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Evaluation of the Low-Income Housing Tax Credit

Final Report

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Executive Summary

This study evaluates the Low Income Housing Tax Credit Program (LIHTC), which was established by the Tax Reform Act of 1986. Since its enactment, the tax credit program has become the principal federal incentive for the production of low-income housing. The study focuses on the program's first two years of operations, and addresses six major questions:

- What types of projects have been developed thus far?
- Where are they located?
- What kinds of households are being served?
- How much equity has been raised as a result of the credit?
- Are projected rates of returns to equity investors generally "reasonable?"
- Is the program cost effective when compared to other approaches for subsidizing low-income housing?

To address these issues, the study draws on data from two principal sources. The first is a national data base assembled by the National Council of State Housing Agencies (NCSHA) describing the types and location of most properties developed in 1987 and 1988. The second is an in-depth survey of tax credit developers providing detailed financial and tenant data on a random sample of 104 developments.

Both the NCSHA and ICF survey data are subject to a number of important caveats. The sample for the developer's survey was small, response rates were low, and information provided by those developers who did respond could not be validated. Even the NCSHA data are incomplete and contained some inconsistencies. Given these inherent weaknesses, the findings of this report should be viewed as suggestive rather than definitive.

It is also important to recognize that the study covers very early tax credit projects -- those allocated or reserved as of June 1988. As a result, many of the developments examined may have been in the pipeline prior to the enactment of the original 1986 Act. Given substantial changes to the program in late 1988 and in 1989, the results presented here may not reflect the program as it operates today. Nevertheless, the current study provides an important first look at the tax credit program and the production incentives provided under the original program design.

KEY FINDINGS

The major findings of the study can best be presented in terms of the six basic questions the study was designed to address. These are summarized below. Subsequent sections report the findings of each component of the analysis in more detail.

What types of projects have been developed thus far?

Roughly 128,000 tax credit units were completed during the first two years of the program, representing about 4,000 separate developments. While the majority of these developments were relatively small, averaging 28 units per project, the distribution of tax credit units was much more skewed towards larger developments. Indeed, about 40 percent of all tax credit units were in developments that contained more than 100 units.

Most tax credit units were newly constructed (44 percent) or involved rehabilitation in excess of $10,000 (26 percent). Only about 13 percent involved acquisition without significant repairs. The average LITHC project was allocated just over $55,000 in annual credits for a 10 year period of time, or roughly $2,000 per unit per year.

In addition to the credit, units developed under the program have received a broad array of other federal, state and local assistance. In 1987, for example, only about 17 percent of all LIHTC units had the tax credit as their only source of subsidy. While this fraction rose to 25 percent in 1988, three out of every four tax credit units receive some other form of government assistance. Farmers Home Administration (FmHA) projects and projects with a mix of subsidies (primarily state and local programs) represent the most important subsidy types, with each accounting for roughly 25 percent of the units produced thus far.

Where are tax credit projects located?

For the most part, the tax credit program has been able to serve a fairly wide range of housing markets. This favorable outcome has at least in part been achieved through the use of multiple subsidies. Credit only units tend to be concentrated in low cost, high income markets. While the provision of additional assistance has helped extend the program into areas where costs are relatively high and incomes are relatively low, there is some evidence that these markets were underserved in the initial program years.

What kinds of households are being served?

The typical LIHTC household had an income well below the allowable program maximum, set at 60 percent of the area median family income. For example, 68 percent of all households residing in units receiving credits had incomes below 50 percent of the local median. The program's ability to serve such a large proportion of very low income households was primarily achieved through the use of rental subsidies, which went to four out of every ten qualifying households. The average income of households with direct rental assistance was only about 25 percent of the local median; for households without such assistance the average was 45 percent, still substantially below the program maximum of 60 percent.

Households receiving direct rental assistance paid 30 percent of their incomes for rent (including utilities.) In contrast, about 60 percent of all unassisted households that qualified for the credit paid more than 30 percent of their income for rent, and 10 percent paid more than half. Nevertheless, the rents charged in units occupied by unassisted tenants were typically below

the program maxima (set at 30 percent of the established income eligibility cut-off).

How much equity is being raised though the credit?

The majority of tax credit projects raised equity through the syndication of ownership shares to limited partner investors. Public offerings accounted for 28 percent of all tax credit units, while private offerings and other partnership forms accounted for 58 percent. Only 14 percent of all LIHTC units were owned by sole proprietorships.

Gross equity raised varied substantially by syndication type, with public offerings raising 67 cents per credit dollar compared to 85 cents for non-syndicated projects. Private placements and other partnership arrangements raised an average of 87 cents. However, this latter group appears to be quite diverse. For example, projects that reported zero syndication costs (about 40 percent of all private placements) raised over $1 per tax credit dollar, compared to 63 cents for the remainder.

Are returns to investors in tax credit projects reasonable?

The internal rates of return (IRR) estimated through this study averaged between 17 and 19 percent for the typical tax credit unit. (This analysis assumed no residual value at the end of a 15-year holding period.) It also appears that the majority of units developed so far needed the credit to be financially viable. If the credit is eliminated in the estimates, about 60 percent of all units would have "negative" returns, and only 12 percent would yield returns over 15 percent. The key exceptions are mixed subsidy projects and those with certificates and vouchers, both of which have above average IRRs.

How efficient is the tax credit?

One measure of the credit program's efficiency is provided by comparing the cost of tax credit units with the cost of a housing voucher. Given the costs of new construction and rehabilitation, it is not surprising that tax credit units are more expensive than vouchers. Nevertheless, the ratio of LIHTC to voucher costs (about 2.5 overall) can be used as a benchmark for assessing the relative effectiveness of the various program types. (Another relevant benchmark, which was not feasible in this analysis, would be the costs of units developed under previous federal production programs, such as Section 8 New Construction or Substantial Rehabilitation.)

Section 8 Moderate Rehab units -- which have the highest per unit subsidy costs -- have one of the most favorable ratios (1.5) when compared to housing vouchers. This relative efficiency reflects the very low income clientele served by this program type, as well as the fact that such developments tend to be located in areas where FMRs are relatively high. Discrepancies between this finding and the unfavorable publicity associated with this program type may be due to sampling and response problems or the idiosyncratic nature of the publicized cases. Credit only projects -- which have the lowest dollar subsidy costs -- have a ratio that is similar to

Section 8 developments due to the higher incomes of their residents as well as their lower FMRs.

In contrast, projects with a mix of other subsidies are estimated to have 15 year subsidy costs nearly six times that of a voucher -- the highest ratio of all the variants considered. This finding suggests that these more complex deals, which package subsidies from a variety of sources, should be reviewed quite carefully, both for their cost effectiveness and for the possibility of over subsidization.

SUMMARY OF RESULTS

The remainder of this summary presents the results of the various components of the analysis. It begins with a brief review of major features of the tax credit program.

Program Overview

The Tax Reform Act of 1986 significantly altered the tax climate for the rehabilitation and production of low-income housing. Congress repealed tax provisions promoting rental housing production in general, and substituted in their place a more targeted program -- the Low Income Housing Tax Credit.

State housing finance agencies were initially authorized to allocate up to $9 billion of tax credits on a project-by-project basis over three years: 1987, 1988, and 1989. While only about 18 percent of the authorized credits were actually allocated in the initial year, allocations rose to about 66 percent in 1988 and were close to 100 percent in 1989. Subsequent legislation extended the credit through December, 1991.

Tax credits are used by property owners and investors to offset taxes on other income. Tax reform generally restricted deductions that individual investors can take on losses generated from passive activities, including limited partner investments in real estate. However, individual investors in tax credit projects are able to use the equivalent of $25,000 in annual deductions, or $7,000 in credits for investors in the 28 percent bracket. Corporations can use any amount of credit, as well as any other losses that may be generated by the property, to offset other income.

To qualify for the credit, a project must meet one of two alternative income targeting criteria: either 20 percent of the residents must have incomes at or below 50 percent of area median (adjusted for family size) or at least 40 percent must have incomes at or below 60 percent of the area median. The income election is made at the time that a project is placed in service, and must be met throughout the compliance period. While this period was originally set at 15 years, legislation enacted at the end of 1989 extended it to 30 years for allocations made in 1990 or later.

Credits are provided only for units that are leased to an income eligible tenant and have rents below 30 percent of the elected income limit (i.e., either 50 or 60 percent of the local median, adjusted for household

size). However, when federal rental subsidies are provided, only the tenant's rent contribution must be below the designated maximum.

Credits awarded to eligible projects are taken over a 10-year period and are intended to provide a stream of benefits with a net present value equal to either 30 or 70 percent of the qualifying portion of a building's eligible basis. A building's qualifying basis is generally its depreciable base (i.e., total development costs minus land), prorated by the proportion of the property that is devoted to low income use.

The 70 percent credit is available for new construction and substantial rehabilitation if federally-subsidized financing is not involved, or to subsidized projects when grants or subsidized financing are subtracted from the building's basis. The 30 percent credit is available for projects with federally-subsidized grants or loans, or for the acquisition of an existing building that has not been placed in service within the last 10 years.

As noted earlier, the tax credit program has been modified substantially since its inception. Important changes include extended time limits for placing projects into service (as a result of Technical Corrections in late 1988) as well as 1989 provisions that: deny tax credits to Section 8 Moderate Rehabilitation projects; extend low income use restrictions beyond the original 15 years; deny credits for simple acquisition without substantial rehabilitation; provide a higher credit amount to projects in "difficult" development areas; and permit higher income investors to use credits. The 1989 changes will also require state agencies to develop formal allocation plans for selecting credit projects and to evaluate each project to ensure that the credit provided is the minimum necessary to support the project.

Characteristics of Tax Credit Projects

Some 128,000 units were completed during the first two years of the Tax Credit program. The bulk of activity occurred in the second year, after states, developers, and syndicators become more familiar with the credit and after federal regulations clarified a number of potentially important issues and the legislation was amended to extend the period of time that developers had to put their buildings into service. Allocations in 1987 accounted for only 18 percent of the authority available in this year. This proportion rose to 66 percent in 1988 and close to 100 percent in 1989.

Most of the projects developed over the first two years have been relatively small. Four out of every 10 developments has 10 or fewer units, and one out of every four is a single-family home. However, the distribution of tax credit units by project size is much more skewed in favor of larger developments. Single-family homes represent less than one percent of all tax credit units, while units in projects with more than 100 units account for over 40 percent of the total stock.

Most tax credit units have involved new construction (44 percent) or rehabilitation in excess of $10,000 (26 percent). Another 15 percent had renovation costs of between $2,000 and $10,000 per unit. Only about 13 percent of the units developed in the first two years of the program were

simple acquisitions, which were made ineligible for the program at the end of 1989.

The average LIHTC project has been allocated about $55,500 in total credits per year for 10 years, or $1,976 per unit. However, in addition to the credit, projects developed under the program have received a broad array of other federal, state, and local assistance. Such assistance ranged from subsidies designed to support the on-going operations of the development -- such as rent certificates or operating subsidies -- to a variety of grants and below-market loans designed to underwrite capital costs.

The distribution of units by the type of assistance received is presented in Exhibit 1. The major variants include:

- projects whose only form of assistance is the tax credit ("Credit Only" projects);
- projects which are occupied by households with tenant-based Section 8 Certificates or Vouchers, but which received no other form of project-based assistance;
- projects which were developed in conjunction with the Section 8 Moderate Rehabilitation Program;
- projects which were developed in conjunction with the Farmers Home Section 515 subsidized mortgage program (which may also receive assistance under the 521 rental subsidy program);
- projects with preexisting subsidies, including older Section 8, FmHA, and Section 236 developments; and
- projects with other kinds of federal, state or local assistance, such as a Rental Rehab grant or a below-market CDBG loan.

As shown in the chart, the majority of units developed thus far have received subsidies in addition to the tax credit. In 1987, only about 17 percent of all LIHTC units had the tax credit as their only source of assistance. While this fraction rose to 25 percent in 1988, three out of every four tax credit units rely on some other form of government assistance. Farmers Home projects and projects with a mix of "other subsidies" represent the most important subsidy mechanisms, with each accounting for roughly 25 percent of the production achieved thus far.

Location

In general, the LIHTC program appears to be serving a fairly wide range of housing markets. However, a disproportionate share of all tax credit units are located in areas where construction costs are relatively low in relationship to household income. This pattern is particularly striking for projects receiving no other form of government subsidy. For example, in 1987, about 54 percent of all "credit only" units were in these "favorable" housing markets, while only about 23 percent of the U.S. population resided in such areas. Conversely, although about 25 percent of the population lives in areas

Exhibit 1

Distribution of LIHTC Units by Subsidy Mix: 1987 and 1988

	1987	1988
Distribution of Units		
Credit Only	17.1%	24.5%
Tenant-Based Subsidies	6.5	3.7
Section 8 Mod Rehab	13.9	7.1
FmHA	27.2	25.2
Preexisting Subsidies	14.5	14.7
Other Subsidies	20.8	24.8
All Units	100.0%	100.0%

SOURCE: NCSHA Data.

with a generally unfavorable mix of income levels and construction costs, only 10 percent of "credit only" projects were located in these areas in 1987, or about 40 percent of the number expected on a per capita basis alone.

The provision of additional subsidies to tax credit units substantially weakened the link between negative market conditions and low program production in 1987. However, the proportion of units receiving additional subsidies declined in the following year, particularly in areas with unfavorable development conditions. As a result of this decline, the overall share of tax credit units in these hard-to-serve market types, containing about 25 percent of the population, fell from 21 percent in 1987 to 16 percent in 1988. This suggests that the LIHTC is underserving markets where construction costs are high in relationship to household income.

Tenant Incomes and Rent

Despite some initial expectations to the contrary, the Tax Credit Program is clearly serving a very low income clientele. Ninety-one percent of the units that have been developed under the program have been set aside for low income use, and nine out of every ten projects have 100 percent of their units qualify. The average resident of a qualifying unit had an annual income of $8,900 in 1989, or about 35 percent of the applicable area median. About 36 percent of all residents have incomes below 30 percent of the local median, and about 68 percent had incomes below 50 percent of median.

One reason that the Tax Credit Program has been able to serve such low income households is its extensive use of rental assistance. Forty-six percent of all project residents receive a voucher or certificate. Such households have an average income of $5,981 (25 percent of applicable area median) compared to $11,400 for qualifying households without this form of assistance and $33,114 for non-qualifying residents of tax credit projects.

While rents charged to project residents are typically below the allowable ceilings, the discounts are relatively small. Qualifying residents receiving a voucher or certificate pay an average of $347 per month (including utilities) or about 91 percent of the rental ceiling established by the LIHTC. Unassisted households who qualified for the credit pay about $317 per month, or about 83 of the applicable ceiling.

This mild skewing of rents in favor of unassisted tenants has enhanced, but does not ensure the affordability of tax credit units. Thirty-two percent of all qualifying residents had a rent-to-income ratios that exceeded 30 percent. Affordability is virtually guaranteed for tenants with rental assistance. However, qualifying households without assistance pay an average of 37 percent of their incomes on rent. About 60 percent of all such households pay more than 30 percent of their incomes on rent, and about 10 percent pay more than half.

Unassisted households also have a higher incidence of over-crowding, although this is not a widespread phenomenon. About 4 percent of all qualifying households without additional assistance exceed Section 8 Occupancy standards. Most of these residents are in credit only projects where the proportion exceeding occupancy standards is roughly 9 percent. Although rent-

to-income ratios in these developments are relatively low (about 33 percent on average), at least part of this favorable result has been achieved at the expense of some over-crowding.

Project Development and Syndication

Most of the tax credit units produced to date have been assembled by for-profit developers with extensive experience in rental housing in general, and low-income housing in particular. Ninety-one percent of all units were developed by profit-motivated firms, and forty-five percent were produced by developers with over 2,000 units of previous rental experience. Only single-family units tended to be developed by individuals with relatively little prior experience.

Developers have typically sold shares in tax credit projects to one or more outside investors, either through large public offerings (28 percent) or private placements and other partnership arrangements (58 percent). Non-syndicated projects -- or sole-proprietorships -- account for only about 14 percent of all tax credit units.

Larger projects typically require a larger pool of outside investors due to statutory limitations on an individual investor's use of tax credits (no more than $7,000 in a given year at the 28 percent tax rate). As a result, the size of projects as measured by development costs varies with the form of syndication, ranging from $190,000 for sole-proprietorships, to $1.0 million for projects that were privately placed, to $2.1 million for projects sold through public offerings.

Exhibit 2 presents information on the amount of equity raised (gross and net) for each tax credit dollar. As shown in the chart, this figure varied with the ownership form employed. Public syndications raised 67¢ per tax credit dollar (gross), compared to 85¢ for sole-proprietorships and 87¢ for private placements and other partnership arrangements. The higher ratios observed among the latter two ownership types may reflect the value of other anticipated returns from these developments such as cash flow and/or property appreciation.

However, the projects classified as "private placements/other partnerships" also reflect a broad range of organizational structures and development and investment strategies. For example, about 40 percent of privately syndicated projects reported zero syndication fees. In many of these cases, the developer completed the sale of ownership interests without the services of an outside syndicator; in other instances, the developments were 100 percent equity financed. When units with zero syndication fees are excluded, the remainder look comparable to publicly syndicated units.

Net equity raised -- i.e., gross investor equity less syndication costs -- was similar for sole proprietorships and private placements: developers of these types of units received an average of 85¢ and 82¢ respectively for each tax credit dollar generated. By contrast, the net equity ratio was significantly lower for public offerings, averaging only about 52¢ per credit dollar. This pattern reflects a lower gross equity ratio (as described above), as well as significantly higher syndication costs associated with

Exhibit 2

Gross and Net Equity Ratios by Syndication Type
(1987 and 1988)

	Gross Equity ÷ Credits	Net Equity ÷ Credits
Non-Syndicated Units	0.847	0.847
Syndicated Units		
Public Offerings	0.666	0.512
Private Placements/Other Partnerships	0.872	0.822
No Reported Syndication Costs	1.151	1.151
Reported Syndication Costs	0.630	0.539
All Syndicated Units	0.794	0.712

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

public offerings. But once again, when projects with zero syndication costs are excluded from the statistics, "private placements" look fairly comparable to public offerings.

Sources and Uses of Funds

Exhibit 3 presents the estimated sources and uses of funds for the average tax credit unit and for the various subsidy types. Over $1.2 million was raised in support of the average LIHTC development, or about $44,400 per unit. Mortgage debt constituted the largest source of project funding, averaging about 70 percent of all funds raised. Equity contributions accounted for about 28 percent of the average unit's total sources, while only about 2 percent was raised from grants or forgivable deferred payment loans.

