal low-income housing income tax credit.

⁹See table I.1 for information on the incomes of families served by these housing programs and table I.2 for the types of subsidies associated with pension-financed housing.

Figure 1: Sources of Financing for Five Pension Fund Housing Investments



For the investments we reviewed, subsidized funds had a significant impact on keeping housing affordable for low- and moderate-income families.¹⁰ For example, a state agency financed a multifamily housing project that received a small interest-rate subsidy on two different loans and a rehabilitation grant from the Department of Housing and Urban Development (HUD). These subsidized loans and the grant accounted for 78 percent of the financing. Had the developer financed the entire project

¹⁰See app. III for a discussion of the effect of subsidies on the housing investments we reviewed.

without subsidized funds, rents would have had to increase beyond level that low-income households could pay.¹¹

Investment Safeguards Reduced Pension Funds' Risks

For the most part, pension funds reduced the risk associated with the housing by investing in insured mortgages or guaranteed federal or state government bonds. Without such safeguards, most pension fund manager said they would not have invested in affordable housing, perceiving the risk of borrower default to be too great regardless of the interest rate. The two uninsured investments provided other forms of security.

For six of the pension fund investments we reviewed, federal and state governments and private insurance companies provided mortgage insurance. The Federal National Mortgage Association (FNMA) may not purchase mortgages with less than a 20-percent down payment unless the mortgages are covered by private mortgage insurance. Since most affordable housing is targeted to households that cannot meet the 20-percent down payment requirement, many such mortgages have private insurance that ultimately protects investors, such as pension funds, from the higher risks of these mortgages.

Four of the housing investments we reviewed were protected against losses from defaults because pension funds invested in guaranteed bonds backed by insured mortgages. One fund purchased Government National Mortgage Association (GNMA) bonds. These are considered very safe because they carry an explicit federal guarantee, stated in the terms of the bond, and are backed by federally insured mortgages. For the three other investments, pension funds purchased FNMA bonds backed by insured mortgages. FNMA bonds carry no explicit federal guarantee. Nevertheless, pension fund managers told us that they expect no losses from their FNMA bonds because they believed the federal government would assist FNMA, a government-sponsored enterprise, through any financial difficulties.

States implicitly provided security for three of the investments we reviewed. Pension funds purchased state housing agency bonds to help finance affordable housing, but the mortgages backing the bonds were not insured. However, like FNMA bonds, the state agency bonds carry an implied security because investors would expect state governments to

¹¹We examined the calculations used to determine the financing necessary for these investments but did not assess the validity of housing expenses. Nor did we attempt to determine if the subsidies provided developers with windfall profits. For further information on this issue, see *Rental Housing: Inefficiencies From Combining Moderate Rehabilitation and Tax Credit Subsidies* (GAO/RCED-90-168, June 9, 1990).

repay them in the event of default.¹² According to investment analysts, the safety provided by a state government's implied security is related to a state's overall financial strength and the willingness of the state to pay for losses of the housing agency.

For the two pension fund investments with no guarantees or mortgage insurance, pension fund managers said their investments were secure. This was because pension fund managers believed that adequate alternative mechanisms were in place to safeguard pension assets. One investment involved refinancing loans that had been in effect for many years. For a fee, pension funds committed to refinance loans made under a 1982 first-time homebuyers' program with new mortgages at 13-percent interest. The pension managers said they risked very little because these mortgages would be 10 years old at the time of refinancing and most defaults occur in the first five 5 years of a mortgage. Also, the pension funds were not required to refinance any loans in default. For the other investment without mortgage insurance or guarantees, pension fund managers viewed the property as sufficient collateral for pension fund loans.

Intermediaries Arranged Pension Funds' Affordable Housing Investments

Intermediaries, such as banks, state housing agencies, and nonprofit developers, arranged the financing for all of the affordable housing investments we reviewed. Their role varied from originating mortgages to conceiving financing packages that combined pension fund assets with government-subsidized funds, and capital from private sources. The intermediaries sought out pension funds because of their ability to make long-term commitments.¹³

The funds used intermediaries that knew the housing market, had close ties to local communities, and were familiar with local government laws and regulations. This familiarity enabled the intermediaries to select viable housing investments and in some cases, obtain local governments' support and funding for the housing. One way state housing agencies financed housing was to sell state housing bonds to pension funds and use the proceeds to issue or purchase mortgages. Another method state agencies

¹²If a state housing agency cannot cover losses it is obliged to inform the governor and the state legislature. The state government then must decide whether or not to pay the bond holders the balance they are owed. While the state government has not explicitly guaranteed these bonds, investors often assume that governments will not allow a state agency to default.

¹³Pension funds do not have the same need as other investors to quickly convert investments to cash. Pension funds can make long-term investments because their liabilities are payable at various points in the future, when plan participants retire.

used was to arrange for FNMA to purchase mortgages and sell the FNMA mortgage-backed bonds to state pension funds. In another investment, a nonprofit developer obtained pension funds' money to lend directly for mortgages.

Another reason pension funds relied on intermediaries was that the funds had neither the staff nor expertise to evaluate and manage housing investments. Intermediaries could effectively match large investors, such as pension funds, banks, and insurance companies, with numerous small housing projects. In addition to assessing project feasibility, intermediaries identified the long-term debt that projects could sustain and the grants and equity investment needed to make the projects a financial success. Furthermore, intermediaries had expertise in combining market-rate loans from pension funds with low-interest government loans or grants to finance affordable housing.

Finally, an interest in investing locally prompted public pension funds to respond positively to intermediaries' housing investment proposals. All but 1 of the 14 housing investments by public pension funds we reviewed were made in their respective cities or states. Fund managers said they invested in affordable housing, in part, because they wanted to stimulate the economy in their cities and states.