About half of the tax units developed thus far have received at least one below-market mortgage. Such mortgages have an average interest rate of roughly two-and-one-half percent and account for over 60 percent of total loan funds received. The largest single source of subsidized debt financing was the Farmers Home Administration. However, below-market loans were also provided by state and local tax-exempt bond issues, federally-funded housing programs (e.g., Community Development Block Grants, Urban Development Action Grants, Rental Rehab), and a variety of other state and local programs.

Eighty-seven percent of the funds that were raised in support of the average LIHTC unit were used to cover its up-front development costs. The typical LIHTC project cost about $1.1 million to develop, or $38,600 per unit. Twenty-four percent of development costs were used for acquisition; another 66 percent went for rehabilitation or construction costs; and the remaining 10 percent was used to cover the various soft costs (excluding developer fees) that were associated with project development.

The next largest use of LIHTC funds was for up-front developer fees, which averaged about 10 percent of development costs. However, one out of every three tax credit units did not report a developers fee, about half of these sole-proprietorships. When such units are excluded from the figures, the average development fee increases to 14 percent. In general, developers who retained the highest ownership shares received the lowest development fees.

The costs associated with syndication -- including legal expenses, sales commissions, and syndication fees -- absorbed another 3 percent of all funds raised and averaged about 13 percent of gross investor equity. Syndication costs vary with the form of syndication, averaging about 22 percent of gross investor equity for publicly syndicated units and about 7 percent for private offerings. Over 40 percent of all private placements had no reported syndication costs. When these units are excluded from the figures, the average syndication costs for private placements increases to about 14 percent.

Reported sources of funds (i.e., equity, loans, and grants) exceeded reported uses (i.e., development costs, developer fees, syndication costs) in about 20 percent of the projects surveyed. Available data do not enable one to identify the extent to which such monies were invested in the project (for example, to fund reserves or to support additional construction) or were received as additional compensation by the project's developer. However,

Exhibit 3

Per Unit Sources and Uses of Funds by Program Type

	Credit Only	Section 8 Mod Rehab	FmHA	Tenant Based	Pre-Existing	Other	All Units
Sources of Funds							
Gross Equity	13,146	18,053	8,271	8,578	7,583	18,921	12,722
Loans	19,615	30,952	31,108	20,557	26,114	43,421	30,948
Grants	0	0	0	0	0	2,902	741
Total	32,761	49,005	39,379	29,135	33,697	65,244	44,412
Uses of Funds							
Development Costs	29,601	38,369	33,072	25,775	30,079	58,237	38,598
Development Fee	1,392	6,806	4,680	2,595	2,086	4,512	3,788
Syndication Costs	1,769	3,743	1,336	264	1,359	1,395	1,605
Residual	0	87	291	501	174	1,100	421
Total	32,761	49,005	39,379	29,135	33,697	65,244	44,412
Annual Tax Credits Received	1,924	2,658	1,404	1,851	1,122	2,220	1,810

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

adding residual funds to the reported development fee would increase the average rate from 10 to 11 percent in the sample as a whole, and from 14 to 19 percent for projects with residual funds.

Sources and uses of funds vary substantially by subsidy type. In general, units combining a mix of federal and local grants and loans (labeled "other subsidies" in the chart) absorbed the greatest amount of resources, averaging about $65,000 per unit. In addition to having relatively high development costs (about $58,000 per unit), such units also had a relatively high incidence of residual funds ($1,100 per unit). Conceivably, the reliance on a mix of subsidy sources may have weakened the financial control of funding sources and led to higher costs and a higher incidence of potentially "excess" funds.

Units which eventually received tenant-based voucher and certificates appear to have been the least expensive to develop, with a total resource requirement of about $29,000 per unit. Although these units also had a relatively high incidence of residual funds ($500 per unit), their development costs were relatively low, averaging about $26,000 per unit and about $140,000 per project. Most of these projects were extremely small. The average development in this group had less than 5 units, and about 70 percent were single-family homes.

The remaining program variants fall in between these two extremes. Credit only units and units with previous assistance have relatively low resource requirements when expressed on a per-unit basis, averaging about $33,000. However, both project types tend to be rather large in terms of number of units, averaging 52 units per development for credit-only projects and 79 units per development for projects with previous assistance. As a result, total funding requirements for the average project (as opposed to unit) tend to be relatively high for both program types. Not surprisingly, a sizable fraction of all the units in these categories were sold through public offerings.

Farmers Home projects have an average resource requirement of about $39,000 per unit, 84 percent of which is applied to the project's development costs. Equity invested in Farmers Home projects is below the norm, accounting for only about 21 percent of all funds raised. This outcome is consistent with the structure of the FmHA 515 loan program, which finances between 95 and 97 percent of a project's development costs (excluding fees). Funds raised in excess of those required to cover development (and syndication) costs can be retained as a development fee. According to our estimates, such fees averaged about 14 percent of development costs.

Units developed under the Section 8 Moderate Rehabilitation Program -- which are no longer eligible for the tax credit -- were among the most expensive, with an average resource requirement of roughly $48,000. In addition, Mod Rehab projects have the lowest proportion of total funds being used to support the project's development costs (78 percent). Two factors contribute to this pattern. First, developer fees are relatively high, averaging about 18 percent of development costs. In addition, syndication costs are relatively high for Mod Rehab projects, absorbing about 8 percent of all funds raised and representing about 21 percent of gross investor equity. These costs are primarily attributable to the heavy use of public offerings and the below-average ownership share retained by project developers.

Returns to Investors

Exhibit 4 presents estimates of the average internal rate of return (IRR) for tax credit units stratified by subsidy mix. According to these estimates, the average tax credit unit has a projected IRR of between 17 and 19 percent. (This analysis assumed no residual value at the end of a 15-year period.) In any given development, returns to individual investors are generally lower than those projected for corporate investors due to passive income restrictions on the individual investor's use of tax losses, as well as the higher tax rate that applies to corporate sponsors.

Estimated rates of return vary somewhat by subsidy mix, although the differences are not pronounced for most program types. However, units with a mix of other subsidies and certificate/voucher projects have estimated rates of return that are between 6 and 11 percentage points higher than the other program variants. This pattern appears to reflect the above-average cash flow that is being generated by such developments.

An examination of the underlying composition of projected returns reveals that the credit itself is far and away the most important contributor to the profitability of the average project. The financial analysis also suggests that the majority of units developed thus far need the credit to be financially viable. For example, about 6 out of every 10 units would have an after-tax cash flow deficit if the credit were eliminated, and only about 12 percent would yield a projected IRR above 15 percent. Only two subsidy types would continue to project a positive average return without the credit -- units developed in combination with tenant-based vouchers and certificates and units with a mix of other subsidies. Once again, this analysis assumes no residual value after 15 years.

Public Sector Costs

Exhibit 5 presents the public sector costs of LIHTC units calculated over a 15-year holding period. Such costs reflect the net present value of the various forms of government assistance that have been received by tax credit units, including: subsidized loans; operating subsidies; grants; historic rehabilitation credits; and the tax credit itself. Since the projections embody a number of key assumptions regarding future inflation, interest rates, and income growth, these estimates should be viewed as illustrative at best.

As shown in the chart, the average LIHTC unit will receive a stream of subsidies whose 15-year costs to the public sector will amount to roughly $38,000 (in present value terms). Rental subsidies, such as Section 8 certificates and vouchers, account for the largest component of total subsidy costs, averaging about $16,400 per unit (or 44 percent of projected costs). In contrast, tax credits contribute about $11,700 to the subsidy cost of the average unit, while below-market loans account for another $7,700.

Section 8 Mod Rehab projects and projects with a mix of other subsidies are the most heavily subsidized developments. Units in such projects receive a combination of government subsidies whose overall cost to the public sector amount to $65,000 and $57,000, respectively. Not surprisingly, units with just the tax credit receive the least amount of subsidy, averaging about $13,000 per unit. Although projects with tenant-based rental assistance have

Exhibit 4

After-Tax Internal Rates of Return
1987 and 1988 LIHTC Units

	Corporate Investor	Individual Investor
BY SUBSIDY TYPE:		
LIHTC only	14%	12%
Previous Subsidy	16%	13%
Moderate Rehabilitation	15%	14%
FmHA	19%	16%
Certificate/voucher	25%	26%
Mixed Subsidies	24%	23%
TOTAL SAMPLE	19%	17%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 5

Present Discounted Value of Government Subsidies Per Unit
1987 and 1988 LIHTC Units

	LIHTC	Historic Rehab Credit	Grants	Operating Subsidies	Subsidized Loans	Total
BY SUBSIDY TYPE:						
Credit Only	$13,166	$0	$0	$0	$0	$13,166
Previous Subsidy	$6,955	$0	$0	$25,686	$4,196	$36,837
Moderate Rehabilitation	$16,766	$1,468	$0	$46,891	$336	$65,461
FmHA	$8,976	$0	$0	$6,533	$17.268	$32,777
Certificate/voucher	$11,946	$0	$0	$18,196	$0	$30,141
Other	$14,021	$3,369	$2,902	$26,095	$11,024	$57,411
TOTAL SAMPLE	$11,739	$946	$702	$16,468	$7,762	$37,627

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

costs that are considerably higher (about $30,000 per unit), their costs are comparable to credit only units when tenant-based rental subsidies are excluded. The remaining program types receive subsidies whose projected costs to the public sector are between $33,000 and $37,000 per unit.

Exhibit 6 compares the costs of LIHTC to the costs of housing vouchers. While the voucher represents a fairly stringent standard of comparison, such comparisons help to adjust for variations across different housing markets and also provide a useful benchmark for assessing the overall effectiveness of the different program types. (Another relevant benchmark, which was not feasible in this analysis, is the cost of units developed under previous federal construction programs such as Section 8 New Construction and Substantial Rehabilitation.)

Estimated costs for a housing voucher have been derived for each program type based on the actual income of project residents and the local FMR. Note that the estimates for housing vouchers do not include an allowance for the PHA's administrative costs. Since comparable administrative cost data are not available for tax credit units, they have been excluded from both sets of projections. Likewise, projected voucher costs embody the same basic assumptions about discount rates, income growth, and inflation as do the estimates for the LIHTC.

As shown in the chart, the projected cost of the average tax credit unit over a 15 year period of time ($37,627) is almost two-and-one-half times as high as the comparable cost of a housing voucher ($15,516). The fact that the average tax credit unit is more expensive than a housing voucher is not surprising given the relatively high costs that characterize most construction and rehabilitation programs. What is perhaps more revealing is the relative ranking of the different program variants in comparison to housing vouchers.

The most striking pattern relates to Section 8 Moderate Rehabilitation units. While their estimated costs are relatively high -- averaging about $65,000 over the 15-year period -- their costs in relationship to housing vouchers are comparable, if not somewhat below the ratios observed for the other program variants. Two factors explain this outcome: first, the incomes of Section 8 tenants are extremely low; and second, such units tend to be located in relatively expensive markets. Both factors make the cost of a comparable housing voucher relatively high in comparison to other programs.

The relative ranking of credit only units also changes when they are examined from this perspective. On the one hand, credit only units represent the least expensive program variant, averaging roughly $13,000 per unit. On the other hand, tenant incomes in such developments are relatively high and FMRs are relatively low. As a result, the ratio between the LIHTC subsidy costs and the cost of similarly targeted housing vouchers is comparable to that observed for most of the other program variants.

The data also suggest that "Mixed Subsidy" developments -- which account for roughly 25 percent of all tax credit units -- have a ratio that is significantly above those observed for other kinds of units. Such projects receive relatively large capital and operating subsidies, yet serve tenants whose incomes are relatively high. As a result, these types of developments are particularly expensive when compared to the costs of similarly targeted

Exhibit 6

Estimated LIHTC Versus Voucher Costs[1]
1987 and 1988

	Average FMR	Average Tenant Income	Average LIHTC Subsidy Costs	Average Voucher Costs	Ratio of LIHTC Costs to Voucher Costs
Credit Only	$340	$11,719	$13,166	$ 7,355	1.8
Pre-Existing	369	7,121	36,837	22,108	1.7
Section 8 Mod Rehab	473	4,564	65,461	44,618	1.5
FmHA Section 515	340	8,921	32,777	14,215	2.3
Tenant-Based Assistance	424	9,606	30,141	21,175	1.4
Other Subsidies	415	20,379	57,411	9,781	5.9
All Units	$381	$11,898	$37,627	$15,516	2.4

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

[1] Costs reflect net present value of 15-year subsidy stream.

housing vouchers. While the ratio for Farmers Home units is also above the norm, the differential is not as pronounced.

Tenant Benefits

These cost estimates do not control for differences in the benefits that accrue to tenants under the voucher and tax credit programs. For example, tenant contributions are set at 30 percent of household income under housing vouchers, but are often above this threshold under the LIHTC. This pattern suggests that at least some LIHTC units may not be providing voucher-equivalent benefits.

Exhibit 7 presents some extremely crude cost-benefit calculations for LIHTC units. The first column estimates the stream of benefits that will accrue to residents of tax credit units over the 15-year subsidy period, where benefits are measured as the difference between the Fair Market Rent (FMR) of the area in which the unit is located and the rent that the household pays (including utilities). Since the applicable FMR may show little, if any, relationship to the true "market" value of a unit, the benefit estimates presented here should be viewed as rough approximations of the underlying rent savings that are actually realized by LIHTC residents. The second and third columns present the ratio of these benefit estimates to: (1) the estimated public sector costs of the average LIHTC unit; and (2) the estimated costs of comparably targeted housing vouchers.

As shown in the chart, three program variants -- credit only units, units with previous assistance, and Section 8 Mod Rehab units -- deliver essentially the same average benefit levels as housing vouchers (column 3). The results for Section 8 Mod Rehab and units with previous assistance reflect the fact that the majority of residents in these development also receive a rental subsidy. However, the findings for credit only units reflect the lower rent structure in such developments. Benefits flowing under the other program variants compare less favorably to housing vouchers since rent-to-income ratios among voucher-eligible tenants are generally in excess of 30 percent.

Ranking of the different programs by their estimated cost-benefit ratios (column 2) suggests that projects with a mix of other subsidies and, to a lesser degree, Farmers Home, provide relatively low benefit levels in relationship to their costs. On the other hand, Section 8 Mod Rehab units appear to provide the greatest relative benefit levels despite the significantly higher public sector costs that are associated with such developments.

CONCLUSIONS

The analysis supports several broad conclusions regarding the overall efficacy of the tax credit program. The first relates to the basic feasibility of the credit *per se*. Despite initial concerns that the credit would not provide a sufficient incentive to attract developers, production under the program has risen steadily over time. Estimates of credit usage in 1989 suggest that virtually all of the year's tax credit authority has been allocated. Similarly, all of the 1990 credit is expected to be used. Thus, in this most basic sense, the program appears to work.

Exhibit 7

Cost-Benefit Estimates by Subsidy Mix
1987 and 1988 LIHTC Units

	Estimated 15-Year Benefit Stream	Benefits ÷ LIHTC Costs	Benefits ÷ Voucher Costs
Credit Only	7,029	0.53	0.96
Pre-Existing Subsidy	21,532	0.58	0.97
Section 8 Mod Rehab	44,618	0.68	1.00
FmHA	11,439	0.35	0.80
Vouchers/Certificates	16,792	0.56	0.79
Other	8,604	0.15	0.88
	14,001	0.37	0.90

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

However, the production that has been realized to date has largely been achieved through the provision of additional operating and capital subsidies. This outcome has been criticized on the grounds that the provision of multiple subsidies will tend to generate excess returns to the various parties involved in the packaging and sale of tax credit units. While developers' and syndicators' fees do appear to be higher in certain types of heavily subsidized developments -- most notably, Section 8 and Farmers Home -- and while projects with a mix of other subsidies generally had significant higher projected returns, most of the projects examined in this study needed the credit to be financially viable, assuming no residual returns on the sale of the project after 15 years. If this assumption is reasonable, the amount of excess is probably fairly small.

In addition, multiple subsidies have played a key role in enabling the program to serve a broad range of market types. Projects relying only on the credit tend to be concentrated in markets where costs are low in relationship to household incomes. While tax credit projects have been built in markets with less favorable economic conditions, they are much more likely to be subsidized.

Additional subsidies -- particularly direct rental assistance -- have also enabled the program to serve a much poorer segment of the population. Tenants without a voucher or certificate have incomes that are more than twice as high as those receiving rental assistance. Were such assistance to be eliminated across the board -- as it already has been with respect to Section 8 Mod Rehab subsidies -- program benefits would undoubtedly fall and households at the very bottom of the income distribution would most likely be excluded.

Nevertheless, the issue of multiple subsidies -- particularly multiple capital subsidies -- remains problematic. As the trend towards creative financing -- packaging subsidies from a variety of sources -- grows, it is likely that the potential for oversubsidization will increase. The 1989 changes to the tax credit program addressed this problem by requiring that state agencies evaluate each project in order to determine the minimum credit amount needed. Similarly, under Section 102 of the HUD Reform Act of 1989, the Department is directed to certify that HUD assistance reflects the minimum necessary to support affordable housing. While these provisions define government responsibility in this area, developing a workable approach to subsidy minimization will be extremely difficult to implement given the complexities of the tax credit program and the development process.

Introduction

This study evaluates the Low Income Housing Tax Credit (LIHTC) established by the Tax Reform Act of 1986. Since its enactment, the credit has become the principal federal incentive for the production of low-income housing and was used to support the development of roughly 111,000 low-income units in 1987 and 1988.[1] The study focuses on the first two years of program operations and is designed to address the following questions:

- What types of projects use the LIHTC? What other subsidies are used in these projects and what market types are served?
- What are the characteristics of tenants residing in tax credit properties? Do tax credit units serve the same income groups as other federal programs or are incomes close to the area maximums established under the program? Are tax credit units affordable to their low-income tenants?
- What is the financial structure of LIHTC projects? How much equity is raised as a result of the credit and what are the transaction costs?
- What returns are LIHTC projects expected to earn? Is the credit necessary or would the projects have been developed in its absence?
- What are the costs of developing LIHTC projects? Is the program cost effective as compared to other approaches to subsidizing low-income housing?

The overall objectives of the research are to assess the effectiveness and impact of the program to date and to evaluate its role as an element of national housing policy.