Market-Rate Returns Earned for Five Investments Analyzed

The five pension fund investments in bonds and mortgages that we evaluated provided yields generally comparable to those on similar, alternative investments. To illustrate, for one investment, pension funds' expected rate of return exceeded yields on instruments of comparable risk. For this investment, pension funds purchased \$13 million in fully taxable bonds from a state housing agency at 10-percent. The bonds carried an AA credit rating with 30-year maturities. At the time the investment was made, this 10-percent interest rate was higher than that of comparably rated corporate bonds with similar maturities.

In a contrasting example, a nonprofit developer obtained local pension funds' commitment to provide \$350 million for market-rate first mortgages indexed to yield 0.65 percentage points more than GNMA securities. The developer had experienced few defaults on loans in the past and a state insurance program insured 100 percent of the first mortgages. Thus, the developer and pension funds determined that the increased risk over GNMA securities warranted the percentage point premium. The nonprofit's low loss rate and its ability to attract pension fund participation suggested the

return on the investment was adequate (see app. IV for more information on this analysis).

Conclusions

The concept of stimulating pension fund investment in affordable housing has been embraced by some as a plausible strategy to increase housing for low- and moderate-income households. As our review demonstrates, financial intermediaries have effectively combined pension fund financing with other sources of capital to accomplish that goal. The ability of pension funds to invest primarily in relatively liquid securities was key to this success. The presence of government assistance, specifically in the form of subsidized funds and investment safeguards, was another factor important to pension funds. The significance of these components in the investments we reviewed strongly suggests that federal efforts designed to expand pension fund involvement in financing affordable housing should consider the need for such components in future investment initiatives.

We did not obtain agency comments on this report because its focus is other than a particular federal program or function.

We are sending copies of this report to other congressional committees and interested parties and will make it available to others on request. Should you wish to discuss its contents, please call me on (202) 512-7215. Major contributors to this report are listed in appendix V.

Sincerely yours,


Joseph F. Delfico
Director, Income Security Issues

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Abbreviations

ERISA	Employee Retirement Income Security Act of 1974
FHA	Federal Housing Administration
FNMA	Federal National Mortgage Association
GNMA	Government National Mortgage Association
HUD	Department of Housing and Urban Development

Common Elements of Pension Fund Housing Investments Reviewed

In this appendix, we discuss the elements common to the 15 pension fund investments in housing that we reviewed. We profile the types and sources of government assistance, how pension fund investments were protected, and related aspects of the financing. We also discuss the intermediary, the types of housing financed, the income of the population served, and the financial instruments associated with each investment.

Types of Intermediaries and Housing Financed

Various intermediaries arranged pension fund financing for different types of affordable housing, as table I.1 shows. For six of the investments, state housing agencies arranged financing; for another six, banks were the intermediaries; and for three, nonprofit developers were involved. Eleven investments financed single-family homes or condominiums, of which three were for first-time homebuyers. Four investments financed multifamily housing, and another four financed both single- and multifamily housing.

Table I.1: Common Elements of Pension Fund Investments

Element	Pension fund investment ^a															Total
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
Type of housing																
Single-family	X	X		X		X	X	X	X	X	X			X	X	1
Multifamily	X		X		X					X		X	X	X	X	
Condominiums	X			X			X	X			X					
Intermediary																
State housing agency					X	X		X	X		X		X			6
Nonprofit developer	X									X					X	3
Bank		X	X	X			X					X		X		6
Population targeted or served																
(Percent of area median income)																
0-50	X		X		X				X	X			X	X	X	8
51-80	X		X	X	X	X	X	X	X	^e	X	^g	X	X	X	14
81-100	X		X	X	X		X	^d	X		X		^h	X	X	11
Over 100		^b		^c			^b		X		^f					6
First-time homebuyers				X		X					X					3
Type of investment																
Mortgages	X		X				ⁱ				X	X		X	X	7
Mortgage-backed bonds		X		X	X		X	X	X	X	X		X			9

(continued)

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Housing Investments Reviewed**

Element	Pension fund investment ^a															Total	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O		
Other financing features																	
Rehabilitation financing	X		X		X				X	X						X	6
Permanent financing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15
Secondary market		X		X	X		X	X	X	X	X	X	X	X			11
Nonconforming loans ^k	X	X	X	X			X	X	X	X	X	X	X	X	X	X	13

^aWe assigned an alphabetic designator to each investment.

^bThere were no income eligibility limits for this homebuyer program.

^cThe upper limit was 165 percent of median income in the area.

^dNo income limits; may serve homebuyers with income over 100% of median.

^eThis housing did not target specific income groups, but the housing we reviewed served low- and very low-income families.

^fBorrower's family income may not exceed 150 percent of county's median.

^gNo other income targeting, but may serve those in higher income groups.

^hEither 20 percent of the units target those with income below 50 percent of the area median, or 40 percent of the units target those below 60 percent of the median income. The remaining units were not targeted by income.

ⁱThere was an upper limit of 120 percent of median area income.

^jThe pension fund received a fee for committing to provide mortgages at 13-percent interest after 10 years.

^kLoans that do not conform to FNMA's underwriting guidelines.

Income Groups Served

All but 1 of the 15 pension fund investments we reviewed financed single or multifamily housing that either targeted or served low- or moderate-income households. One investment financing single-family housing had no income eligibility limits but earmarked funds for low- and moderate-income housing. The housing financed through three other investments did not target specific income groups, but still served some low-income households that qualified for mortgage loans.