To address these issues, the study draws on data from two principal sources. The first is a national data base describing the universe of LIHTC projects developed in 1987 and 1988. Assembled by the National Council of State Housing Agencies (NCSHA), the data base provides basic information on the type and location of properties that have received tax credit allocations.

The second source of data is an in-depth survey of tax credit developers conducted specifically for this study. This survey produced detailed financial data on 104 properties which received credits in 1987 or 1988. Information obtained through the survey includes data on the sources and uses of funds for project development as well as other financial and tax parameters

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[1] Additionally, tax credit projects developed in these years contained approximately 17,000 market rate units for a total of about 128,000 units produced.

needed to estimate returns to investors in tax credit properties. In addition, the survey collected household data for tenants in a sample of units in each property. While the survey represents the only available source of information on these topics, the sample is small (see Appendix A for a discussion of the sample and its limitations.) As such, the results presented in this report should be taken as suggestive rather than definitive.

The report is organized into seven chapters. Chapter 1 provides an overview of the tax credit program and its implementation over the first two program years. The chapter also discusses recent legislative changes that will affect future tax credit development.

Chapter 2 focuses on the characteristics of tax credit projects developed in 1987 and 1988. Drawing on information from the NCSHA data base, the chapter describes the type and size of LIHTC projects, the extent to which these developments have used other subsidies in addition to the credit, and the types of markets served by LIHTC projects.

Chapter 3 examines types of tenants served by the LIHTC program, including their incomes and household size. Drawing on data collected through the ICF developers survey, the chapter also examines the affordability of LIHTC units, the relationship of project rents to local FMRs, and the extent to which residents receive additional rental subsidies such as Section 8 Certificates and Housing Vouchers.

Chapter 4 focuses on the process of developing and marketing tax credit properties. It begins with an examination of the types of developers who have participated in the program and the fees they have received. This is followed by a discussion of syndication approaches and an examination of syndication costs and investor equity raised.

Chapter 5 examines the underlying financial structure of LIHTC projects, including a detailed analysis of the sources and uses of funds in the average LIHTC unit. The chapter also examines variations in financial structure by construction type, subsidy type, syndication status, and credit year.

Chapter 6 presents information on the returns to investors generated by tax credit projects. Rates of return are estimated using a rental housing model developed specifically for this study. The chapter also presents the results of simulations that compare rates of return with and without the credit and calculate the increase in rents that would be required to support tax credit units in the absence of credits. Finally, the chapter estimates the cost to the government of developing tax credit projects.

Chapter 7 provides an overall assessment of the credit program to date. This includes a comparison of LIHTC costs to other subsidy approaches; an examination of tenant benefits; and assessments of the credit's impact on housing supply, its ability to serve a broad range of housing markets, and its role as an element of overall housing policy.

Chapter 1

Overview of the Tax Credit Program

The Tax Reform Act of 1986 significantly altered the tax climate for the rehabilitation and production of low-income housing. It repealed tax provisions promoting rental housing production in general, and substituted in their place a more targeted program -- the Low Income Housing Tax Credit (LIHTC). Congress initially authorized state housing credit agencies to allocate $9 billion of tax credits on a project-by-project basis over three years: 1987, 1988, and 1989. This chapter reviews the basic provisions of the tax credit program and key factors that affected its use during the first two years of program implementation. Legislative changes that will affect future program years are also discussed.

1.1 Rationale for the Program

Before the Tax Reform Act of 1986, investment in low income rental housing was uniquely favored. Accelerated depreciation was allowed over 15 years; construction period interest and taxes could be expensed; rehabilitation expenses could be amortized over a shorter period; and taxes on capital gains were paid at a rate significantly below the rate on ordinary income. Congress and the Reagan Administration held that these tax provisions produced highly inefficient and unfair tax shelter investments: they distorted the allocation of capital; were poorly targeted; allowed wealthy investors in high tax brackets to take large deductions against taxable income; and benefited low-income tenants only marginally.

While sharply reducing individual and corporate tax rates, the 1986 Tax Reform Act closed loopholes and eliminated most income tax shelters, including those for real estate. In addition to eliminating the capital gains exclusion, the Act:

- Restricted deductions of losses from passive activities;
- Limited deductions for investment interest;
- Repealed rapid amortization of rehabilitation expenses;
- Lengthened allowable depreciation lives to 27 1/2 years, straight line; and
- Strengthened minimum tax provisions.

To replace the eliminated provisions and to target tax benefits toward the production of low-income rental housing in particular, Congress created the Low Income Housing Tax Credit program. Congress designed the tax credit to be more efficient than prior tax provisions by tieing benefits directly to the number of low-income units produced. At the same time, Congress sought to more effectively pass on tax benefits to low-income tenants by placing ceilings on gross rent. Finally, by providing a fixed amount of tax credit authority to each of the states for allocation, Congress acted to place a limit on tax losses to the Treasury.

1.2 Basic Provisions

The Low Income Housing Tax Credit program was initially authorized for three years, from January 1, 1987 through December 31, 1989. Although the Internal Revenue Service is responsible for the program and for publishing its regulations, Congress gave state housing credit agencies the authority to administer the program. Under the program, each state receives annual credit authority equal to $1.25 per capita for allocation to qualifying low income properties. Ten percent of each state's allocation in each year is set aside for projects developed by non-profit organizations.[1]

Tax credits are used by property owners and investors to offset taxes on other income. While tax reform restricted deductions for losses generated from passive activities -- such as limited partner investments in real estate -- the credit receives special treatment. Individual investors in tax credit projects are able to use the equivalent of $25,000 in deductions, or $7,000 in credits annually (at the 28% rate). Corporations, which are not subject to passive loss restrictions, can use any amount of credit and also deduct other losses generated by the property. Credits, along with the other economic benefits of ownership, are generally sold to outside investors to raise initial development funds for the project.

To qualify for low-income housing tax credits, a project owner must set aside at least 20 percent of project units for tenant households at or below 50 percent of area median income, or at least 40 percent of the units for households at or below 60 percent of the area median income. Qualifying income limits are adjusted for family size in a manner similar to the Section 8 program. The income election must be made at the time a project is placed in service and is irrevocable. Projects[2] must meet the set-aside test within one year of their placement in service date, and continue to meet this threshold over the full compliance period, originally set at 15 years.

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[1] Projects receiving tax exempt bond financing are automatically eligible for tax credits (assuming they meet basic requirements) and their credit amounts are not counted against state ceilings.

[2] Under the original legislation credits were allocated on a building-by-building basis. A project could consist of multiple buildings if these were similarly constructed, were on the same tract of land, were financed under a common plan, and were owned by the same person for Federal income tax purposes. However, new legislation enacted in 1989 permitted a single allocation for multi-building projects.

All tax credit units must be available to the general public, be suitable for occupancy, and be used on a non-transient basis. Originally, single room occupancy units were only eligible if let for a term of at least six months. Owner-occupied buildings of four units or less were not eligible, nor were hospitals, nursing homes, sanitariums, lifecare facilities, retirement homes, and trailer parks. Legislative changes in 1989 permitted credits to be used with SROs with monthly leases and in one- to four-unit owner-occupied buildings.

Credits are provided only for qualified low-income housing units, meaning units that are leased to an income eligible tenant (as discussed above) and are rent restricted. Gross rents are limited to 30 percent of the qualifying income -- that is, 30 percent of the elected 50 or 60 percent of area median income as adjusted for family size. Gross rents include an allowance for utilities, most commonly those used by PHAs in the Section 8 programs. However, where Federal rental subsidies such as Section 8, rent supplements, RAP, or FmHA Section 521 are provided, the subsidy payment is not counted as part of the gross rent in determining compliance with the program's rent limits.

Credits awarded to eligible projects are generally taken over a 10-year period. Credit amounts are intended to provide a stream of benefits with a net present value equal to either 30 or 70 percent of the qualifying portion of a building's eligible basis. A building's eligible basis is generally its total development costs excluding land. A building's qualifying basis is defined as the proportion of the property that is devoted to low income use. For example, if only 50 percent of the units are set aside for low income use, only 50 percent of the building's eligible basis qualifies for the tax credit.

The 70 percent credit is available to non-federally-subsidized new construction or substantial rehabilitation, or to subsidized projects when subsidized financing is subtracted from the building's basis. The 30 percent credit is available for federally-subsidized construction or rehabilitation, or for the acquisition of an existing building that has not been placed in service within the last 10 years.[3] It is possible to receive both the acquisition credit and a separate credit for substantial rehabilitation of the same property.

The tax credit taken by project owners in each year is calculated by multiplying the project's eligible basis by its applicable low-income fraction and its appropriate tax credit rate. Key elements of the credit calculation are as follows:

- Eligible Basis: Total development costs minus land, historic rehabilitation credits awarded to the project, any federal grant amounts, and deductions of federally-subsidized financing, if elected.

- Applicable Low Income Fraction: The lesser of the ratio of occupied low-income units to total building units or the ratio of low-income square footage to total building square footage.

- Qualified Basis: The result of multiplying the eligible basis by the applicable low-income fraction.

- Credit Rate: In 1987, the credit rate was fixed by law at 4% (for the 30 percent credit) and 9% (for the 70 percent

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[3] As discussed below, the 1989 Legislation eliminated credits for acquisition unless substantial rehabilitation is also carried out.

credit). In 1988 and 1989, the credit rate was adjusted on a monthly basis by the Treasury Department.

- Tax Credit Amount: Qualified basis multiplied by the credit rate.

1.3 Early Experience With the Tax Credit

Although tax credits became available in January 1987, program start-up was slow, resulting in relatively low usage during the first program year. Based on data collected by the National Council of State Housing Agencies (NCSHA), first year allocations amounted to approximately $55 million -- or only about 18% of the total authority available.[4] As shown in Exhibit 1-1, of the 55 agencies designated to issue credits, two-thirds allocated 20% or less of their available authority in 1987. At the other extreme, only seven percent of the agencies were able to allocate more than 80% of the available credit.

Credit usage improved substantially in 1988, although significant unused authority remained. Overall, state allocating agencies issued 66% of the available credit in 1988. The proportion of states with very low allocation rates (20% or less) dropped to 11% and the proportion who used more than eighty percent rose to 42%. Twelve agencies (22%) used the full amount of authority available to them in that year.

A variety of factors may account for low usage of the credit in 1987. Most important was the lead time needed to get programs underway. In many states the process of designating the tax credit allocating agency was not completed until the summer of 1987. Moreover, guidance from the Treasury Department was slow in coming. Temporary regulations (covering allocations and waivers only) were not issued until June 1987. Given the lack of guidance available to states and the relative complexity of the credit, it proved difficult to get programs up and running until late in the year. By the same token, the development community needed time to become familiar with the program and develop properties that could effectively utilize the credits. Since projects had to be placed in-service by December 31 to receive 1987 credits, observers speculated that most of the first year allocations went to projects that were already in the pipeline rather than to properties specifically developed to take advantage of the LIHTC. Some observers argue that second year projects -- at least those processed prior to the carry over -- are also "atypical" due to the stringent timeframes of the original legislation.

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[4] Most data in this chapter are taken from tables generated by NCSHA. Except as noted, the figures represent latest revised data as of Summer 1990. Data on aggregate allocations were collected by NCSHA from State agency respondents and may differ slightly from totals computed using underlying project records. Information on carry overs is taken from NCSHA tables presented in the Testimony of Elizabeth Mitchell before the Subcommittee on Select Revenue Measures, Committee on Ways and Means, U.S. House of Representatives, May 23, 1989.

Exhibit 1-1

Tax Credit Usage 1987 and 1988

	1987	1988
Total Authority Available	$306 million	$304 million
Total Allocated	$55 million	$202 million
Percent Allocated	18%	66%
Distribution of Agencies by Percent of Cap Used:		
0-20 percent	67%	11%
21-40 percent	15%	11%
41-60 percent	7%	19%
61-80 percent	4%	17%
81-100 percent	7%	42%

SOURCE: NCSHA Tables.

As indicated previously, tax credit activity picked up substantially in 1988, with about 66% of the available authority allocated by the end of the year. The increase was attributed largely to enhanced developer capacity and awareness as well as the development of an infrastructure for syndicating tax credit properties. For their parts, states became more aggressive in marketing the program and in reallocating credits as projects fell through. Finally, allocations in 1988 were given a significant end-of-the-year boost with the passage of the Technical and Miscellaneous Revenues Act of 1988. While most of these "Technical Corrections" clarified tax credit provisions or ratified existing interpretations of them,[5] the bill's carry over provisions gave projects an additional two years -- until December 1990 -- to be placed in service. A project was eligible for carry over if expenditures at the end of 1988 were at least 10 percent of the reasonably expected basis on completion.

The impact of carry over was sizable, as shown in Exhibit 1-2. Overall, carry overs accounted for over half of the credit allocated in 1988. The provisions gave developers additional time to finish their projects and, apparently, allowed properties that otherwise would have received a 1989 allocation to switch to the 1988 credit.

Exhibit 1-2 also presents information on the percentage of total allocations in 1988 that went to non-profit sponsors eligible to be included in each state's 10 percent set aside. Nationally, about 8 percent of all allocations went to non-profits. However, non-profit activity was uneven, with only about one-fifth of the states meeting or exceeding the 10 percent target. By contrast, over half of all state agencies failed to allocate any credit at all to non-profit agencies.

1.4 Policy Issues and Legislative Changes

Experience with the tax credit program during its first two years prompted a wide variety of proposed changes to the original law. As noted above, some of these proposals were included in the technical corrections bill passed at the end of 1988. In addition, a wide array of substantive changes were suggested, designed to address perceived short comings in the program or to enhance its targeting and efficiency.

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[5] For example, the Act clarified that the State housing credit agencies administering the program could specify an applicable percentage and qualified basis less than the maximum allowable for a given building. The Act also provided that State and local rental assistance be excluded from the calculation of gross rent, to bring them into conformance with the treatment of Federal rental assistance. Additionally, it established further circumstances that would be disregarded as a placement in service under the 10-year rule and it established a variety of technical changes to other provisions including non-profit participation, recapture provisions, a de minimus rule governing the comparability of non-low-income units to low-income units, and the ability of a taxpayer to make an irrevocable election to fix the credit rate in either the month of binding commitment or of placement in service.

Exhibit 1-2

1988 Tax Credit Allocations

1. Carry Over Allocations

Total Allocations	$202 million
Carry Over Allocations	$104 million
Percent Carried Over	51%

Distribution of States by Percentage Carried Over

0-20 percent	27%
21-40 percent	29%
41-60 percent	18%
61-80 percent	13%
81-100 percent	13%

2. Non-Profit Use

Total Allocations	$202 million
Non-Profit Allocations	$ 16 million
Percent Non-Profit	8%

Distribution of States by Percent Allocated to Non-Profit Sponsors

Zero	52%
1-9 percent	27%
10 percent or more	21%

SOURCE: NCSHA Tables.

The most comprehensive review of the credit program was provided by a Task Force assembled in 1988 by Senators George Mitchell, of Maine, and John Danforth, of Missouri. The Mitchell-Danforth Task Force was given "a mandate to: (1) review the current progress of the Credit; (2) define the appropriate role of the Credit in the overall housing policy framework; and (3) propose improvements needed to create an optimum program." The Task Force presented its report in January, 1989, and this subsequently became the basis of legislation sponsored by Senators Mitchell and Danforth in the Senate, and Representative Charles Rangel, of New York, in the House.

The Task Force's suggestions included permanent extension of the tax credit program, but also a package of modifications designed to "facilitate optimum use of the Credit and ensure an appropriate Credit based subsidy for each project." Key elements of the proposal included:

- eliminating credits for simple acquisition and increasing the threshold for substantial rehabilitation to $3,000 per unit;

- allowing the higher (70% present value) credit in projects with federal subsidies such as tax exempt bonds or FmHA financing;

- increasing the credit amount for projects in distressed communities and high cost areas;

- requiring states to develop allocation plans and to underwrite projects to determine the minimum amount of credit needed; and, finally,

- encouraging extended low-income use of tax credit properties through restricted sales prices and protections for existing low-income tenants.

The Mitchel-Danforth legislation also contained a host of other modifications that would simplify various technical aspects of the credit program making credits easier to use and making them available to a wider range of project types (e.g., SROs and projects for populations with special needs).

While the Mitchel-Danforth recommendations were generally well received, progress on tax credit legislation in 1989 was caught up in the overall debate on capital gains and deficit reduction. In addition, the role of tax credits in the Section 8 Moderate Rehabilitation program came under intense scrutiny following allegations of influence pedaling in the award of Mod Rehab units. In particular, GAO found "excessive" subsidies in the projects they reviewed. This situation resulted, according to the agency, because "multiple benefits were awarded to eligible projects by different administering agencies such as HUD, state tax credit allocation agencies, and local governments, with little or no centralized oversight of the total benefits package provided to

individual projects."[6] As the end of the year approached -- and with it the tax credit's December 1989 sunset -- it was unclear whether the program would be extended.

Finally, on November 22, 1989, Congress passed new tax credit legislation as part of the compromise fiscal 1990 budget reconciliation bill. Although the agreement authorized state agencies to allocate tax credits for another year -- through December 1990 -- only 9 months of authority was provided. As such, states will only be able to allocate amounts totaling $.9375 per capita instead of the previous $1.25.

Changes to the program included a number of modifications similar to those contained in the Mitchel-Danforth proposals. Major amendments were as follows:

- Denial of Tax Credits to Section 8 Moderate Rehab Projects. This modification reflected the controversy surrounding the program as well as charges that these properties were receiving excessive subsidies.

- Extended Use Requirements. Under this provision owners must enter into an agreement with the allocating agency providing for at least 30 years of restricted use for the low income portion of the building. Owners wishing to terminate low income use after 15 years may request the state agency to locate a buyer to purchase the units and operate them as low income housing. In such cases, the sales price on the units is restricted to the owners inflation adjusted investment.[7] Where agencies cannot locate a buyer, the restricted use period ends and the units may be sold at any price. However, units occupied by existing low income tenants are controlled for three additional years during which time tenants may not be evicted except for good cause and rents may not exceed LIHTC limits.

- Rent Requirements. The legislation provides that rents are to be determined based on the size of the unit (number of bedrooms) rather than the size of the household. In addition, rents do not have to be reduced below their initial levels in areas where median income falls.

- Acquisition Credit Disallowed. Generally, no acquisition credit will be available unless substantial rehabilitation is also undertaken. (Substantial Rehab is defined as at

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[6] Statement of John M. Ols before the Senate Committee on Banking, Housing and Urban Affairs, August 2, 1989.