Type of Investments

Pension funds invested directly in mortgages by purchasing them or lending through an intermediary. Nine of the investments were in taxable mortgage-backed bonds, where the pension fund holds a fixed-income security that has one or more mortgages as collateral. Six investments

were in mortgages that were originated and serviced by the financial intermediaries.

For all but one investment, pension funds provided the permanent financing for first mortgages.¹ While construction was underway, pension funds also made long-term permanent financing commitments at a fixed rate, up to 18 months in advance, while banks would not, according to project developers. In six cases, the pension funds also provided short-term loans to pay for costs incurred while the building was being rehabilitated.

Eleven of the pension fund investments we reviewed could be sold through secondary mortgage or bond markets. Mortgages sold through the secondary market usually either conform to FNMA underwriting standards or are federally insured, such as FHA mortgages. Lenders and investors prefer mortgages or mortgage-backed bonds that they can convert to cash by quickly selling them to other investors. Investors purchase conforming or federally insured mortgages because they can ascertain the risk involved and be sure that they can resell them. But investors are less likely to buy nonconforming mortgages as the risks are less certain. Mortgage-backed bonds can be sold through established bond markets.

Thirteen of the pension fund investments financed housing through nonconforming loans that did not meet FNMA's underwriting guidelines. The loans were nonconforming because some borrowers, such as farmers, could not properly document their income. Other borrowers made only a 5-percent down payment or borrowed to purchase property in rural areas. However, for three investments we reviewed, FNMA purchased privately or state-insured nonconforming mortgages when pension funds agreed to purchase bonds backed by those mortgages. Because these were FNMA bonds, the pension funds could sell them on the secondary mortgage market, if needed.

Three of the investments reviewed could not be sold readily on the secondary mortgage markets because they involved nonconforming loans. (For two of the investments, the mortgages were insured by the state or private insurance companies.) But this limitation did not concern the fund managers because pension funds' liabilities are payable only when members retire. Accordingly, funds do not have the same cash

¹A first mortgage is a conveyance of land or building property as security for a debt where all other debt is subordinated to it. Thus, in the event of foreclosure the proceeds from the sale of the property would first be used to repay the debt associated with the first mortgage. The remainder would be available to repay any other debt, such as a second mortgage.

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Housing Investments Reviewed

requirements as other investors and can make long-term investments that match their future cash needs.

Sources and Types of Government-Subsidized Funds

Government-subsidized funds either reduced operating costs or lowered the total cost of financing the individual projects reviewed (see table I.2).

Table I.2: Government-Subsidized Funds Associated With Pension Fund-Financed Affordable Housing

Source and type of subsidy	Pension fund investment															Total	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O		
Federal																	
Federal low-income housing tax credit					X					X			X				3
HUD interest rate subsidy												X					1
HUD construction/ rehabilitation grant					X				X							X	3
HUD Section 8 rental subsidy										X			^a	X	X		4
State																	
Interest rate subsidy					X	X	X		X		X		X		X		7
Capital grant					X				X							X	3
City																	
Interest rate subsidy	X		X										X				3
Capital grant				X												X	2
Land grants	X			X												X	3
Tax abatements	X			X													2

^aThe state-run rental assistance program used the same regulations as HUD's Section 8 rental assistance program.

While city tax abatements lowered the housing project's operating costs, rental assistance paid rent exceeding 30 percent of tenants' income. To lower the amount financed at market rates and the debt service costs for the housing, housing developers used federal, state, and local subsidized funds. Approved low-income housing owners recovered their equity contributions with federal income tax credits. In addition, eligible housing received HUD rehabilitation grants and low-interest second mortgages.

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Cities and states also provided low-interest mortgages and capital grants for housing within their geographical areas.

Sources and Types of Insurance and Guarantees

For all but 2 of the 15 housing investments we examined, pension funds invested in insured mortgages, government-guaranteed bonds, or instruments that carried an implied government security. The housing for 10 of the investments was financed through insured mortgages. For these investments, FHA, state, and private mortgage insurance directly protected pension fund assets against losses on loans (see table I.3). By contrast, in three other instances states provided implied security for investments. Furthermore, in four cases, pension fund investments were protected by guaranteed bonds backed by insured mortgages. GNMA bonds, for example, are backed only by federally insured mortgages. Two investments were not protected by either insured mortgages or bond guarantees. However, pension managers believed their investments were safe because for one property, fund managers said that the property was adequate collateral for pension fund loans. The other investment involved loans that had been in effect for 10 years, and most mortgage defaults occur in the first 5 years (see table I.4).

Table I.3: Safeguards Associated With Pension Fund Investments

Source and type of safeguard	Pension fund investment															Total
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
FHA mortgage insurance		X								X		X		X		4
State mortgage insurance	X		X					X								3
Private mortgage insurance				a			X	X			X					4
GNMA bond		X														1
FNMA bond				X				X		X						3
Implied state security					X				X				X			3
Collateral (property)															X	1
Other						X										1

^aInsurance was provided by an insurance corporation chartered by the local government.

The terms of mortgage insurance varied, as did the strength of the insurers. For example, one private mortgage insurance company covered only 25 percent of the mortgage amount, compared with a state program insuring 100 percent of the loan. Federal Housing Administration (FHA)

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mortgage insurance, backed by the federal government, and some state insurance programs are considered stronger than private mortgage insurance because they have greater resources to absorb losses in the event of multiple loan defaults. Generally, FNMA may not purchase mortgages with less than a 20-percent down payment unless the mortgages are covered by private mortgage insurance. Since most affordable housing is targeted to households that cannot meet the 20-percent down payment requirement, many such mortgages have private insurance that ultimately protects investors, such as pension funds, from the higher risks of these mortgages.