[7] This price is the low income percentage times the sum of the outstanding debt, owners adjusted equity, and additional cash contributions. Adjusted equity equals original equity increased annually by the CPI, but not to exceed 5 percent.

least $3,000 per low income unit or 10% of the unadjusted basis of the building.)

- Difficult Development Areas. Credits up to 130% of the ordinary credit may be awarded to projects in qualified census tracts or high cost/low income areas. Qualified census tracts are those where at least 50% of the residents have incomes below 60% of median, except that no more than 20% of an MSA's population may be included in designated tracts.

- Passive Loss Changes. The agreement eliminates the $200,000 income phase out for the passive loss exception, allowing higher income investors to utilize tax credits.

In addition to these and other changes, the 1989 measure gave state allocating agencies added flexibility as well as responsibilities in issuing tax credits. States now have an additional twelve months to allocate a calendar year's credits. Any unused credits at the end of this period will be placed in a national pool for reallocation to other agencies that have exhausted their allocations.

State agencies will also be required to develop allocation plans that include specified selection and ranking criteria related to location, need, project characteristics, sponsor characteristics, special needs populations, public housing wait lists, and non-profit participation. As recommended in the Mitchell-Danforth proposals, agencies will be required to evaluate each project individually in order to minimize the amount of subsidy provided.[8] Finally, credit agencies will be required to monitor projects for compliance with tax credit rules and to report non-compliance to the IRS.

1.5 Summary

Despite a relatively slow start, the low income housing tax credit program generated roughly 111,000 low income units and 17,000 market rate units over its first two years of operation. Allocations rose from 18 percent of available authority in 1987 to roughly 66 percent in 1988. Information collected by NCSHA indicates that usage will be close to 100 percent for 1989.

Almost as soon as the tax credit program was introduced, a host of modifications were proposed. Minor changes and clarifications were first incorporated as part of the Technical Corrections bill passed toward the end

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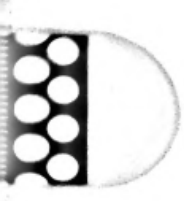
[8] Under the HUD Reform Act of 1989, the Department is also required to minimize subsidy amounts, specifically to certify that assistance within the jurisdiction of the Department of Housing and Urban Development provided to a housing project shall not be more than is necessary to provide affordable housing after taking account of assistance from the Federal Government, a State, or a unit of general local government, or any agency or instrumentality thereof. Assistance in this case clearly includes the tax credit as well as any other loan, grant, guarantee, rebate, or other form of direct or indirect assistance that may be provided.

of 1988. The most significant element of the technical corrections was a provision which allowed projects an additional two years to be placed in service. This resulted in a sizeable boost to production, with roughly half of the 1988 allocations using this "carry over" authority.

More substantial changes were introduced in November 1989. Among other things, this legislation denied tax credits to projects receiving Section 8 Moderate Rehabilitation subsidies (based on concerns about oversubsidization); provided additional incentives for production in difficult development areas; and extended low-income use restrictions on credit units.

Given these substantial program changes, the experience of future years may be different from that of 1987 and 1988.[9] In fact, some observers believe that the early tax credit projects covered in this study are "atypical" simply because of the stringent timing requirements in effect prior to Technical Corrections. Future research should address the evolving characteristics of tax credit properties as well as the financial impact of new provisions. The current study, however, provides an important first look at the tax credit program and the production incentives provided under the original program design.

[9] Tax credits have now been extended through 1991.



Chapter 2

Characteristics of LIHTC Projects

This chapter describes the types of projects that were developed in the first two years of the LIHTC program, using data submitted by the states and assembled by the National Counsel of State Housing Agencies (NCSHA). The chapter begins with an overview of the size and types of projects developed thus far. It then examines the amount of credits received, the proportion of units that qualified for the credit, and the use of other types of subsidies. The last section explores the geographic distribution of LIHTC projects and the kinds of housing markets that they serve.

The NCSHA data base excludes eight jurisdictions in each year, representing about 18 percent of all tax credit authority. Moreover, the set of excluded jurisdictions differs between the two years -- for example, Massachusetts is included in 1987 but excluded in 1988. As a result, the data presented here may not reflect trends and conditions observed nationwide. However, the biases resulting from these exclusions are expected to be fairly small.

2.1 Size and Production Type

Approximately 128,000 units were completed during the first two years of the Tax Credit program. As described in Chapter 1, the bulk of activity occurred in the second year, after states, developers, and syndicators became more familiar with the credit and after federal regulations clarified many issues of potential concern. As shown in Exhibit 2-1, the number of projects and units that were placed into service in 1988 was about twice as high as the number completed in the previous year.

Most of the projects developed thus far have been relatively small, averaging about 28 units. Four out of every 10 projects had 10 or fewer units, and one out of every four was a single-family home. Large projects -- defined as those with more than 100 units -- represented only about 7 percent of total production. As shown in the chart, the size distribution of projects was virtually identical in 1987 and 1988.

Exhibit 2-1 also presents the distribution of tax credit units by project size. This distribution is much more skewed in favor of larger developments. For example, single-family homes represented less than one percent of all tax credit units, while larger projects -- again defined as more than 100 units --contained over 40 percent of the units produced thus far. Thus, in terms of the number of households served -- and, presumably, the tax credit dollars received -- larger developments clearly represent a more important component of the total stock.

Exhibit 2-1

Project Size and Production Type

	Projects		Units	
	1987	1988	1987	1988
Total Number	1,348	2,744	37,568	77,351
Distribution by Number of Units in the Project				
1	25.1%	23.6%	0.9%	0.8%
2-4	16.3	18.5	1.6	1.7
5-9	7.8	7.3	1.9	1.8
10-24	22.6	19.3	15.0	12.4
25-49	16.1	17.4	21.1	22.6
50-99	5.2	7.7	12.7	18.4
100-249	5.3	5.3	28.7	28.1
250+	1.5	0.9	18.2	14.1
All	100.0%	100.0%	100.0%	100.0%
Average	28 units	28 units	138 units	146 units
Distribution by Production Type				
New Construction	44.7%	47.4%	41.0%	46.1%
Major Rehabilitation (>$10,000/unit)	27.7	27.2	24.8	27.1
Minor Rehabilitation ($2,000-$10,000/unit)	20.0	17.3	20.6	12.8
Acquisition Only	7.5	7.6	12.6	13.0
Mixed	0.1	0.5	1.0	1.0
All Projects	100.0%	100.0%	100.0%	100.0%
Distribution by Bedroom Count				
Efficiencies			4.8%	8.1%
One Bedroom			38.2	37.0
Two Bedrooms	NA	NA	45.2	41.6
Three Bedrooms			10.9	12.2
Four or More Bedrooms			0.9	1.1
All			100.0%	100.0%

SOURCE: NCSHA Data.

Exhibit 2-1 also depicts the distribution of LIHTC projects and units by production type. Five types of projects are identified:

- new construction;
- major rehabilitation (i.e., projects whose renovation costs exceeded $10,000 per unit);
- minor rehabilitation (i.e., projects whose renovation costs were between $2,000 and $10,000 per unit);
- simple acquisition (i.e., projects whose renovation costs, if any, were less than $2,000 per unit); and
- mixed developments (i.e., projects which involved both rehab and new construction).

Note that projects classified as either major or minor rehabilitation may have received both an acquisition and construction credit.

As shown in the chart, most of the LIHTC projects developed to date have been new construction or major rehabilitation. For example, in 1987 about 45 percent of all LIHTC projects were new construction and another 27 percent involved major rehabilitation. Only about 20 percent were classified as minor rehab, and less than 8 percent were simple acquisitions (which are no longer eligible for the credit). Patterns were much the same in 1988, although there was a noticeable increase in the relative importance of new construction and an accompanying decline in projects classified as minor rehab.

The distribution of tax credit units by production type looks fairly similar to the distribution of projects. However, the relative importance of simple acquisitions increases substantially when measured in terms of units. The pattern reflects the larger size of such developments, which contained about twice as many units on average as most of the other production types.[1] Presumably, the 4 percent credit available for simple acquisitions may not justify the legal and administrative costs involved unless the project is fairly large.

As shown in the chart, most tax credit units are either one- or two-bedroom apartments. In 1987, for example, only about 5 percent were efficiencies and only about 12 percent had three or more bedrooms. Patterns look much the same in 1988, although the proportion of one- and two-bedroom units experienced a slight decline. This pattern suggests that the program is primarily serving smaller households. Large families, in particular, appear to be underserved.

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[1] For example, in 1987, the average project size was 26 units for new construction, 22 units for major rehab, 21 units for minor rehab, and 55 units for acquisitions. Mixed developments averaged over 355 units per project.

2.2 Credit Use

Exhibit 2-2 presents information on the amount and types of credits that have been allocated to LIHTC projects. In particular, it describes the proportion of units that have qualified for the credit, its average dollar amount, and the distribution of projects and units by the type(s) of credit received (i.e., 4 percent, 9 percent, or both). Only projects involving rehabilitation are potentially eligible for both types of credits -- a 4 percent credit for the acquisition of the structure and a 9 percent credit for the rehabilitation costs (assuming federal financing subsidies are not involved).

According to these estimates, 91 percent of the units that have been developed under the program have been set aside for low-income use. Indeed, nine out of every ten projects had 100 percent of their units qualify. In contrast, only about 2 percent of all projects had a qualifying ratio below 40 percent, the minimum that would be required under the 60 percent income targeting election. Presumably, the majority of these projects are 20/50 developments.

The relatively small number of mixed income developments served to increase the average amount of credit received on both a project and unit basis. In 1987, the average LIHTC project was allocated about $43,000 in total credits, or roughly $1,500 per unit. The dollar amount per qualifying unit was marginally higher, averaging about $1,700. In 1988, credit allocations for the average project increased by about 43 percent. Since project size remained relatively constant, this trend was largely due to the sizable increase in the amount of credits that were received by the average unit. As shown in the chart, the average per-unit credit amount increased from about $1,500 in 1987 to almost $2,200 in 1988.

The substantial increase in the amount of tax credits that have been allocated to the average unit is at least partially attributable to the observed decline in the relative importance of the 4 percent credit. In 1987, about 56 percent of all tax credit units received just the 4 percent credit; in 1988, the fraction was 50 percent. The increase in the average credit amount also reflects the observed shift in favor of new construction and substantial rehabilitation. In 1987, these two production types accounted for about 66 percent of all tax credit units. By 1988, their share had risen to 73 percent.

2.3 Use of Other Subsidies

In addition to the credit itself, projects developed under the program have received a broad array of other federal, state, and local assistance. Such assistance ranges from subsidies designed to support the on-going operations of the development -- such as rent certificates or operating subsidies -- to a variety of grants and below-market loans designed to underwrite capital costs.

Exhibit 2-2

Distribution of Projects and Units by Credit Use

	1987	1988
Proportion of Qualifying Units	91.3%	90.8%
Distribution of Projects by Percent of Units that Qualified		
20%-39%	1.9%	1.9%
40%-49%	0.8	0.5
50%-59%	1.5	1.3
60%-69%	1.2	0.5
70%-79%	0.8	0.4
80%-89%	1.7	1.1
90%-99%	2.2	1.3
100%	89.8	93.0
All Projects	100.0%	100.0%
Average Credit Amount ($)		
Average Credit Per Project	$43,117	$61,588
Average Credit Per Unit	$ 1,545	$ 2,185
Average Credit Per Qualifying Unit	$ 1,692	$ 2,404
Distribution of Projects by Credit Type		
4% Only	41.6%	37.3%
9% Only	38.7	49.7
Both	19.7	13.0
All Projects	100.0%	100.0%
Distribution of Units by Credit Type		
4% Only	55.8%	49.8%
9% Only	30.0	40.0
Both	14.2	10.2
All Units	100.0%	100.0%

SOURCE: NCSHA Data.

The distribution of projects and units by the major type of assistance provided is presented in Exhibit 2-3. Six subsidy types have been identified:

- projects whose only form of assistance is the tax credit ("Credit Only" projects);
- projects which are occupied by households with tenant-based Section 8 Certificates or Vouchers, but which received no other form of project-based assistance;
- projects which were developed in conjunction with the Section 8 Moderate Rehabilitation Program;
- projects which were developed in conjunction with the Farmers Home Section 515 subsidized mortgage program (which may also receive assistance under the 521 rental subsidy program);
- projects with preexisting subsidies, including older Section 8, FmHA, and 236 developments; and
- projects with other kinds of federal, state or local assistance, such as a Rental Rehab grant or a below-market CDBG loan.

Since the size of projects varies by subsidy mix, the relative distributions of units and projects differ somewhat.

As shown in the chart, the majority of projects and units developed thus far have received subsidies in addition to the tax credit. In 1987, less than one-third of all LIHTC projects and one-fifth of all LIHTC units had the tax credit as their only source of assistance. In 1988, there were proportionately fewer credit only projects but their size increased significantly. As a result, such projects accounted for approximately 25 percent of all the units which were developed in that year.

The other project types employed a mix of federal, state, and local assistance designed to subsidize rents or to reduce operating or debt service costs. The most important subsidy mechanism has been the Farmers Home Section 515 Program, which accounts for about 25 percent of all the projects and units developed thus far. Under the program, developers receive a one-percent loan for up to 95 percent of development costs (excluding fee). Farmers Home projects may also receive rental subsidies under the Section 521 Rental Assistance program, which can cover as many as 40 percent of the development's total units.

Since 515 loans are federally subsidized, FmHA projects are only eligible for the 4 percent credit. However, FmHA projects are already restricted to low income use. Under the 515 program, residents must have incomes below 80 percent of the local median, while units with Section 521 assistance are for the most part restricted to very low income tenants (i.e., below 50 percent of the local median). As a result, the additional targeting

Exhibit 2-3

Distribution of Projects and Units by Subsidy Mix

	1987	1988
Distribution of Projects		
Credit Only	31.8%	25.5%
Tenant-Based Subsidies	14.2	16.5
Section 8 Mod Rehab	7.3	3.8
FmHA	25.1	24.2
Preexisting Subsidies	3.4	6.1
Other Subsidies	18.2	23.8
All Projects	100.0%	100.0%
Distribution of Units		
Credit Only	17.1%	24.5%
Tenant-Based Subsidies	6.5	3.7
Section 8 Mod Rehab	13.9	7.1
FmHA	27.2	25.2
Preexisting Subsidies	14.5	14.7
Other Subsidies	20.8	24.8
All Units	100.0%	100.0%

SOURCE: NCSHA Data.

restrictions established by the tax credit should have relatively modest effects on the income mix of project residents.[2]

The next most important subsidy mechanism has been classified as "other subsidies" in the chart, and includes a fairly broad mix of project-based operating and capital subsidies. According to our estimates, between 20 and 25 percent of all LIHTC projects and units fall into this category. While the data do not always enable one to identify the particular types of assistance received, the category includes grants or loans from the Rental Rehabilitation and CDBG Programs, Historic Tax Credits, local property tax abatement, and various state and local grants and below-market loans.

Projects with pre-existing subsidies represent between 3 and 6 percent of the projects developed thus far but, because of their significantly larger size, account for about 14 percent of all tax credit units. For the most part, these projects were drawn from the stock of older 236, 221(d)3, and FmHA developments. This existing stock of assisted housing, which contains about 2.1 million units nationwide, has been the focus of recent concerns regarding the preservation of affordable housing. To be eligible in the credit, projects must not have experienced a change of ownership within the last 10 years, although waivers are available to avoid default on federally subsidized mortgages.

The Section 8 Moderate Rehabilitation Program, which is no longer eligible for the credit, accounted for between 7 and 14 percent of all LIHTC units. Projects developed under this program variant are not subjected to the general rent restrictions established by the LIHTC. While the tenant's rent contribution must fall below the applicable LIHTC cut-off (i.e., 30 percent of either 50 or 60 percent of the local median income), the contract rents received by project owners can be considerably higher. Section 8 projects are also eligible for the 9 percent credit (unless they are financed with tax exempt bonds or other forms of federally subsidized financing).

Projects with tenant-based rental assistance, which tend to be very small, account for the remaining 4 to 6 percent of units developed thus far. Since such assistance is allocated to the household, as opposed to the project, it will disappear if the family moves and is not replaced by another certificate or voucher holder. As a result, this type of assistance may be less beneficial to project owners than the other subsidies described above. Nevertheless, owners can extract a higher rent from certificate and voucher holders since only the tenant contribution is limited to the ceilings established by the LIHTC.

For the most part, the relative importance of the different subsidy mechanisms has remained fairly constant over time, particularly when measured on a unit (as opposed to a project) basis. However, according to our estimates, there was a moderate decline in the proportion of units with

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[2] The conflict between Section 515 eligibility rules (80% of median) and the tax credit income cap (60% of median) was resolved through FmHA regulations that permitted owners of credit projects to hold vacant units open for qualifying tenants for a period of six months.

tenant-based assistance and Section 8 Moderate Rehabilitation, and a concurrent increase in the relative importance of credit only units and units with a mix of "other" project-based subsidies.

Exhibit 2-4 presents information on the characteristics of LIHTC units stratified by subsidy mix. To simplify the presentation, the 1987 and 1988 data have been combined. As shown in the chart, project size varies significantly with subsidy mix. The largest projects developed thus far are those involving "pre-existing" subsidies and Section 8 Moderate Rehabilitation, which contained an average of 79 and 53 units, respectively. At the other extreme, developments whose only source of additional assistance was Section 8 Certificates or vouchers contained an average of just 8 units. The remaining subsidy types averaged between 20 and 30 units per project.

Subsidy mix also affects both the type and the average amount of credit received. Farmers Home units are only eligible for the 4 percent credit since FmHA mortgages are federally subsidized. As a result, the amount of credit received is relatively low, averaging about $1,549 per unit. Many of the units with pre-existing subsidies (60 percent) have also relied on the 4 percent credit alone, a pattern which primarily reflects the heavy use of simple acquisition. As a result, the amount of credits received by units with pre-existing subsidies has also been relatively low, averaging only about $1,350 per unit.

Units developed under the Section 8 Moderate Rehabilitation Program have received the greatest amount of credits (over $2,500 per unit). As shown in the exhibit, this program variant was the least likely to use the four percent credit alone and the most likely to use the 9 percent credit (with or without a 4 percent for acquisition). The remaining program variants had credit amounts that were more or less comparable, averaging about $2,300 per unit.

Variations in the amount of credit received also reflect the different production activity that has occurrent under the various subsidy mechanisms. The largest use of the credit for acquisition alone has been in conjunction with units having pre-existing subsidies. As noted earlier, simple acquisitions represented about 46 percent of all activity for such developments with most of the remaining units falling into the category of "minor rehab." This pattern suggest that the tax credit per se has not been a major vehicle for addressing the physical needs of these older developments.

The tax credit has had a significantly greater "production" impact under the other subsidy mechanisms. For example, activity under the Farmers Home Program was almost entirely new construction, accounting for about 95 percent of the FmHA units developed thus far. "Credit Only" projects and projects with tenant-based assistance also contained a relatively high mix of newly constructed units (roughly 50 percent) and about half of their remaining units were substantial rehabilitation. Likewise, the Section 8 Moderate Rehab Program has supported a fairly extensive level of renovation. According to our estimates, almost 80 percent of all such units had rehab costs in excess of $10,000 per unit.

Exhibit 2-4

Project Size and Type by Subsidy Mix: 1987 and 1988

	Credit Only	Section 8 Mod Rehab	FmHA	Tenant Based	Pre-existing	Other
Average Project Size (Units)	23	53	30	8	79	30
Distribution of Units By Credit Type						
4 Percent Credit	23.4%	19.9%	100.0%	22.4%	59.1%	43.5%
9 Percent Credit	69.1	57.2	0.0	66.5	19.7	40.0
Both	7.5	22.9	0.0	11.1	21.2	16.5
All Units	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Percent of Units Receiving Credit	87.8%	95.9%	98.3%	93.0%	97.8%	79.5%
Average Credit per Unit ($)	$2,284	$2,528	$1,549	$2,265	$1,353	$2,268
Distribution of Units By Production Type						
New Construction	51.1%	0.0%	94.8%	47.9%	0.0%	36.4%
Major Rehab	16.6	77.9	1.1	20.7	16.4	36.6
Minor Rehab	18.1	15.7	0.8	12.6	33.2	10.3
Acquisition Only	13.7	0.9	3.3	18.6	46.0	16.5
Mixed	0.5	5.5	0.0	0.2	4.4	0.2
All Units	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SOURCE: NCSHA Data.

As shown in the chart, there was not much variation in the proportion of units that qualified for the credit under the different subsidy mechanisms. Farmers Home, Section 8 Mod Rehab, and units with preexisting subsidies had the highest proportions of qualifying tenants, averaging between 96 and 98 percent. As noted earlier, income restrictions under these program variants are typically as stringent as those imposed by the LIHTC; as a result, most of their units would automatically qualify. Credit Only projects and projects with a mix of other subsidies had the lowest proportions of qualifying units, averaging 88 and 80 percent, respectively. However, even in these program variants, the large majority of the units developed thus far have been reserved for low-income use.

2.4 Location of LIHTC Units

Exhibit 2-5 presents information on the location of tax credit units by region and type of market (i.e., central city, suburban, non-metropolitan). It also presents comparable data for the national rental housing stock, as well as for the subset of rental units with: (1) severe or moderate physical deficiencies and (2) tenant rent-to-income ratios in excess of 30 percent. The last two sets of statistics serve as rough indicators of the distribution of housing needs across the country.

In terms of these broad geographic identifiers, the LIHTC program appears to be serving a fairly wide range of housing markets. While the distribution of LIHTC units does not always match the distribution of rental housing units or housing needs across the country, the discrepancies are not pronounced. For example, the proportion of tax credit units in central city neighborhoods is more or less in line with those areas' share of the physically substandard and "unaffordable" rental stock. Based on the affordability measure, non-metropolitan areas appear to be "over-served" at the expense of suburban areas. However, based on the distribution of physically substandard units, the proportions look reasonably good.

The largest and most consistent differentials are related to regional shares. In general, the Northeast appears to be underserved regardless of the specific criteria that is used to measure housing needs. However, this finding could at least in part be explained by the absence of Massachusetts from the 1988 data. The relative rankings of the other regions again change depending on the specific indicator of need employed. For example, the South's share of LIHTC units is high in relationship to its share of total units, but more or less in line with its share of the country's physically substandard stock.

Despite this broad geographic coverage, certain types of markets may still be underserved. Many observers have argued that the tax credit program is significantly more attractive in areas where incomes are relatively high -- thus allowing relatively high project rents -- and construction, land, and operating costs are relatively low -- thus reducing debt service costs and the on-going costs of operations. While the provision of additional subsidies may weaken this inherent bias, there is some concern that the program is underserving markets with the greatest inherent needs.

Exhibit 2-5

Geographic Distribution of LIHTC Units: 1987 and 1988

	LIHTC Units[1]		All Rental Units[2]		
	1987	1988	Total	Rental Units With Physical Problems[2,3]	Units With High Rent-to-Income Ratios
Metropolitan/Non-Metro Areas					
Central Cities	49.8%	54.0%	47.4%	54.3%	52.6%
Suburbs	26.9	23.3	35.7	24.1	33.0
Outside MSAs	23.2	22.7	16.9	21.6	14.4
All Units	100.0%	100.0%	100.0%	100.0%	100.0%
Region					
Northeast	15.4%	17.5%	22.9%	26.0%	23.5%
Midwest	22.9	26.2	23.1	14.5	22.1
South	42.7	39.0	31.6	45.6	30.3
West	19.1	17.3	22.4	13.9	24.0
All Units	100.0%	100.0%	100.0%	100.0%	100.0%

[1] SOURCE: NCSHA data.

[2] SOURCE: 1985 American Housing Survey.

[3] Includes units with "severe" to "moderate" physical problems as defined by the U.S. Bureau of the Census.

[4] Gross rent-to-income ratio exceeds 30 percent.

To gain some perspective on this issue, all U.S. counties were ranked according to their median income. A series of income cut-offs were then established which distributed the U.S. population into three equal-sized groups representing "high," "medium," and "low" income areas.[3] Counties were also classified into "low," "medium," and "high" cost areas using two alternative apporoaches.

The first approach was based on the R.S. Means Index of Construction Costs for 1987. This procedure has two inherent limiatations. First, the R.S. Means Index is restricted to approximately 150 metropolitan areas. As a result, counties not included in the survey were assigned an index value equal to the (unweighted) state-wide mean for all included MSAs. This procedure may systematically over-estimate costs in non-metropolitan areas where wage rates are typically low.

In addition, the Means index focuses on the one component of project costs -- namely, construction wages and materials costs -- that the LIHTC was at least partially designed to address. With the 9 percent credit, for example, a dollar increase in construction costs will be offset by a $0.70 increase in the amount of credits received, while a dollar increase in the cost of land or the cost of operations will receive no compensating offset. As a result, a construction index alone may not adequately capture the long-term cost constraints that are actually faced by project developers.

The second approach relies on the HUD Fair Market Rent (FMR) to identify high cost areas. This procedure also has limitations. Even if markets were in long-term equilibrium, variations in the FMRs could reflect variations in the quantity of housing consumed in different areas, as well as variations in underlying operating and debt service costs. And, in the short term, excess demand or supply constraints could well lead to patterns that are only loosely related to variations in the underlying capital and labor costs that are faced by project developers.

Exhibit 2-6 presents the distribution of the U.S. population when counties are classified according to income and construction costs (as measured by the Means index). As shown in the chart, incomes and construction costs tend to move together, e.g., counties with high incomes tend to be high cost areas, and vice versa. As a result, 52 percent of the population lives in areas lying along the main diagonal, where costs and incomes are roughly in

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[3] The 1987 median family income cut-off for high income counties was $34,900; $30,000 to $34,900 for median income counties; and below $30,000 for low income counties.

Exhibit 2-6

Distribution of the U.S. Population by County Income and Construction Costs

	High Income	Average Income	Low Income	Total
High Construction Costs	17.9%	12.3%	3.6%	33.8%
Average Construction Costs	10.6%	13.3%	9.0%	32.9%
Low Construction Costs	4.7%	7.8%	20.8%	33.3%
Total	33.2%	33.4%	33.4%	100.0%

SOURCES: City and County Data Book.
R.S. Means.

line.[4] The remainder of the population is about evenly divided between areas whose relative incomes and construction costs place them above or below the main diagonal.

Exhibit 2-7 presents comparable statistics for counties when costs are defined by the applicable FMR. While the overall patterns are similar to those depicted in the previous chart, the classification of individual counties changes depending on the cost criterion employed. For example, only 38 percent of the population residing in "high cost/low income" counties as measured by the Means Construction Index are similarly classified when the FMR is used instead. In addition, when the FMR is used to measure local costs the extremes become less important, i.e., fewer people live in "high cost/low income" and "low cost/high income" areas.

Exhibit 2-8 shows the proportion of 1987 and 1988 tax credit units that received additional subsides stratified by markets as defined by the two income/cost criteria. To simplify the presentation, the market classifications have been collapsed into three categories: (1) markets with "favorable" conditions, defined as those where incomes are high in relationship to costs (i.e., the three cells below the main diagonal in Exhibits 2-6 and 2-7); (2) markets with "average" conditions, defined as those where costs are roughly in line with incomes (i.e., the three cells along the main diagonal); and (3) markets with "unfavorable" conditions, defined as those where incomes are low in relationship to costs (i.e., the three cells above the main diagonal).

The patterns are fairly similar regardless of the cost criteria employed, although some noticeable differences arise in the two years considered. The lowest use of additional subsidies occurs in "favorable" housing markets where construction costs or FMRs are low in relationship to household income. However, even in such areas, the majority of tax credit units received some form of additional assistance. Areas classified as having "unfavorable" market conditions based on construction costs have the highest subsidy rates in 1987, but are comparable to "average" markets in 1988. The opposite pattern occurs when FMRs are used, i.e., subsidy rates in unfavorable areas are lower than the average market in 1987, but considerably higher in 1988.

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[4] To a certain extent, the Section 8 Income Limits already reflect an adjustment for construction costs. Areas in which market rents are high in relationship to median family income can (and do) receive an increase in the income cut-off employed; however, no area may have an eligibility cut-off that exceeds the national median family income. Similarly, if rents are relatively low in relationship to area incomes, the cap may be reduced. Presumably, if this adjustment mechanism were precise and if rents were highly correlated with construction costs, the vast majority of counties would lie along the main diagonal in Exhibit 2-6. However, as shown in the chart, about 48 percent of the population lives in areas where income limits are out-of-line with construction costs.

Exhibit 2-7

Distribution of the U.S. Population by County Income and Fair Market Rent

	High Income	Average Income	Low Income	Total
High FMRs	20.8%	10.5%	1.4%	32.7%
Average FMRs	12.0%	14.0%	7.6%	33.6%
Low FMRs	0.4%	8.9%	24.4%	33.7%
Total	33.2%	33.5%	33.3%	100.0%

SOURCES: City and County Data Book.
U.S. Department of Housing and Urban Development.

Exhibit 2-8

Proportion of LIHTC Units Receiving Additional Subsidies by Market Type

	1987	1988
CONSTRUCTION COST/INCOME MIX		
Favorable[1]	0.74	0.71
Average[2]	0.86	0.78
Unfavorable[3]	0.92	0.78
FMR/INCOME MIX		
Favorable[1]	0.70	0.58
Average[2]	0.89	0.80
Unfavorable[3]	0.84	0.88
ALL UNITS	0.83	0.75

SOURCE: NCSHA Data.

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[1] Includes: average cost/high income; low cost/average income; low cost/high income.

[2] Includes: low cost/low income; average cost/average income; high cost/high income.

[3] Includes: high cost/average income; average cost/low income; high cost/low income.

The data presented in the chart also reveal a marked decline in proportion of units receiving additional subsidies in most market types. This trend reflects the overall increase in the number of "credit only" units that occurred between 1987 and 1988. When markets are classified by their construction costs, the drop in the proportion of subsidized units was most pronounced in "unfavorable" areas.

Exhibit 2-9 presents additional information on the distribution of tax credit units across the three market types when construction costs are used to identify high cost areas.

- The first row depicts the distribution of the total population;
- The next six rows present the distribution of tax credit units, distinguishing between "credit only" units and units receiving additional public subsidies; and
- The last six rows present a series of concentration ratios measuring the extent to which the various market types are receiving their "fair share" of tax credit units.

Concentration ratios were derived by dividing the proportion of tax credit units within each market type by the proportion of the U.S. population residing in such areas. Values below one imply that the markets in question are being undeserved. Conversely, values above one suggest that a given market type is receiving more than its proportionate share of tax credit allocations.

As evident from the chart, a disproportionate number of tax credit units are located in areas where construction costs are relatively low in relationship to household income (column 1). This pattern is particularly striking for projects receiving no other form of government subsidy. For example, in 1987, about 54 percent of all "credit only" units were in "favorable" housing markets. However, only about 23 percent of the U.S. population resided in such areas. This discrepancy led to a concentration ratio of 2.35 (= 54.3/23.1). Although the pattern is less pronounced, units with other subsidies are also over represented in these areas.

The figures in the chart also suggest a tendency for markets where construction costs are high in relationship to household income to be undeserved by the LIHTC. Again, the pattern is most pronounced for units developed without additional subsidies. About 25 percent of the population lives in areas with a generally unfavorable mix of income levels and construction costs. Not surprisingly, only 10 percent of "credit only" projects were located in these areas in 1987, or about 40 percent of the number expected on a per capita basis alone.

Exhibit 2-9

Distribution of Tax Credit Units by Market Type Based on Construction Costs: 1987 and 1988

	Market Conditions			
	Favorable[1]	Average[2]	Unfavorable[3]	Total
Distribution of U.S. Population	23.1%	52.0%	24.9%	100.0%
Distribution of Tax Credit Units				
1987 Units				
Credit Only	54.3%	36.1%	9.6%	100.0%
Other Subsidies	32.0	44.9	23.1	100.0
All 1987 Units	35.8%	43.3%	20.8%	100.0%
1988 Units				
Credit Only	39.5%	46.4%	14.2%	100.0%
Other Subsidies	31.2	52.3	16.5	100.0
All 1988 Units	33.3%	50.9%	15.9%	100.0%
Concentration Ratio[4]				
1987 Units				
Credit Only	2.35	0.69	0.39	NA
Other Subsidies	1.39	0.86	0.93	NA
All 1987 Units	1.55	0.83	0.84	
1988 Units				
Credit Only	1.71	0.89	0.57	NA
Other Subsidies	1.35	1.01	0.66	NA
All 1988 Units	1.44	0.98	0.64	

SOURCE: NCSHA Data.

[1] Includes: average construction cost/high income; low construction cost/average income; low construction cost/high income.

[2] Includes: low construction cost/low income; average construction cost/average income; high construction cost/high income.

[3] Includes: high construction cost/average income; average construction cost/low income; high construction cost/low income.

[4] Derived by dividing the relevant proportion of tax credit units by the proportion of the U.S. population residing in each area.

In 1987, the provision of additional subsidies to tax credit units substantially weakened the link between negative market conditions and low program production. As shown in the chart, the concentration ratio for assisted units in unfavorable markets was actually higher (0.93) than that observed in areas where incomes and costs were more or less in line (0.86). As a result, the concentration ratio for all tax credit units in unfavorable markets (i.e., with and without additional subsidies) was about the same as that observed in the "average" housing market (84 percent).

However, conditions changed dramatically in 1988. As previously described, the proportion of units receiving additional subsidies declined in all market types, but the drop was most pronounced in areas with unfavorable development conditions. Perhaps as a result of this decline, the share of tax credit units in these market types fell from 21 to 16 percent, producing a concentration ratio of 64 percent in the second year. This ratio is only about 65 percent of level observed in the "average" housing market (0.98), and only 44 percent of the level achieved in low cost, high income areas (1.44). Apparently, as the proportion of "credit only" units has grown -- and as a larger number of projects were developed specifically for the tax credit program -- a smaller proportion of overall production has occurred in these hard-to-serve areas.

Exhibit 2-10 presents comparable data based on markets defined by their FMR/Income mix. As before, the data suggest that "favorable" markets are receiving an above average share of tax credit units due to their heavy concentration of credit only units in these areas. However, "unfavorable" and "average" markets fare about the same even when units without additional subsidies are considered.

2.5 Summary

Overall, some 128,000 units were completed during the first two years of the Tax Credit program. The bulk of activity occurred in the second year, after states, developers, and syndicators become more familiar with the credit and after federal regulations clarified a number of potentially important issues and extended the period of time that developers had to put their buildings into service.

Most of the projects developed to date have been relatively small. Four out of every 10 developments has 10 or fewer units, and one out of every four is a single-family home. However, the distribution of tax credit units by project size is much more skewed in favor of larger developments. Single-family homes represent less than one percent of all tax credit units, while units in projects with more than 100 units account for over 40 percent of the total stock.

Most tax credit units have involved new construction (44 percent) or rehabilitation in excess of $10,000 (26 percent). Another 15 percent had renovation costs of between $2,000 and $10,000 per unit. Only about 13 percent of the units developed in the first two years of the program were simple acquisitions, which were made ineligible for the program at the end of 1989.

Exhibit 2-10

Distribution of Tax Credit Units by Market Type Based on FMRs: 1987 and 1988

	Market Conditions			
	Favorable[1]	Average[2]	Unfavorable[3]	Total
Distribution of U.S. Population	21.3%	59.2%	19.5%	100.0%
Distribution of Tax Credit Units				
1987 Units				
Credit Only	48.3%	35.1%	16.6%	100.0%
Other Subsidies	22.9	58.5	18.6	100.0
All 1987 Units	27.2%	54.6%	18.3%	100.0%
1988 Units				
Credit Only	48.2%	40.1%	11.7%	100.0%
Other Subsidies	21.5	51.1	27.4	100.0
All 1988 Units	28.0%	48.4%	23.6%	100.0%
Concentration Ratio[4]				
1987 Units				
Credit Only	2.27	0.59	0.85	NA
Other Subsidies	1.08	0.99	0.95	NA
All 1987 Units	1.28	0.92	0.94	
1988 Units				
Credit Only	2.26	0.68	0.60	NA
Other Subsidies	1.01	0.86	1.41	NA
All 1988 Units	1.31	0.82	1.21	

SOURCE: NCSHA Data.

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[1] Includes: average FMR/high income; low FMR/average income; low FMR/high income.

[2] Includes: low FMR/low income; average FMR/average income; high FRM/high income.

[3] Includes: high FMR/average income; average FMR/low income; high FMR/low income.

[4] Derived by dividing the relevant proportion of tax credit units by the proportion of the U.S. population residing in each area.