Table I.4: Combinations of Safeguards Used to Protect Pension Investments

	Pension fund investment															Total
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
Safeguard combinations																
Mortgage insurance only	X		X				X			X		X		X		6
Bond guarantees and mortgage insurance		X		X				X			X					4
Implied state security					X				X				X			3
Other security						X									X	2
Total investments																15

Characteristics of Pension Fund Investments in Housing

This appendix presents details on the 15 housing investments we reviewed. For each investment, we discuss the relationships between intermediaries and pension funds, and the role of intermediaries. We based our selection of pension investments that financed low- and moderate-income housing on the availability of information concerning the financing arrangements. Information was obtained from housing developers, pension fund managers, and federal, state, and local housing agency officials. As we are prohibited from identifying the pension funds or their investments in this report, we refer to each investment by letter.

Investment A

The intermediary for this pension investment was a nonprofit corporation specializing in financing condominium, single- and multifamily building rehabilitation for very low-, low-, and moderate-income families.¹ The corporation made short-term loans to building owners for rehabilitation work and used the pension funds' money for the permanent financing. Additionally, the corporation provided technical assistance to owners on developing the scope of the rehabilitation, evaluating contractors, and controlling costs.

To make the housing affordable for low- and moderate-income families, the corporation blended financing from different sources. It obtained commitments from local pension funds to provide \$350 million for first mortgages at market rates of interest. A state insurance program insured 100 percent of the first mortgages, which yielded about 65 basis points² more than GNMA securities. On average, pension funds provided 22 percent of the financing. The local government's housing department provided second mortgages at 1-percent interest, arranged for a 20-year tax abatement, and sold the land and building to the owner for a nominal fee. Building owners' investment was usually about 10 percent of the acquisition and construction costs.

Investment B

This program was targeted to FHA-qualified borrowers desiring to purchase single-family homes in "redlined" or low-income neighborhoods within the local government's jurisdiction. The mortgage company originating the loans exchanged these market-rate FHA-insured mortgages for GNMA bonds and sold \$226 million of the bonds to local government pension funds. The

¹Very low income is defined as less than 50 percent of an area's median income, low income is from 50 to 80 percent of the median income, and moderate income is between 80 and 100 percent of the median income.

²One hundred basis points equals 1-percent interest.

GNMA bonds, which carry an explicit federal guarantee, are backed by the pool of FHA-insured mortgages. The program created a source of financing for buyers purchasing housing with low down payments in areas needing revitalization. It also gave lenders the means of selling the mortgages. However, FHA insures mortgages only up to a certain amount, currently \$124,875. As housing costs increased beyond that limit, lending was curtailed because when this investment was made GNMA only bought federally insured mortgages.

Investment C

By blending pension fund investment and local government loans, three banks made mortgage loans to owners of multifamily buildings to rehabilitate low- and moderate-income housing. The banks made the short-term rehabilitation loans after obtaining the pension fund's commitment of \$100 million to provide market-rate first mortgages, of which the state insured 100 percent. For the portion not covered by the first mortgage, the local government provided a second mortgage at 1-percent interest.

Investment D

Targeted to low-, moderate-, and middle-income families, this program provides 95-percent³ first mortgages to first-time home buyers for one- to four-family homes and condominiums. After originating and servicing loans and purchasing mortgage insurance from a local mortgage insurance company, mortgage lenders exchange the mortgages for FNMA bonds backed by the mortgages. To date, the local pension fund has committed \$100 million, of which FNMA has agreed to guarantee the first \$50 million, to the program. In addition to making publicly owned sites available and ensuring that public approvals are in place, the local government finances site preparation that cannot be covered by sales proceeds.

By creating a secondary market for nonconforming loans, such as those with low down payments, the program provides an incentive for participating lenders to make loans to a wider range of borrowers. In addition to a low down payment, the program features subsidies of up to \$25,000 towards the purchase price, offered by the local government. Eligible families agree not to sell their homes for 15 years; otherwise they must return a pro rata share of the subsidies.

³Homebuyers could borrow up to 95 percent of the purchase price with a 5-percent down payment.

Investment E

The pension fund investment provided approximately 39 percent of the total funding for this \$33 million, affordable housing program. It makes mortgage funds available for purchasing or refinancing and renovating existing rental apartment buildings for very low-, low-, and moderate-income families within the state. State public pension funds purchased \$13 million in state housing authority bonds backed by the state housing authority's mortgage portfolio. The bonds, which carried an implied state security, returned 10 percent. The remainder of the program funds came from additional bond sales to other investors and housing authority reserves.

The state housing authority managed the housing program by acting as a clearinghouse for mortgage financing and subsidized funds. It made first mortgages available at 9.5 percent for 30 years within the major metropolitan area and 8.5 percent elsewhere in the state. Borrowers could also apply for state capital grants in the form of no-interest loans, which did not require repayment if certain conditions were met. Other subsidized funds available included a state interest subsidy on the first mortgage, state capital grants for rehabilitation financing, HUD construction grants, and federal low-income tax credits.

Investment F

The state housing authority established this program to help low-income, first-time home buyers meet their debt service requirements during the first 10 years of their mortgage. In 1982, a period of high interest rates, the state housing authority obtained a commitment from the state public pension funds to refinance the remaining balance of mortgage loans that would be outstanding after 10 years (in 1992). At that time, pension funds will receive a 50-basis-point fee (50 basis points equals 1/2 of 1 percent) on the total amount of mortgages outstanding. For any mortgages in default, the pension funds' commitment will be voided.

The program subsidized eligible buyers offering a below-market-interest rate (8.5 percent) for the first 5 years of the mortgage and a smaller interest-rate subsidy during years 6-10 (the rate increasing to 10 percent). The pension fund committed to refinance the mortgages at 13 percent interest after the 10th year. By September 1990, about 80 percent of the mortgages had been refinanced through other sources.

Investment G

For this project, the state housing program targeted single-family home buyers, with preferential treatment for beneficiaries of the state pension

fund involved. The fund purchased \$475 million of privately insured securities, backed by mortgages on condominiums, owner-occupied housing, and single-family homes. The securities were issued by a local savings bank, which had pooled 20- and 30-year mortgages.

Borrowers paid mortgage interest at a rate slightly higher than the rate on "AA" industrial development bonds, which the pension fund established as the rate of return it should receive on its investment, because qualified borrowers also paid a \$150 fee for the mortgage. Nevertheless, the interest was less than that of market-rate mortgages. This program helped people who did not have 20 percent of the purchase price for a down payment purchase homes. Borrowers qualified for mortgages if their payments were no more than 33 percent of their gross income and their down payment was at least 5 percent. However, the bank required insurance on mortgages with less than a 20-percent down payment.

Investment H

This program provided a secondary-mortgage market for 30-year fixed-rate mortgages on buildings with up to four units, single-family homes, and condominiums. Without state housing authority and state pension fund involvement, FNMA would not have purchased the mortgages, which had such nonconforming features as property located in rural areas and nonstandard documentation of the purchaser's income. Under this program, the housing authority bought old mortgages from state banks, which had to reinvest half the proceeds in new affordable housing within the state. After guaranteeing the mortgages, the housing authority traded them for FNMA mortgage-backed securities, which were then sold to the state pension fund. Committed to buy about \$12 million in the securities, the fund had already invested \$6.1 million at the time of our review.

Investment I

To make lots in mobile homes parks affordable to low- and moderate-income families, a state pension fund purchased taxable bonds that carry an implied state security. A state housing authority provided financing to nonprofit organizations to acquire and rehabilitate mobile home parks where most lots were targeted to such families (a few lots were not income-targeted). The state pension fund, which committed to invest \$5.5 million in the bonds, to date has invested \$2.4 million. By blending financing from different sources, the nonprofit organizations made the park lots affordable for families with incomes ranging from 50 to 100 percent of the area's median income. The state housing authority provided a stepped-interest-rate loan that started at a below-market rate

but increased during the 20-year term so that the average rate equaled market price. In addition, the nonprofit organizations involved obtained rental rehabilitation grants from HUD as well as rehabilitation grants and deferred, low-interest loans from a state-chartered, nonprofit organization. Eventually, the nonprofit organizations intend to sell the mobile home parks to the tenants, to whom the state housing authority has offered tenant cooperative education.

Investment J

Two-hundred private pension funds nationwide invested in a nonprofit organization's investment pool of market-rate FHA mortgages and GNMA-mortgage-backed securities. Through the pool, the nonprofit organization provided more than \$700 million for the construction of single- and multifamily housing. Pension funds invested in the housing to help create jobs for some pension fund participants.

While pension fund investments were not directed specifically toward affordable housing, some of the housing financed through the FHA mortgages was targeted to low-income people. The FHA loans are considered nonconforming, because FHA requires only a low down payment. The housing projects we reviewed received equity financing through the Federal Low-Income Housing Tax Credit program as well as HUD Section 8 rental subsidies.

Investment K

In conjunction with the state housing authority and FNMA, a state treasurer developed an affordable housing program to help lower, moderate-, and middle-income households in the state obtain mortgage financing for single-family homes. By tapping unallocated cash of state agencies, including public pension fund money, the state government made \$100 million available for the program. It is designed to provide fixed-rate, long-term mortgages at below conventional rates and with more flexible down payment terms to qualified borrowers. These mortgages are exchanged by the state housing agency for FNMA mortgage-backed securities, which the treasurer purchases.

Eligible applicants include state residents who have not owned a home during the previous 3 years. The borrower's income and that of any other person to occupy the residence may not exceed 150 percent of the median family income for the county in which the residence is located. Borrowers must also purchase primary mortgage insurance for mortgage loans exceeding 80 percent of fair market value.

Investment L

Two state pension funds purchased FHA-insured mortgages through a state program from approximately 1978 through 1981. The state housing program used HUD loans to finance multifamily housing in the state. Under some of the HUD loan programs, lenders could sell the mortgages to HUD during the 20th year. HUD subsidized housing under one program by contributing a portion of the monthly principal and interest payments. The state program ended when the HUD loan programs were discontinued.

The FHA loans the pension funds purchased were considered nonconforming because they allowed a low down payment. Some of the FHA mortgages the pension funds purchased were made under a program that made no income distinctions. However, some FHA mortgages were restricted to housing serving low-income households or borrowers with incomes below certain levels.

Investment M

Having committed \$15 million, state pension funds purchased \$8.4 million taxable state housing authority bonds. The housing authority used the proceeds to provide first mortgage loans to limited partnerships to construct and rehabilitate five low-income multifamily housing developments. The housing authority supervised the development costs and contracted with banks to service the mortgages.

A combination of financing enabled the limited equity partnerships to make either 20 percent of the units affordable to people with 50 percent or less of the area's median income, or 40 percent of the units affordable to people with 60 percent or less of that figure. In addition to low-income housing tax credits from HUD, the partnerships obtained historic rehabilitation tax credits, low-interest loans from the state housing authority's reserve fund for annual operating costs, and state rental assistance subsidies. One local government also provided low-interest second mortgages for some of the housing.

Investment N

State pension funds have purchased over \$1 billion of FHA-insured mortgages from mortgage originators and \$1.5 billion of GNMA bonds. The FHA mortgages the funds purchase require low down payments and are primarily for low- and moderate-income single-family homes and multifamily, Section 8 rental housing. The pension funds service the FHA mortgages and also collect 1/2 percent of the mortgage amount from borrowers to pay for the FHA insurance.