The average LIHTC project has been allocated about $55,500 in total credits, or $1,976 per unit. However, in addition to the credit, projects developed under the program have received a broad array of other federal, state, and local subsidies. In 1987, only about 17 percent of all LIHTC units had the tax credit as their only source of assistance. While this fraction rose to 25 percent in 1988, three out of every four tax credit units rely on some other form of government subsidy.

Farmers Home projects and projects with a mix of "other subsidies" represent the most important subsidy mechanisms, with each accounting for roughly 25 percent of the production achieved thus far. Section 8 subsidies represent relatively small shares (7 percent for the Moderate Rehabilitation program and only 4 percent for certificate and voucher units in 1988). Finally, about 15 percent of all units were developed under previous subsidy programs (e.g., Section 236 or Section 8 New Construction or Substantial Rehabilitation).

In general, the LIHTC program appears to be serving a fairly wide range of housing markets. However, a disproportionate share of all tax credit units are located in areas where construction costs are relatively low in relationship to household income. This pattern is particularly striking for projects receiving no other form of government subsidy. For example, in 1987, about 54 percent of all "credit only" units were in these "favorable" housing markets. However, only about 23 percent of the U.S. population resided in such areas.

The data also suggest that the LIHTC is underserving markets where construction costs are high in relationship to household income. Again, the pattern is most pronounced for units developed without additional subsidies. About 25 percent of the population lives in areas with a generally unfavorable mix of income levels and construction costs. Not surprisingly, only 10 percent of "credit only" projects were located in these areas in 1987, or about 40 percent of the number expected on a per capita basis alone.

The provision of additional subsidies to tax credit units substantially weakened the link between negative market conditions and low program production in 1987. However, the proportion of units receiving additional subsidies declined in the following year, particularly in areas with unfavorable development conditions. As a result of this decline, the overall share of tax credit units in these hard-to-serve market types fell from 21 percent in 1987 to 16 percent in 1988.

Chapter 3

Characteristics of LIHTC Tenants

This chapter describes the characteristics of the tenants who reside in LIHTC units, including their incomes and household size. It also examines the affordability of LIHTC units, the relationship of project rents to the local FMR, and the extent to which project residents receive additional rental subsidies such as Section 8 Certificates and Housing Vouchers.

The analysis is based on information obtained from two different sources. We begin by examining data obtained from the NCSHA file describing the income election of the project and the proportion of qualifying units. We then examine characteristics of individual tenants and units based on information obtained through our survey of project developers. These data provide information on income, household size, bedroom count, gross monthly rent, and subsidy status for a random sample of 1393 tenants in 89 LIHTC projects. A description of the study sample, including its limitations, is provided in Appendix A.

3.1 Targeting Elections

When applying for the credit, LIHTC developers must elect to meet one of two targeting criteria: either 20 percent of the project residents must have incomes below 50 percent of the local median (adjusted for family size) or 40 percent of the residents must have incomes below 60 percent of the local median.[1] Projects that fail to meet their designated targeting election risk recapture of their tax credit benefits.

The income election also establishes the maximum rent (including utilities) that can be charged to qualifying tenants. For tenants that do not receive additional rental subsidies (e.g., Section 8 Certificates or Vouchers), this maximum is set at 30 percent of the elected income cut-off (i.e., 30 percent of 50 or 60 percent the local median, adjusted for the size of the household). For tenants receiving a rental subsidy, only the tenant contribution is subject to the rental ceiling. As a result, units with rental subsidies can have significantly higher rents than those that would otherwise be allowed under the LIHTC.

Exhibit 3-1 presents information on the proportion of LIHTC projects and units that selected the 40/60 and the 20/50 income targeting elections by credit year. The exhibit also presents information on the actual proportion of units that qualified for the credit in both types of developments. As shown in the chart, the vast majority of LIHTC projects and units have established 60 percent of the local median as their applicable income cut-off. Given the fact that relatively few mixed income projects have been developed under the program, the predominance of the 40/60 election is not surprising. If the developer intends to claim the credit on most of the units in his

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[1] A special exemption is available for New York City: only 25 percent of units need to fall below 60 percent of the median.

Exhibit 3-1

Income Election: 1987 and 1988

	1987	1988
DISTRIBUTION OF PROJECTS BY INCOME ELECTION		
20/50	7.6%	4.2%
40/60	92.4	95.8
All Projects	100.0%	100.0%
DISTRIBUTION OF UNITS BY INCOME ELECTION		
20/50	11.6%	8.2%
40/60	88.4	91.7
All Units	100.0%	100.0%
PERCENT OF UNITS THAT QUALIFY FOR THE TAX CREDIT		
Units in 20/50 Projects	80.2%	56.1%
Units in 40/60 Projects	93.1	94.0
All Units	91.6%	90.8%

SOURCE: NCSHA data.

project, the 40/60 election enables him to charge proportionately higher rents. However, even in 20/50 projects, the average proportion of qualifying units is three to four times as high as the minimum threshold required.

According to our estimates, the tendency towards the 40/60 income election shows relatively little variation by subsidy type (see Exhibit 3-2). Section 8 Moderate Rehab units had a lower proportion of 40/60 elections in both years; however, since such projects are already restricted to occupancy by very low-income households (i.e., 50 percent of the local median), the income election does not impact the kinds of households that are eligible for occupancy or the maximum rents that can be received. Units with a mix of other subsidies or tenant-based rental assistance also have a somewhat lower incidence of 40/60 elections although the differences are not pronounced. As described in Chapter 2, the first type of development tended to have the lowest concentration of qualifying households.

3.2 Tenant Incomes

Exhibit 3-3 presents information on the income of project residents, where income is measured in both absolute terms and in relationship to the applicable local median (adjusted for household size). It also presents information on the proportion of LIHTC tenants that are receiving additional rental subsidies through Section 8, Section 521 (FmHA), or other state or local programs. Data were obtained from the ICF Developer Survey, and refer to 1,393 individual tenants in 89 separate developments.

According to our estimates, the average project resident has an income of about $11,900 a year. However, the distribution of household income was highly skewed towards the lower end. Twenty-three percent of all households in LIHTC projects had an income that was less than $5,000 per year and about 48 percent had incomes below the established poverty threshold for a family of three ($9,435 in 1988). Thus, the Tax Credit Program is clearly serving a relatively large number of households with incomes that are well below established poverty cut-offs.

Exhibit 3-3 also shows the income of LIHTC residents in relationship to the applicable local median. In deriving these ratios, the local median was adjusted to account for the household's size.[2] We also used area medians that reflected the optional use of a higher standard based on the statewide median for non-metropolitan areas, as well as any special exemptions established by HUD in determining income-cutoffs under Section 8.[3] A ratio of 60 percent represents the maximum allowable income that would qualify the unit for the credit. However, in identifying qualifying households for

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[2] To calculate the adjusted median, the median income of 4-person households was multiplied by the following factors: 0.70 (one person); 0.80 (2 persons); 0.90 (3 persons); 1.00 (4 persons); 0.08 (5 persons); 1.16 (6 persons); 1.24 (7 persons); 1.32 (8+ persons).

[3] Such exemptions are designed to compensate for areas which, according to HUD, have either high median incomes that do not reflect the incomes of the area's poor or extremely high housing costs in relationship to income.

Exhibit 3-2

Income Election by Subsidy Type: 1987 and 1988

	1987	1988
PERCENT OF PROJECTS WITH 40/60 ELECTION		
Credit Only	95.8%	97.3%
Tenant-Based Subsidies	90.8	97.4
Section 8 Mod Rehab	61.5	87.5
FmHA 515	98.7	98.2
Pre-Existing Subsidies	92.1	94.6
Other Subsidies	93.1	92.2
All Projects	92.4%	95.8%
PERCENT OF UNITS WITH 40/60 ELECTION		
Credit Only	96.5%	96.9%
Tenant-Based Subsidies	79.3	92.3
Section 8 Mod Rehab	66.9	86.3
FmHA 515	99.1	98.2
Pre-Existing Subsidies	90.0	94.7
Other Subsidies	86.0	79.8
All Units	88.4%	91.7%

SOURCE: NCSHA data.

Exhibit 3-3

Income of LIHTC Residents (1987 and 1988)

PROPORTION OF HOUSEHOLDS RECEIVING RENTAL ASSISTANCE	
Qualifying Households	46.1%
Non-Qualifying Households	1.9
All Households	45.5%
TOTAL HOUSEHOLD INCOME ($)	
1. Distribution of Households by Income	
<$5,000	22.8%
5,000 - 7,499	14.7
7,500 - 9,999	13.7
10,000 - 12,499	18.5
12,500 - 14,999	10.8
15,000 - 19,999	9.8
20,000 - 24,999	2.2
25,000 - 29,999	1.9
+30,000	5.6
All Households	100.0%
2. Average Household Income	
Qualifying With Rental Subsidies	$ 5,981
Qualifying Without Rental Subsidies	11,404
Non-Qualifying	33,114
All Households	$11,898
ADJUSTED INCOME ÷ APPLICABLE AREA MEDIAN	
1. Distribution of Households by Income Ratio	
Under 31% of Applicable Median	35.9
31-40% of Applicable Median	15.5
41-50% of Applicable Median	16.2
51-60% of Applicable Median	19.9
61-80% of Applicable Median	3.2
Over 80%	9.2
All Households	100.0%
2. Average Income Ratio by Household Type	
Qualifying With Rental Subsidies	24.5%
Qualifying Without Rental Subsidies	44.5
Non-Qualifying	122.8
All Households	46.1%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

purposes of this analysis, we rounded up to 61 percent to allow for special adjustments (e.g., medical expenditures) that could be applied to a household's income in determining it eligibility for Section 8.

According to our estimates, about 68 percent of all tenants residing in LIHTC projects are "very low income" households (i.e., with incomes below 50 percent of the applicable area median). About 36 percent of all households have incomes below 30 percent of the applicable median. In contrast, only about 20 percent of all LIHTC residents have incomes which are relatively close to the maximum allowed (i.e., between 50 and 60 percent of the applicable median), and only about 12 percent have incomes that fall above the 60 percent eligibility threshold.[4]

One reason that the Tax Credit program has been able to serve households at the lowest end of the income scale has been its extensive use of rental assistance. According to our estimates, about 46 percent of all project residents, primarily qualifying households, receive a direct rental subsidy. Qualifying households with rental assistance have an average income of $5,981, compared to $11,404 for qualifying households without assistance and $33,114 for non-qualifying residents of tax credit projects.

The average ratio of household income to the applicable income cut-off also varies across these household types. Qualifying households with rental assistance have incomes that are about 25 percent of the local median (or about 40 percent of the applicable cut-off that would qualify the unit for the credit). Qualifying households without additional assistance have incomes that are almost twice as high, averaging about 45 percent of the local median (or 73 percent of the applicable cut-off). Finally, non-qualifying households have average incomes that are about 23 percent above the local median. While this makes them ineligible for the Tax Credit, one out of every four non-qualifying tenants are "low-income" households as defined by HUD (i.e., their adjusted incomes are below 80 percent of the local median).

There are two basic explanations for the lower incomes observed among qualifying households receiving rental subsidies. To begin with, program regulations governing eligibility for Section 8 and Section 521 assistance generally restrict participation to very low-income households (i.e., households with incomes below 50 percent of the applicable median). Thus, while exceptions are made for special circumstances (for example, to avoid displacement), residents receiving additional assistance face stricter eligibility criteria than those which may qualify for the LIHTC. In addition, project managers will have an incentive to select households with incomes relatively close to the allowable maximum in the absence of rental subsidies, since it ensures that the maximum rent that can be charged to qualifying

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[4] Households with ratios of 61 percent have been included in the 50 to 60 percent category to allow for rounding errors. Even with this adjustment, the estimated fraction of qualifying households derived from the survey data (87 percent) is somewhat below the average generated from the NCSHA data (91 percent). This could reflect a sampling error in the ICF developers survey. Alternatively, it could reflect the fact that many developments in the NCSHA data base are not fully occupied.

tenants is also affordable to the unit's occupants. In contrast, the receipt of rental assistance effectively breaks the link between affordability and the rent potential of the unit.

Exhibit 3-4 presents additional information on the relative incomes of tenants and the receipt of rental subsidies by the project's subsidy type. According to these estimates, the Section 8 Moderate Rehabilitation program has served by far and away the lowest income households. As shown in the chart, the average income of tenants in these projects is only 15 percent of the local median. However, virtually all of the tenants residing in these projects receive a rental certificate. Projects with pre-existing subsidies also serve a relatively high proportion of very low-income households although, again, about 86 percent of their residents also receive rental subsidies.

The remaining project types typically serve a lower proportion of very low-income households, but are at the same time less heavily dependent on rental subsidies. Projects with a mix of "other" subsidies appear to serve the highest income households overall. This finding primarily reflects their higher concentration of non-qualifying households. Only 65 percent of the households residing in these developments have incomes that make the units eligible to receive the credit. However, qualifying households within those developments have incomes that are more or less in line with most of the other program variants.

Credit only projects are notable in their ability to house relatively low-income families without the provision of rental assistance. However, their overall concentration of very low-income households is well below the norm. Indeed, when only qualifying units are considered, residents in credit only units appear to have the highest average incomes of all the program variants.

As described in Chapter 2, credit only projects tend to be located in areas where qualifying incomes are relatively high and costs are relatively low. Thus, their ability to serve qualifying households without additional rental subsidies may at least partially reflect the more favorable economic conditions that these projects face, as well as the somewhat higher incomes of their occupants. However, as described in more detail below, rents in such developments are also well below their designated maxima, and tenant rent-to-income ratios tend to be fairly high.

3.3 Household Size and Crowding

Exhibit 3-5 presents information on the size of households residing in LIHTC projects. As shown in the chart, the typical LIHTC household was relatively small, averaging about 2 individuals. Some 41 percent of all qualifying units were occupied by persons living alone; another 31 percent, by two-person households; and another 21 percent, by households of three. Only about 7 percent of the units were occupied by large households, defined as those with 4 or more members. According to our estimates, there is not much variation in household size by the receipt of rental subsidies or the qualifying status of the household.

Exhibit 3-4

Rental Subsidies and Relative Incomes by Program Variant (1987 and 1988)

	All Households	All Qualifying Households
PERCENT OF TENANTS WITH RENTAL SUBSIDIES		
Credit Only	0.0%	0.0%
Tenant-Based Assistance	46.0	46.4
Section 8 Mod Rehab	100.0	100.0
FmHA 515	44.5	39.5
Preexisting Subsidies	85.9	86.1
Other Subsidies	32.6	38.2
All Units	45.5%	46.1%
AVERAGE INCOME AS A PERCENT OF THE LOCAL MEDIAN		
Credit Only	46.6%	43.3%
Tenant-Based Subsidies	35.0	33.6
Section 8 Mod Rehab	14.7	14.7
FmHA 515	39.6	38.2
Preexisting Subsidies	28.1	28.0
Other Subsidies	73.6	38.3
All Units	46.1%	35.3%
PERCENT OF TENANTS WITH VERY LOW INCOMES		
Credit Only	55.0%	60.4%
Tenant-Based Subsidies	66.4	69.0
Section 8 Mod Rehab	99.5	99.5
FmHA 515	75.0	78.5
Preexisting Subsidies	92.5	92.7
Other Subsidies	43.1	66.6
All Units	67.6%	76.5%
PERCENT OF TENANTS THAT QUALIFY FOR THE CREDIT		
Credit Only	91.1%	
Tenant-Based Subsidies	96.2	
Section 8 Mod Rehab	100.0	NA
FmHA 515	95.6	
Preexisting Subsidies	99.7	
Other Subsidies	64.7	
All Units	87.6%	

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Unlike a number of HUD programs, the LIHTC does not establish occupancy standards for qualifying households. As a result, there has been some concern that the program would lead to over-crowding. Households receiving rental subsidies should not be affected since rent subsidy programs typically impose occupancy standards on each unit and since allowable rents are not dependent on household size. However, before the recent regulatory changes, the rent that could be charged to qualifying tenants without assistance would increase with the household's size. Since the applicable income cut-off is higher for larger households, so was the maximum allowable rent on any unit.

Exhibit 3-5 presents statistics on the proportion of LIHTC tenants residing in units that exceeded designated Section 8 occupancy standards.[5] According to our estimates, over-crowding does not appear to be a significant problem, although qualifying households without additional rental assistance are worse off than other residents. About 98 percent of all qualifying units meet Section 8 occupancy standards. Crowding is virtually non-existent among qualifying households with rental assistance and among non-qualifying households. However, about 4 percent of all qualifying households without additional assistance reside in units that exceed Section 8 occupancy standards. An examination of the incidence of overcrowding across the different program variants reveals that virtually all of the problem occurs in credit only projects. According to our estimates, about 10 percent of the qualifying tenants in such developments live in over-crowded conditions.

3.4 Project Rents

Exhibit 3-6 presents information on the rent structure of LIHTC projects. As shown in the chart, the average LIHTC unit rented for $347 per month, including utilities. Rents of non-qualifying units averaged $532 per month, about 60 percent more than the average rent of qualifying units ($334 per month). Among qualifying units, those which were occupied by households with rental assistance had rents that were about 9 percent above the rents charged to unassisted households (i.e., $347 versus $317). Again, this pattern is not surprising, given the less restrictive rent requirements that are applicable to units with rental assistance.

The average gross rent of efficiencies occupied by qualifying households was about $235 per month. One-bedroom apartments were about $40 more on average, or some $272 per month. The average rents of larger units increased by about $100 for each additional bedroom, ranging from $363 per month for two-bedroom apartments to $551 per month for units with 4 or more bedrooms.