Because FHA mortgages provide a rate of return between 1.2 and 1.5 percent above GNMA yields, these pension funds prefer to invest in FHA mortgages rather than GNMA bonds. FHA mortgages are insured by the U.S. Government, as are GNMA bonds and their underlying mortgages. However, the extra safety of a GNMA bond reduces the yield that the pension funds can obtain. The pension funds require a rate of return between 1.5 and 1.7 percent above the rate of a 10-year Treasury note. Treasury notes often are used as a benchmark to compare returns on other investments because they are backed by the full faith and credit of the federal government and are considered virtually risk-free.

Investment O

A nonprofit organization borrowed \$314,900 at 6.5 percent interest and \$758,800 at 5.5 percent interest from a city pension fund to purchase and rehabilitate 14 single and multifamily buildings for rental housing. The loans were amortized over 25 years with a balloon payment⁴ in the 10th year. At that time, the fund will receive 10 percent of the appreciation of the single-family properties and 20 percent of the appreciation of the multifamily properties. The properties are collateral for the pension fund's loan.

By blending financing from different sources, the nonprofit organization made the projects affordable to people with incomes ranging from 80 to 120 percent of the median area income. For each project, the nonprofit group obtained a combination of rental rehabilitation grants and low-interest loans from HUD, community development block grants through the state, and rehabilitation grants from the city and a state housing trust. Some low-income tenants also received Section 8 rental assistance. Eventually, the nonprofit organization will sell the buildings to the tenants. It will retain ownership of the land to ensure that the housing continues to serve low-income households.

⁴After the tenth year, the outstanding balance of the loan is due and alternative financing must be obtained.

Effect of Government Assistance on Pension-Financed Affordable Housing Projects

In this appendix, we examine the role of government-subsidized funds in keeping rental housing projects affordable for low- and moderate-income households. For the 15 housing investments we reviewed, government subsidized funds ranged from 21 to 69 percent of construction or rehabilitation cost, while pension fund investments financed 22 to 79 percent.

Where most of the financing was subsidized by the government, we would expect that rents would have been substantially higher without subsidized funds, if the housing was built at all. For example, assume that revenue generated from a subsidized housing project targeted to low-income tenants can support \$500,000 in annual principal and interest payments. Further assume that if the building was fully mortgaged at market interest rates, it would require annual principal and interest payments totaling \$1,000,000. Without a subsidy, monthly rent for a particular unit in the building would be about \$1,000. Using the criterion that households should not spend more than 30 percent of their gross income on housing, a family would have to earn \$40,000 annually to afford the unit. However, with the subsidized funds, the rent would be about \$500 per month and affordable for families with an annual income of \$20,000.

Methodology

After identifying the extent to which government-subsidized funds contributed to financing eight housing projects, we calculated the rent increases required to pay financing costs without subsidized construction costs or interest payments.¹ For each of the eight projects, we calculated the principal value of each subsidy. Then we used the existing rent structure and debt payment schedule as a model to calculate the additional revenue required. This gave us the corresponding rent increases necessary to finance the project without subsidized funds.

For the investments that an intermediary funded through bond proceeds, we used the intermediary's interest rate on the bonds as the rate of interest required to finance this housing in the absence of subsidized funds. The remaining investments involved an intermediary that obtained a commitment from the pension fund to provide market-rate first mortgages. Remaining project costs were covered by

¹We assume that the subsidies are the minimum amount required to finance the project and the unsubsidized rents generate enough income to finance the project in the absence of these subsidies. We note two caveats to this analysis: (1) If the subsidies are more than the minimum amount required to finance this housing, our rent estimates overstate the income required to afford the unsubsidized rent; and (2) these calculations do not account for the fact that every project is not economically viable once it is built. There is no guarantee that the unsubsidized rents would actually be realized in the housing market.

government-subsidized financing. In each case, the majority of such financing was provided by one government source. We used the major government contributor's bond rate as the interest rate the owner/developer would pay to finance land, building, construction, rehabilitation, and loans fees in the absence of subsidized financing.

For example, one local government provided low-interest second mortgages for several of the investments we reviewed. The local government, which issued taxable bonds to finance this particular housing program, provided a majority of the subsidized financing. Thus, we used the local government's taxable bond interest cost as the interest rate for costs not financed by the first mortgage in order to compute the amount of the subsidy provided through the low-interest second mortgage.

Calculations of Rent Without Government-Subsidized Funds

We based our determination of the revenue needed to support operating and debt service costs on the income and expense statements and loan documents the intermediary used to originate the mortgage for the housing. To calculate the net available income needed to repay loans (debt service), we applied a debt service coverage ratio to the unsubsidized debt service. Intermediaries use this ratio of income to debt to provide a "cushion" or contingency ranging from 5 to 15 percent greater than principal and interest payments for first mortgages. This contingency provides for unanticipated expenses or inaccurate expense estimates. To calculate the total revenue needed from rents, we added monthly operating expenses² to the net income available for debt service (including the contingency factor) and the estimated losses due to vacancies.³

Next, we determined the rent from apartments that was needed to support operations and the unsubsidized debt service payments. We uniformly increased rents on each type of housing unit in equal proportions because the comparative values of different size apartments remained the same as the established rent structures. The rent structure provided in loan documents already encompassed relevant factors, such as location, square footage, and amenities, such as dishwashers. Because many programs generally limit housing cost to 30 percent of income, there is a direct correlation between the rental increases and the income required to afford the housing.

²For this analysis, we adjusted operating expenses as necessary to reflect the withdrawal of any subsidies that may have been involved, such as real estate taxes.

³The intermediary allowed for decreases (usually 5 percent of rental revenues) from gross income due to vacancies and collection losses on residential property.

**Appendix III
Effect of Government Assistance on
Pension-Financed Affordable
Housing Projects**

For example, if the owner/developer's gross income would have to increase 81 percent to finance an unsubsidized second mortgage, the rents would also have to increase 81 percent. Thus, a low-income tenant paying monthly rent of \$285.00 for a one-bedroom apartment would instead have to pay \$515.45. We projected required rent increases for each of the housing subsidized funds in the same manner. As households generally are expected to pay no more than 30 percent of their income on housing, an apartment renting for \$285 a month would be affordable for a family with an annual income of \$11,400. However, at \$515.45 a month rent, a family would need almost double their annual income, approximately \$20,618 (or 81 percent), to afford the same apartment.

Our analysis of eight housing projects indicates that financing affordable housing without government assistance would, in most cases, result in raising rents substantially (see table III.1). Consequently, housing would be prohibitively expensive for some low-income households.

Table III.1: Comparison of Subsidized and Unsubsidized Rents and Minimum Family Income Required to Meet Payments*

Project	Subsidized		Unsubsidized	
	Rent	Required income	Rent	Required income
1	\$350	\$14,000	\$670	\$26,800
2	400	16,000	792	31,680
3	625	25,000	1,111	44,440
4	550	22,000	1,050	42,000
5	495	19,800	993	39,720
6	470	18,800	572	22,880
7	440	17,600	479	19,160
8	455	18,200	492	19,680

*Calculation of required family income assumes that a household will spend no more than 30 percent of gross income on housing.

Pension Fund Rates of Return Reasonable for Five Housing Investments

Under ERISA, private pension fund managers are required to manage their portfolio solely for the welfare of plan beneficiaries, acting with prudence in choosing each investment. Fund managers' investments also may not jeopardize the funds' ability to pay promised benefits to pension retirees and beneficiaries. Although public pension funds are not subject to ERISA, state laws have established similar standards restricting fund managers' discretion. These standards have been interpreted to mean that managers should obtain market-rate returns on investments.

In this appendix, we compare the expected rates of return pension funds received on the housing investments to the yields of alternative investments. Although complete information was not available for 10 of the pension fund investments in our review, we estimate that the expected rates of return on 5 we analyzed compared favorably with alternative investments of roughly similar risk.¹ These case studies are intended to illustrate the factors pension fund managers take into account in making decisions concerning investments in affordable housing. We caution the reader that we cannot generalize from these cases to pension fund investments in affordable housing in general.

Investment A

By specifically structuring an investment instrument, such as a bond, that allows public pension funds to fulfill their obligation to beneficiaries, a nonprofit organization encouraged the funds to participate in affordable housing investments. This instrument provided a greater return than the similar security of a government-sponsored enterprise. Whether the rate is sufficient to completely compensate for differences in risk is difficult to determine, however, because the instruments differ along several dimensions.

The nonprofit organization partially financed its activities by selling the state pension funds an instrument that yielded more than a close substitute, the Government National Mortgage Association security. Both instruments are mortgage pass-throughs; a servicing organization receives monthly mortgage payments and forwards them to the investor. However, the instruments differ in several ways:

¹Ideally, an analysis of the expected return on these projects would take into account its impact on the entire portfolio on the pension fund. However, we do not have the information necessary for such an analysis. Since these investments are small relative to the size of the pension funds, the impact of such an omission is likely to be small.

- Through the nonprofit organization, the state pension funds invest in a specific mortgage, but investors purchasing GNMA securities participate in a pool of mortgages.
- Unlike GNMA, the nonprofit imposes a prepayment penalty.
- The nonprofit's mortgages are guaranteed by the state insurance program, while GNMA securities are issued by a U.S. government-sponsored enterprise. The state insurance program's guarantee carries the full faith and credit of the state.
- While the state insurance program makes a payment to the investor after a 90-day delinquency, GNMA guarantees timely payment to the investor.

To compensate for these differences, the nonprofit organization pays a 65-basis-point premium. GNMA securities are less risky than the nonprofit's mortgages because (1) timely payment is guaranteed, (2) pooling reduces the risk of loss, and (3) the federal government guarantees the GNMA securities. However, the GNMA security has one risk the nonprofits' mortgages do not. GNMA investors experience more interest-rate risk; that is, mortgages are more likely to be prepaid when interest rates fall. All else equal, this reduces the yield on the GNMA security. In total, the nonprofit estimates the risk differences to be worth 65 basis points. While the accuracy of this estimate is difficult to verify, the nonprofit's low loss rate and ability to attract pension fund participation suggest it provides an adequate return on investment.

Investment E

Our analysis indicates that the yields on state housing agency bonds sold to pension funds were comparable to or higher than yields on comparable investments with similar risks. However, such comparisons are not precise due to the difficulty in matching exactly the terms of the housing bonds to other instruments. From 1988 to 1990, pension funds purchased a total of \$13.02 million in taxable, AA-rated bonds, with a yield of about 10 percent (see table IV.1). With 30-year maturities, the bonds were implicitly guaranteed by the state² and could be sold in the secondary market.

²If a state housing agency cannot cover losses, it is obliged to inform the governor and the state legislature. The state government then must decide whether or not to pay the bond holders the balance they are owed. While the government has not explicitly guaranteed these bonds, investors often assume that governments will not allow a state agency to default; hence, the guarantee is implicit.