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[5] The Section 8 occupancy standards are as follows:

Bedroom	Max. Number of Persons
0	1
1	2
2	4
3	6
4	8

Exhibit 3-5

Household Size and Occupancy Standards: 1987 and 1988

AVERAGE HOUSEHOLD SIZE

Qualifying With Subsidies	2.0 persons
Qualifying Without Subsidies	1.9
Non-Qualifying	2.0
All Households	1.9

DISTRIBUTION OF QUALIFYING HOUSEHOLDS BY SIZE

1 person	41.3%
2 persons	30.5
3 persons	21.2
4 persons	6.1
5 or more	0.9
All Qualifying Households	100.0%

PERCENT OF UNITS EXCEEDING
SECTION 8 OCCUPANCY STANDARDS

1. By Receipt of Rental Assistance

Qualifying With Subsidies	0.0%
Qualifying Without Subsidies	3.6
Non Qualifying	0.0

2. By Project's Subsidy Mix
(Qualifying Households)

Credit Only	10.2%
Tenant-Based Assistance	0.0
Section 8 Mod Rehab	0.1
FmHA 515	0.3
Preexisting Subsidies	0.0
Other Project-Based Assistance	0.4

3. All Qualifying Households 2.0%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 3-6

Distribution of Project Rents: 1987 and 1988

AVERAGE GROSS MONTHLY RENT	
Qualifying Units with Subsidies	$347
Qualifying Units without Subsidies	$317
Non-Qualifying Units	$532
All Units	$359
GROSS MONTHLY RENT BY BEDROOM COUNT (QUALIFYING HOUSEHOLDS)	
0 Bedroom	$235
1 Bedroom	$272
2 Bedroom	$363
3 Bedroom	$474
4 or More	$551
DISTRIBUTION OF UNITS BY GROSS MONTHLY RENT (QUALIFYING HOUSEHOLDS)	
<$200	10.2%
$200-$299	29.2
$300-$399	33.8
$400-$499	20.4
$500-$599	5.0
$600-$699	0.4
Over $700	1.0
	100.0%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

As shown in the chart, 75 percent of all tax credit units occupied by qualifying tenants had rents below $400 per month.

Exhibit 3-7 compares the rents of LIHTC units to the applicable FMR. Not surprisingly, the average ratio varied between qualifying and non-qualifying units. The typical unit that qualified for the LIHTC rented for about 90 percent of the local FMR, compared to an average ratio of about 124 percent for non-qualifying units. Qualifying units occupied by households without additional rental assistance had the lowest relative rents, averaging about 86 percent of the applicable FMR.

According to our estimates, the underlying distribution of the rent-to-FMR ratios for qualifying units showed a considerable amount of variation with about two-thirds of all qualifying units having rents below the applicable FMR. The great majority fell in the 0.7 to 1.00 range. Seven percent of the qualifying units developed thus far had rents that were more than 20 percent above the FMR, the maximum allowable rent under the Section 8 Moderate Rehabilitation Program.

Exhibit 3-8 compares each unit's rent to the applicable rental ceiling established by the LIHTC defined as 30 percent of the elected income cut-off adjusted for the household's size. One should recognize that the rent restrictions established by the tax credit program apply only to qualifying households who are not receiving rental assistance. For qualifying households with rental assistance, only the tenant's rent contribution (typically 30 percent of adjusted income) must be below the established ceiling. However, depending on the specific subsidy employed, other types of rent restrictions may apply.

As shown in the chart, the relationship between actual and ceiling rents varied between qualifying and non-qualifying households, and between qualifying households with and without rental assistance. Not surprisingly, the average non-qualifying unit had a rent that was about 32 percent higher than the amount that could be charged if a credit had been claimed. Qualifying units without assistance had rents that were about 83 percent of the allowable maxima, while qualifying units with rental subsidies had rents that were considerably closer to the LIHTC ceiling (91 percent).

The distribution of rents in qualifying units was markedly different for households with and without assistance. About 13 percent of qualifying households without assistance had rents above the calculated cut-off. However, all but a handful fell in the 1.01 to 1.10 range, and these households had an average ratio of 1.04. As a result, this pattern may simply reflect reporting errors (for example, in projecting utility costs). In contrast, some 42 percent of all qualifying units with rental assistance had rents above the estimated cut-off, and the differential was typically 10 percent or more.

Exhibit 3-9 presents information on relative rents by the project's subsidy type. The first column presents information on all occupied units, while the second is restricted to units that are occupied by qualifying households. The most noticable difference between the two sets of statistics is found in units with a mix of "other subsidies" which, as previously

Exhibit 3-7

Ratio of Gross Rents to Applicable HUD FMR: 1987 and 1988

AVERAGE RATIO

Qualifying with Rental Subsidies	89.6%
Qualifying without Rental Subsidies	86.1
Non-Qualifying	124.0
All Units	93.0%

DISTRIBUTION OF QUALIFYING UNITS

<.50	7.7%
.51-.60	0.6
.61-.70	5.6
.71-.80	18.1
.81-.90	20.8
.91-1.00	22.6
1.01-1.10	14.7
1.11-1.20	2.7
≥1.20	7.3
All Units	100.0%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 3-8

Ratio of Gross Rent to Maximum Qualifying Rent: 1987 and 1988

I. AVERAGE RATIO

Qualifying with Rental Subsidies	90.6%
Qualifying without Rental Subsidies	82.8
Non-Qualifying	131.7
All Units	92.8%

II. DISTRIBUTION OF QUALIFYING HOUSEHOLDS BY RENTAL RATIO

	All Qualifying Units	Qualifying With Assistance	Qualifying Without Assistance
<0.50	7.9%	16.4%	0.8%
0.51-0.60	7.2	2.3	11.3
0.61-0.70	7.8	3.8	11.1
0.71-0.80	15.8	7.8	22.6
0.81-0.90	14.0	8.4	18.8
0.91-1.00	20.5	19.0	21.7
1.01-1.10	12.1	10.8	13.1
1.11-1.20	7.6	16.0	0.5
>1.20	7.1	15.6	0.0
All Households	100.0%	100.0%	100.0%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 3-9

Relative Rents by Subsidy Mix

	All Units	Qualifying Units
AVERAGE RATIO OF GROSS RENT TO MAXIMUM QUALIFYING RENT		
Credit Only	66.8	66.6
Tenant-Based Subsidies	83.3	82.9
Section 8 Mod Rehab	99.7	90.8
FmHA 515	72.9	72.2
Preexisting	72.1	72.1
Other	90.5	78.2
AVERAGE RATIO OF GROSS RENT TO APPLICABLE HUD FMR		
Credit Only	83.0	82.7
Tenant-Based Subsidies	98.4	98.4
Section 8 Mod Rehab	110.6	101.6
FmHA 515	81.0	80.2
Preexisting	84.5	84.5
Other	108.5	97.1

Source: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

described, have the highest concentration of non-qualifying residents (see Exhibit 3-4).

As shown in the chart, each program variant has an average rent that is below the maximum allowable LIHTC rent. However, the size of the differential varies considerably. The lowest ratios are observed in credit only units, where rents were only about 67 percent of the applicable tax credit ceiling. Since rental assistance is not employed, residents' ability to pay apparently serves as an effective constraint on the owner's ability to charge higher rents.

Affordability is less of an issue for the other program variants since a sizable portion of tenants are subsidized. The highest ratios are observed under the Section 8 Mod Rehab program, which also has the highest concentration of assisted households. Rents in these developments are negotiated with the local PHA, with a ceiling set at 120 percent of the FMR and only the tenant contribution limited by the tax credit ceiling. According to our estimates, the average Section 8 Mod Rehab unit rented for about 110 percent of the FMR, or 10 percent below the Section 8 maximum.

Rents in projects with a mix of other subsidies are also relatively high. However, in this case, the pattern appears to be caused by the higher incomes of project residents, as opposed to the heavy use of rental subsidies. When the data are restricted to qualifying units, the relative rents of units with other subsidies appear to be fairly similar to rents in units with tenant-based assistance, averaging about 80 percent of the allowable maximum and roughly equal to the FMR.

3.5 Rent-to-Income Ratios

Exhibit 3-10 combines information on project rents with information on tenant income. The distributions of gross rent-to-income ratios are presented for: (1) all qualifying households; (2) qualifying households without direct rental assistance; and (3) non-qualifying households. Households receiving a rental subsidy were assumed to have a gross rent-to-income ratio of 30 percent.[6]

As shown in the chart, about two-thirds of all qualifying residents are paying less than 30 percent of their incomes on rent, the affordability standard employed in federally-subsidized housing programs. However, the average gross rent-to-income ratio for qualifying tenants without direct rental subsidies (37 percent) is considerably above the ratio that has been assumed for subsidized households (30 percent). About 60 percent of all

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[6] The developer's survey only provides information on total gross monthly rents. No information was obtained on the size of the tenant contribution for households with rental subsidies. In calculating that contribution under Section 8, factors such as household size, medical expenses, and standardized utility allowances are used to derive an adjusted income figure to which the 30 percent standard is applied. Thus, the 30 percent ratio used in this analysis is an approximation of the rent ratios actually achieved.

Exhibit 3-10

Tenant Gross Rent-to-Income Ratios: 1987 and 1988

AVERAGE GROSS RENT-TO-INCOME RATIO

Qualifying Households With Rental Subsidies	30.0%
Qualifying Households Without Rental Subsidies	37.0
Non-Qualifying Households	21.0
All Households	32.0%

DISTRIBUTION OF HOUSEHOLDS BY GROSS RENT-TO-INCOME RATIO

1. All Qualifying Households

Under 25%	8.1%
26% to 30%	59.9
31% to 35%	12.1
36% to 40%	8.4
41% to 50%	6.1
Over 50%	5.4
All Households	100.0%

2. Qualifying Households Without Rental Subsidies

Under 25%	15.2%
26% to 30%	25.1
31% to 35%	22.6
36% to 40%	15.7
41% to 50%	11.4
Over 50%	10.0
All Households	100.0%

3. Non-Qualifying Households

Under 25%	70.1%
26% to 30%	22.9
31% to 35%	6.8
36% to 40%	0.1
41% to 50%	0.0
Over 50%	0.0
All Households	100.0%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

qualifying households without assistance are paying more than 30 percent of their incomes on rent and about 10 percent pay more than half. Although the rents being paid by such households are typically below the designated maxima, household incomes are also relatively low in comparison to established eligibility cut-offs. As a result, many qualifying households without additional assistance are paying rents that exceed commonly accepted affordability measures.

Exhibit 3-11 presents the average rent-to-income ratios of qualifying tenants stratified by their relative income and the project's subsidy mix. As shown in the chart, rent-to-income ratios vary with household income, with the highest ratios observed among the poorest residents. This pattern is quite pronounced for qualifying households that do not receive rental assistance. In the absence of rental subsidies, households with incomes below 30 percent of the local median have rent-to-income ratios that average about 67 percent. Unassisted households in the next highest income category (i.e., between 31 and 40 percent of the applicable median) pay about 39 percent of their incomes on housing. Thus, while affordability does not appear to be a problem for the average tenant in the remaining income categories, it clearly is a significant problem for the lowest income groups.

Average rent-to-income ratios show significantly less variation by program variant. The highest ratios occur in projects with tenant-based rental assistance. As shown in a previous chart (Exhibit 3-9), rents in these projects are relatively high for qualifying tenants, averaging about 83 percent of the applicable ceiling and 98 percent of the FMR, while tenant incomes are somewhat below the norm (see Exhibit 3-4). Despite the above average rents, only 46 percent of the residents receive rental assistance. As a result, rent-to-income ratios are relatively high.

One perhaps unexpected pattern is the 33 percent average ratio observed among residents of credit only projects, none of whom are receiving rental assistance. While the incomes of qualifying tenants are somewhat above the program-wide norm, this result was at least in part achieved by setting project rents considerably below the maximum allowed. As shown in Exhibit 3-9, the average rents in credit only projects were only 67 percent of the maximum allowed, which is considerably above the ratio observed among other types of qualifying units.

3.6 Summary

Despite some initial expectations to the contrary, the Tax Credit Program is clearly serving its intended beneficiaries. Ninety-one percent of the units that have been developed under the program have been set aside for low income use, and nine out of every ten projects have 100 percent of their units qualify. The average resident of a qualifying unit had an annual income of $8,900 in 1989, or about 35 percent of the applicable area median. About 36 percent of all residents have incomes below 30 percent of the local median.

One reason that the Tax Credit Program has been able to serve such low income households is its extensive use of rental assistance. Forty-six percent of all project residents receive a voucher or certificate. Such households have an average income of $5,981, compared to $11,400 for

Exhibit 3-11

Average Gross Rent-to-Income Ratios of Qualifying Households by Income and Subsidy Mix: 1987 and 1988

AVERAGE RATIO BY RELATIVE INCOME

1. All Qualifying Tenants

Under 30% of Applicable Local Median	36.1%
31% - 40% of Applicable Local Median	35.0%
41% - 50% of Applicable Local Median	32.4%
51% - 60% of Applicable Local Median[1]	29.0%

2. Qualifying Tenants Without Assistance

Under 30% of Applicable Local Median	66.5%
31% - 40% of Applicable Local Median	38.8%
41% - 50% of Applicable Local Median	32.7%
51% - 60% of Applicable Local Median	28.9%

AVERAGE RATIO BY SUBSIDY MIX (QUALIFYING ONLY)

Credit Only	32.6%
Tenant-Based Subsidies	37.5%
Section 8 Mod Rehab	30.0%
FmHA 515	34.2%
Preexisting Subsidy	31.0%
Other Project-Based Subsidies	35.9%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

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[1] Households with calculated ratios of 61 percent have been included in the 50 to 60 percent category to allow for rounding errors.

qualifying households without assistance, and $33,114 for non-qualifying residents of tax credit projects.

While rents charged to project residents are typically below the allowable ceilings, the discounts are relatively small. Qualifying residents receiving a voucher or certificate pay an average of $347 per month (including utilities) or about 91 percent of the rental ceiling established by the LIHTC. Unassisted households who qualified for the credit pay about $317 per month, or about 83 of the applicable ceiling.

This mild skewing of rents in favor of unassisted tenants has enhanced, but does not ensure the affordability of tax credit units. Thirty-two percent of all qualifying residents had rent-to-income ratios that exceeded 30 percent. Affordability is virtually guaranteed for tenants with rental assistance. However, qualifying households without assistance pay an average of 37 percent of their incomes on rent. About 60 percent of all such households pay more than 30 percent of their incomes on rent, and about 10 percent pay more than half.

Although not a widespread phenomenon, unassisted households also have a higher incidence of over-crowding. About 4 percent of all qualifying households without additional assistance exceed Section 8 Occupancy standards. Most of these residents are in credit only projects where the proportion exceeding occupancy standards is roughly 9 percent. While rent-to-income ratios in these developments are relatively low (about 33 percent on average), at least part of this favorable result has been achieved at the expense of some over-crowding.

Chapter 4

Development and Syndication of Tax Credit Properties

The development of a tax credit project typically involves three distinct players: the developer, who packages the deal and oversees the construction of the project; a syndicator, who sells ownership shares in the project to raise initial capital; and investors, who purchase project interests and receive the benefits of ownership, including the LIHTC.

In some instances, the project developer may assume more than one of these roles. For example, the developer may take the lead in finding outside investors or may own the project outright as a sole proprietor. However, the structure of the tax credit makes the syndication of ownership a virtual necessity in the majority of the cases. The maximum amount of credit that can be taken by an individual is limited to $7,000 per year for investors at the 28% tax rate. Thus, except in the case of very small projects or where corporate investors are involved, interests must be sold to outside investors if the full value of the credit is to be used.

This chapter provides an overview of the process by which tax credit projects are developed and marketed to investors. The data are taken from the ICF developers survey, as well as from a separate survey of project syndicators who participated in the sample developments. The chapter begins with a discussion of possible limitations of the available data. This is followed by a description of the types of developers participating in the tax credit program and the fees that they received. The syndication process is then described, along with the costs associated with its use. Finally, the chapter concludes with a discussion of developer and syndicator perspectives on the credit.

4.1 Limitations of the Survey Data

The analysis presented in this chapter is based on data obtained from a survey of project developers receiving tax credit allocations on or before June 1988. As described in Appendix A, questionnaires were mailed to an initial sample of 364 randomly selected projects. Reasonably complete financial data were obtained in about 29 percent of the cases, or some 104 separate developments.[1]

The relatively low response rate that was achieved in the developer's survey raises issues of potential bias. Although response rates do not appear to be related to measurable characteristics of the project (e.g., production type or subsidy mix), the types of developers who were willing to provide the detailed financial data requested in the survey could well be different from non-respondents. For example, developers of projects with extremely high profit margins may have been less likely to respond.

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[1] Information on development costs was missing in 4 cases. While rates of return could be estimated for these projects (see Chapter 6), they are excluded from the analysis presented here.

Furthermore, the financial data that were obtained tended to vary in content, format, and quality. For example, it is probable that some respondents reporting zero developer or syndication fees included such costs in other categories. In addition, the initial survey data contained numerous instances in which reported sources and uses of funds did not balance precisely. Repeated callbacks to survey respondents enabled us to resolve many apparent inconsistencies. However, some ambiguities remain, particularly with respect to cases in which the amount of money raised exceeded the identified uses of funds.

Given low response rates, ambiguities in some of the data, and the overall small sample size, the information presented in this chapter should be taken as suggestive rather than definitive. Moreover, sampled projects include only those that had received a tax credit allocation or reservation as of June 1988. As such, they reflect very early experience under the Tax Credit Program.[2]

4.2 Tax Credit Developers

The project developer is the central figure in the production of tax credit units. It is the developer who conceives of the project, secures the property, applies for tax credits, arranges project financing, applies for subsidies (if used), and sees that the project gets built. In addition to controlling the development process, many developers continue to manage the property upon completion. Developers may also provide various guarantees to the limited partners, for example, that the project will be completed on budget, that the anticipated amount of credit will be forthcoming, or that project income will be sufficient to meet operating costs.

In return for their efforts, developers typically receive an up-front development fee based on the project's initial development costs. They may also receive additional compensation over the lifetime of the project, for example, a share of the project's cash flow, an annual management fee, or a portion of the proceeds at sale. With the exception of management fees, these various sources of compensation are typically tied to the developer's ownership share.

This section describes the types of developers that have participated in the tax credit program, their previous experience with housing programs, and the fees that they have received. Although the survey attempted to identify other sources of compensation to the project developer -- for example, his ongoing share of the project's cash flow or residual receipts at sale -- responses to these questions were frequently incomplete or inconsistent with other answers. As a result, such data are not presented here.

4.2.1 Developer Type and Experience

Exhibit 4-1 shows the distribution of tax credit units by the type and previous experience of the project's developer. Developer experience is

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[2] See Appendix A for a detailed discussion of the sample and its limitations.

Exhibit 4-1

Distribution of Tax Credit Units by Developer's Type and Previous Experience: 1987 and 1988

DEVELOPER TYPE	
For Profit	91.0%
Non-Profit	9.0
All Units	100.0%
DEVELOPER'S PAST EXPERIENCE	
1. Number of Rental Units Previously Developed	
No Previous Experience	7.9%
1-99 Units	8.7
100-499 Units	14.7
500-999 Units	15.8
1,000-1,999 Units	8.4
2,000+ Units	44.6
All Units	100.0%
2. Number of Low-Income Units Previously Developed	
No Previous Experience	16.1
1-99 Units	11.4
100-499 Units	23.5
500-999 Units	10.8
1,000-1,999 Units	13.1
2,000+ Units	25.1
All Units	100.0%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

measured in two different ways: first, by the total number of rental units previously developed (excluding the sampled project); and second, by the developer's specific experience with low-income housing.