**Appendix IV
Pension Fund Rates of Return Reasonable
for Five Housing Investments**

**Table IV.1: State Housing Agency
Bonds Sold to State Pension Funds
(Investment E)**

Date of sale	Amount	Yield
03/16/88	\$2,001,089	9.85%
12/07/88	2,278,338	10.43%
06/15/89	4,765,170	10.00%
06/13/90	3,972,613	10.00%

Yields on the state housing agency bond were generally higher than those of the instruments to which we compared them (see table IV.2). We listed several alternatives for comparison as these investments are not completely comparable. Because more risk is associated with the bonds, they should always yield more than Treasury securities of similar maturities.³ Assuming they were held to maturity, the housing bonds yielded 110 to 153 basis points more than long-term Treasury securities on the date of issue.

Further, the state agency housing bond yields usually were higher than those of corporate debt of similar quality. The housing bonds yielded 26 basis points less than medium-grade corporate debt on the first agency issue but exceeded this rate in the three subsequent issues.⁴ Given the returns on these alternatives, the expected return on the pension fund's housing compared favorably.

**Table IV.2: Yields on State Housing
Authority Bonds Compared With Other
Securities (Investment E)**

Bond	Bond yields at date of issue			
	3/16/88	12/7/88	6/15/89	6/13/90
State housing authority bond	9.85%	10.43%	10.00%	10.00%
Treasury security ^a	8.75	9.09	8.47	8.47
Agency securities ^a	9.44	9.69	8.91	9.00
High-quality corporate debt ^a	9.70	9.95	9.33	9.50
Medium-quality corporate debt ^a	10.11	10.35	9.79	10.00

^aSecurities have 10 or more years until maturity.

Investment H

A joint venture of the state housing finance authority, the state bankers association, state lenders, and the Federal National Mortgage Association this program provides funds for affordable housing for state residents. It

³Treasury securities are considered free of default risk because they are backed by the full faith and credit of the United States government.

⁴The comparisons made for each bond issue are based on information published in the Wall Street Journal on the date the housing agency bonds were sold.

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establishes a secondary market for mortgages that generally are not salable in a national secondary market.

Under this program, three state pension funds committed to purchase \$12 million of FNMA mortgage-backed securities through the state housing finance authority. The authority agreed to package up to \$100 million in loans, which FNMA would guarantee. The loans would be conventional, fixed-rate mortgages that mature in 30 years or less and would be at least 12 months past closing at the date of purchase.⁵

On March 23, 1990, pension funds had purchased \$6.1 million of the mortgages sold in three separate packages:

- \$1.3 million, composed of 20 mortgages in a 15-year pool, sold at par with a 9.5-percent interest rate;
- \$3.0 million, composed of 49 30-year mortgages with a 9.5-percent interest rate, sold at 99 percent of par; and
- \$1.8 million, composed of 29 30-year mortgages with a 10.5-percent rate, sold at 102 5/8 percent of par.

As these securities are structured as FNMA securities and carry FNMA's guarantee, the yield should be the same as for other FNMA securities. On March 23, 1990, FNMA securities were yielding, on average, about 9.9 percent. The expected yield on March 23, 1990, for the 15-year securities was 9.5 percent; for the 30-year securities, the yields were 9.6 and 10.2 percent (respectively). These expected yields were generally in line with the average yield of comparable investments.

Investment I

State pension funds invested in three taxable bonds issued by the state housing finance authority to finance mobile home parks. Each bond had a 20-year maturity and sold at par. The interest rate was structured in increasing steps:

- Years 1-5, 9.00 percent;
- Years 6-10, 9.75 percent;

⁵Other restrictions apply. If the loan-to-value ratio exceeds 80 percent, the program required mortgage insurance covering the first 25 percent of the loan. The original loan amounts eligible for this program were also limited.

**Appendix IV
Pension Fund Rates of Return Reasonable
for Five Housing Investments**

- Years 11-15, 10.50 percent; and
- Years 16-20, 11.25 percent.

Each bond financed a specific mobile home park. The first bond, for \$122,000, was sold on November 15, 1990; the remaining two, for \$1,068,625 and \$1,203,250, on January 3, 1991. There was no security other than backing by the state housing finance authority.⁶ If all payments are made in a timely fashion, the bonds will yield just under 9.4 percent. When the first investment was made, high-grade corporate debt with more than 10 years to maturity was yielding 9.56 percent and medium-grade corporate debt with more than 10 years to maturity, 10.27 percent.⁷

The expected return on these bonds is 87 basis points below medium-grade corporate debt. However, given that the assets of the state agency provide the security for these bonds, their yield is not out of line with market yields.

Investment M

State pension funds bought two taxable housing bonds from the state housing finance corporation. On September 1, 1989, the first bond sold at par for \$4,010,000 with an interest rate of 9.18 percent and a 30-year maturity. High-quality corporate debt with maturities more than 10 years was drawing 9.36 percent on average, while medium-quality debt was yielding 9.87 percent. On November 1, 1990, the second 30-year bond, with a principal of \$4,370,000, sold at par with an interest rate of 9.24 percent. At the same time, yields were 9.81 percent for high-quality corporate debt and 10.47 percent for medium-quality debt of similar maturity. Both housing bonds carry "A" ratings, which make them comparable to most medium-quality corporate debt.

Although these bonds yield less than similarly rated corporate debt, the yield is not obviously out of line with market yields, as the state housing agency assets provide the security. The expected yield of the first bond was 69 basis points less than the medium-quality corporate debt, while the second bond was 123 basis points less.

⁶These bonds have not been rated, but the lowest rated instrument issued by the state housing finance authority is rated A.

⁷High-quality debt carries bond ratings of either AA or AAA, and medium-quality debt is rated from A to BBB/BA. These yields are based on Merrill Lynch Bond Indexes.

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