As shown in the chart, the great majority of tax credit units (91 percent) were developed by profit motivated firms. Only about 9 percent were developed by non-profits or for-profit subsidiaries of non-profit organizations. While the overall share of tax credit dollars allocated to non-profit sponsors exceeded the mandated 10 percent set-aside for such organizations in 1988, only about one third of the states have been successful in meeting this target. Indeed, as described in Chapter 1, half of the states have been unable to make any allocations to non-profits, often citing as a reason the lack of experienced candidates.

Most of the tax credit units produced to date have in fact been assembled by developers with extensive experience in rental housing in general, and low-income housing in particular. Forty-five percent of all tax credit units were produced by developers with over 2,000 units of previous rental experience. About 25 percent had achieved this milestone based on their specific experience in low-income housing. Only about 16 percent of all units were developed by individuals or firms with no previous experience in low-income housing, and about half of these (8 percent) had at least some experience with market-rate rental housing.

As shown in Exhibit 4-2, developer experience typically varied with project size, subsidy mix, developer type, and syndication status. In general, single-family units were developed by individuals with relatively little prior experience. In contrast, units in larger developments tended to have been produced by developers with an extensive track record in rental housing. For example, the developer of the average unit in a large project (i.e., over 75 units) had already produced about 2,700 units of rental housing.

Contrary to expectations, the experience of non-profit and for-profit developers was not noticeably different. Indeed, non-profit sponsors had a marginally greater level of experience in low-income housing. This finding appears to contradict the claims of many states that experienced non-profit sponsors were hard to find. However, a better interpretation relates to the level of expertise that is typically required to successfully develop and syndicate a tax credit deal. The overall participation of non-profits in the tax credit program may well have been limited by the lack of appropriate expertise in many areas. However, the non-profit sponsors who have been able to participate have generally had a well-established track record in the production of low-income housing.

The developer's previous experience level did appear to vary with the form of syndication used. In general, units that were individually owned -- i.e., not syndicated to outside investors -- were developed by relatively inexperienced developers. As described in an up-coming section (4.3.1), such developments tended to be very small. In contrast, units that were syndicated through a public offering or private placement tended to have the most experienced sponsors. This pattern is not surprising given the larger sizes

Exhibit 4-2

Developer Experience by Subsidy Mix, Year, Sponsor Type, and Project Size[1] (1987 and 1988)

	Developer's Previous Experience	
	Number of Rental Units	Number of Low Income Units
PROJECT SIZE		
One Unit	22	14
2-29 Units	2,011	1,759
30-75 Units	2,583	1,740
75+ Units	2,692	1,297
DEVELOPER TYPE		
Profit	2,354	1,571
Non-Profit	2,212	1,730
SYNDICATION STATUS		
Syndicated	2,705	1,856
Private Placements	2,810	2,128
Public Offerings	2,690	1,520
Non-Syndicated	327	59
SUBSIDY TYPE		
Credit Only	1,248	214
Previous Subsidy	4,196	3,142
Mod Rehab	1,970	912
FmHA 515	1,746	1,269
Tenant-Based Subsidies	162	28
Other Subsidies	3,293	2,848
Total	2,320	1,572

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

[1] Data weighted to reflect the average tax credit unit.

of such developments, as well as the complexities involved in structuring a partnership and securing outside equity funds.

Finally, the developer's previous experience also varied with the unit's subsidy mix. Developers of units with tenant-based assistance had the least amount of experience, averaging only about 162 previous units (most of which were market rate). As described in Chapter 2, such projects again tend to be very small. At the other extreme, units with previous assistance and a mix of other project-based subsidies tended to have been produced by the most experienced developers, a pattern which is again consistent with the above average size of such developments.

4.2.2 Developer Fees

As noted above, the up-front development fee typically serves as the principal source of compensation for project developers. These fees are treated as a cost of development, and must be covered with equity or debt like other expenses. Developers fees are usually expressed as a percentage of development costs, which include land and structures acquisition, construction or rehab costs, and various soft costs such as construction period interest and legal and organizational fees.

Exhibit 4-3 provides information on the amount of up-front fees that have been received by project developers. According to our estimates, the average tax credit unit had a reported developer's fee of about 9.5 percent. Excluding units that did not report a developer's fee, the average was about 14 percent.

As shown in the chart, fees varied considerably across the sample. About 32 percent of all units did not report a developers fee. As described in more detail below, almost half of these were in sole-proprietorships where the developer was also the project owner. At the other extreme, about 10 percent of all tax credit units reported a developers fee in excess of 20 percent, although the majority of these were less than 30 percent.

The size of the up-front development fee appears to be loosely related to the share of ownership retained by the developer. As shown in the exhibit, the developer's share averaged about 52 percent in projects not reporting a developer's fee. Projects with larger development fees (e.g., above 10 percent) typically had considerably lower reported ownership shares, although two projects with above average fees (between 26 and 30 percent) also reported above average ownership shares. Despite these obvious exceptions, the simple correlation (σ = -0.468) between the reported share and the reported development fee was statistically significant with a one percent confidence level.

Exhibit 4-4 presents additional information on variations in developers fees by subsidy type, credit year, production type, project size, syndication status, and credit year. Two sets of statistics are presented. The first column shows the average development fee that was observed for each type of unit, including zero fees. The second column presents the average fee for units that received a fee.

Exhibit 4-3

Distribution of Units by Developer's Fee
(1987 and 1988)

Reported Fee	Distribution of Units (%)	Developer's Ownership Share
0	31.6%	52.3%
1-5%	10.7	6.9
6-10%	17.0	59.4
11-15%	9.3	2.1
16-20%	21.5	3.8
21-25%	7.3	1.2
26-30%	2.2	31.2
30+%	0.4	1.0
All Units	100.0%	30.4%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 4-4

Reported Developers Fee as a Percent of Total Development Cost[1]

	Average Reported Fee		
	All Units	Units Reporting a Development Fee	Average Ownership Share
Subsidy Type			
Credit Only	2.8%	9.3%	58.2%
Previous Subsidy	6.2	10.0	8.4
Mod Rehab	17.1	19.1	15.9
FmHA 515	14.4	16.7	11.2
Tenant-Based Subsidies	9.5	19.8	73.7
Other	7.7	10.2	41.2
Production Type			
New Construction	11.6	13.7	28.2
Major Rehab	11.3	15.9	13.3
Minor Rehab	1.7	5.9	72.0
Acquisition Only	4.7	12.5	34.1
Syndication Status			
Syndicated	11.0	13.9	18.0
Private Placements	9.8	13.0	25.1
Public Offerings	14.7	17.9	4.7
Not Syndicated	0.0	NA[2]	99.9
Developer Type			
For Profit	9.8	14.5	34.1
Non-Profit	7.6	9.3	1.0
Project Size			
One Unit	0.1	NA[2]	99.2
2-29 Units	8.3	12.6	41.6
30-75 Units	9.5	16.7	29.8
75+ Units	11.8	13.2	5.7
Credit Year			
1987	7.0	11.4	25.9
1988	10.7	14.9	32.8
All Units	9.5	13.9	30.4

SOURCE: ICF Developer Survey. Appendix A for a discussion of the sample and its limitations.

[1] Data weighted to reflect the average tax credit unit, 1987 and 1988.

[2] Only one project fell into this category.

According to our estimates, the highest reported fees were received under Section 8 and Farmers' Home, which averaged about 17 and 14 percent, respectively. When zero fees are excluded, both averages rise by about 2 percentage points (to 19 and 17 percent respectively). This could in part be explained by the below-average ownership shares in these two project types -- 16 percent for Section 8 Mod Rehab and 11 percent for Farmers Home. While ownership shares were also low in projects with previous subsidies (8 percent), they averaged between 41 and 74 percent for the other program variants.

The remaining subsidy types had average fees which ranged from 3 to 10 percent. However, this variation largely reflects differences in the relative importance of zero fee units. When such units are excluded, fees average about 10 percent for most subsidy types, although fees in units with tenant-based assistance are almost twice as high.

Development fees were also relatively high for larger projects, projects involving new construction or major rehab, syndicated developments (particularly public offerings), and projects developed by non-profits. These differences are only partially explained by variations in the relative importance of "zero fee" units. The data presented in the chart also suggest that the average development fee has increased over time.

In effort to disentangle these various factors, we estimated a simple regression equation relating the developer's reported fee to the characteristics of the project (see Exhibit 4-5). Two separate regressions were derived. The first was based on the entire sample of projects, while the second was restricted to syndicated developments. As previously described, non-syndicated units typically do not report a developer's fee.

The results of this analysis generally support the basic patterns that were revealed through the simple cross-tabs although many of the variables are not statistically significant. In general, fees were comparatively high for Section 8 and Farmers Home units, as well as for units with a mix of other subsidies. They also tended to be higher in 1988 and appeared to increase with project size. However, most of the other differences disappear when zero fee developments are excluded.

4.2.3 The Potential Impact of Residual Funds

A recent study by the GAO uncovered a number of instances in which developers of Section 8 Moderate Rehab projects were able to generate (and presumably, pocket) excess funds raised through syndication.[3] If such occurrence are in fact widespread, the development fees described in the previous section could significantly under-estimate the up-front compensation being received by project developers. A detailed analysis of the sources and uses of funds in tax credit units is presented in Chapter 5. However, this section examines the potential impact of such residual funds on the project's effective development fee.

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[3] Statement of John M. Ols before the Senate Committee on Banking, Housing and Urban Affairs, August 2, 1989.

Exhibit 4-5

Regressions Examining Variations in Developer Fee

	All Units	All Syndicated Units
CONSTANT	-4.47	-8.89
OWNERSHIP SHARE	-0.04	-0.06
PROJECT SIZE		
2-29 Units	3.98	
30-75 Units	2.91	-1.04
75+ Units	10.79	6.05**
FOR-PROFIT DEVELOPER (Yes/No)	3.24	1.98
SUBSIDY TYPE		
Previous Subsidy	-9.19*	7.89
Mod Rehab	18.35***	21.84***
FmHA 515	16.53***	15.68***
Tenant-Based Subsidy	5.18	6.75
Other Subsidies	10.25**	11.36**
PRODUCTION TYPE		
New Construction	-14.52	4.20
Major Rehab	-14.14**	1.54
Minor Rehab	-2.50	0.79
1988 (Yes/No)	4.59***	5.95***
SYNDICATED STATUS		
Public Syndications	9.79**	
Private Syndications	7.01*	-1.72
R^2	0.59	0.48

* Significant at 0.1 level
** Significant at 0.05 level
*** Significant at 0.01 level

Residual funds occur when all identified sources of funds -- including equity, loans, and grants -- exceed identified uses -- including development costs, developers fees, and syndication costs (if any). According to our estimates, residual funds occur in about 24 percent of all tax credit units. Some of these funds may well stay with the project, for example, to establish an operating or capital reserve. Others may be used to compensate the project developer for additional expenses not included in development costs. However, as described in Chapter 5, our efforts to identify the eventual distribution of observed residuals were for the most part unsuccessful.

Yet even assuming that all identified residuals were eventually pocketed by the general partner, the impact on estimated fee rates would in the aggregate be fairly small. Adding residual funds to the reported development fee would increase the average rate from 9.5 to 10.9 percent (expressed as a fraction of total development costs). For projects with residual funds, the effective developer's fee would rise from 13.9 to 18.6 percent.

Exhibit 4-6 illustrates the potential impact of residual funds on the estimated distribution of developer fees. As shown in the chart, the overall impact appears to be relatively small. However, there is a noticeable effect on both the upper and lower tails. The proportion of "zero fee" developments declines from 32 to 27 percent, while the proportion of fees in excess of 20 percent increases from 10 to 13 percent.

4.3 Syndication of Tax Credit Projects

Syndication is the process whereby ownership interests in real estate are sold to outside investors. Investors may be individuals or corporations, and may be organized under a variety of different ownership forms, including both general and limited partnerships. While syndication has been the traditional vehicle for raising funds for low-income housing in the past, its role has become even more important for tax credit properties.

The 1986 Tax Reform Act limited the annual amount of deductions or "deduction equivalents" that could be taken by individuals to $25,000. This equates to a maximum credit of $8,250 per year at the highest income tax bracket (33 percent). Projects generating more than this amount must be syndicated if individual investors are to use the full credit value. Tax reform also limited the ability of higher income investors to participate in the tax credit program by phasing out the ability to take credits above $200,000 adjusted gross income.

As a result of these provisions, the tax credit program was expected to encourage the formation of public syndications involving a large number of individual investors making relatively small individual investments. Since the passive loss restrictions described above do not apply to corporations, the credit was also expected to attract a significant level of investment from this here-to-fore untapped equity source. Unlike individual investors, corporations can take unlimited amounts of credit and also benefit from other passive losses that might be generated by the property.

This section examines the syndication process in more detail, beginning with a description of the various ways in which tax credit units have been

Exhibit 4-6

Potential Impact of Residual Funds on Reported Developers Fees (1987 and 1988)

Developer Fee + Development Costs (without fee)	Distribution of Units: Reported Fee	Distribution of Units: Reported Fee + Residual
0%	31.6%	27.1%
1-5%	10.7	12.9
6-10%	17.0	16.4
11-15%	9.3	9.7
16-20%	21.5	20.8
21-25%	7.3	8.9
26-30%	2.1	2.1
31-35%	0.0	0.0
35+%	0.4	2.0
	100.0%	100.0%

SOURCE: ICF Developer Survey. Appendix A for a discussion of the sample and its limitations.

sold to outside investors, as well as the extent to which the specific form of syndication varies with the characteristics of the tax credit project. It then examines the relative costs of syndication and its relationship to gross and net equity raised. Finally, the section explores the price that limited investors have been willing to pay for each dollar of credit received.

4.3.1 Syndication Types

Syndicated projects include all projects where funds have been raised from other investors -- as opposed to individual ownership by the project developer or another sole proprietor. For purposes of this discussion, we have distinguished between two syndication types: private placements and public offerings. According to our estimates, about 58 percent of all tax credit units were syndicated through a private placement, another 28 percent were sold through a public offering, and the remaining 14 percent were individually owned (see Exhibit 4-7).

Public offerings usually involve numerous investors who participate in a large investment pool. These pools can be sizable -- the average public offering for which data are available raised approximately $50 million with a minimum investment unit of $2,000. Investments in public offerings are generally blind, meaning that the specific properties to be purchased by the fund are unknown to the investor. The role of the syndicator under this arrangement is to organize the partnership, sell the investments (typically through a brokerage house), identify the properties to be acquired, negotiate with project developers, and manage the partnership. Since numerous properties are involved, returns to the investor are based on the overall performance of the portfolio.

Private offerings, by contrast, are generally used to sell interests in a single development or several related projects. As such, they are smaller in scale. They are also limited to a maximum of 35 individual investors. For the few private offerings on which syndicator data are available, the average offering amount was $800,000. Investment units ranged from $10,000 up to the full offering amount in the case of a sole corporate investor. Private offerings often involve an outside syndicator who locates the investors and handles the sale of interests. However, developers performed this function themselves in about 28 percent of all privately syndicated units.

The data in Exhibit 4-8 reveal distinct differences in the characteristics of tax credit projects by syndication type. In general, non-syndicated projects are relatively small, averaging only about 10 units per development compared to 37 units for syndicated developments. Development costs are also relatively low, averaging about $190,000 per project, or just over $17,000 per unit. These costs compare to about $1.4 million per project (and $42,000 per unit) for syndicated developments.

The small size of non-syndicated projects primarily reflects the statutory limitations to the amount of tax credits that can be taken by an individuals investor in any given year. Since all of the sole-proprietorships included in the sample are individually owned, the amount of credit that can be claimed for such developments is at most $8,250 per year. The average credit amount actually received by the sampled projects was $5,936 per year,

Exhibit 4-7

Distribution of Projects and Units by Syndication Type (1987 and 1988)

	Projects	Units
Syndicated		
Public Offerings	16.8%	27.9%
Private Placements	56.1	58.5
Non-Syndicated	27.1	13.6
All Projects/Units	100.0%	100.0%

SOURCE: ICF Developer Survey. Appendix A for a discussion of the sample and its limitations.

Exhibit 4-8

Project Characteristics by Syndication Status
(1987 and 1988)

	Non-Syndicated	Syndicated		
		Public	Private	All[1]
Average Number of Units Per Project	10	49	31	37
Average Development Costs Per Unit[2]	$17,275	$41,600	$41,505	$41,944
Average Development Costs Per Project	$190,203	$2,076,534	$1,039,914	$1,413,927
Average Credit Per Project	$5,936	$135,707	$55,967	$85,258
Investor Types[2]				
Individual	100%	34.2%	47.7%	41.4%
Corporate	0	2.4	38.7	26.3
Both	0	63.4	13.6	32.3
	100%	100%	100%	100%
Developer's Ownership Share[2]	99.9%[3]	4.7%	25.1%	18.0%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

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[1] Includes projects where type of offering was missing.

[2] Weighted to reflect the number of units in each project.

[3] Includes one turn-key project in which the developer's share is zero.

or 72 percent of the allowable maximum. In contrast, the average syndicated project received $85,258 in credits per year.

There were also sizable differences between public and private placements. Projects sold through public offerings tended to be larger and considerably more expensive than privately-placed projects, although their per-unit development costs were virtually the same ($42,000). Development costs (excluding fees) averaged about $2.1 million for the typical project sold through a public offering, compared to $1.0 million for private placements. Similarly, annual credit amounts received by projects sold through public and private placements averaged $136,000 and $56,000, respectively.

Such patterns again reflect the basic structure of the tax credit program. Restrictions imposed on the number of individual investors that can participate in a private pool, combined with the cap on the amount of credit that they can claim, effectively limit the amount of capital that can be raised through a private placement to about $289,000. Presumably, the greater the funding required, the greater the need to attract a fairly large pool of outside investors and, hence, the greater the advantages associated with public offerings.

Exhibit 4-9 shows the distribution of credits generated by syndication type. According to these estimates, there was a considerable amount of overlap in the credit amounts that were raised through private and public offerings, although public offerings were much more geared to larger projects. Indeed, approximately 13 percent of all publicly syndicated projects exceeded the dollar threshold that would allow the full use of the credit under a private syndication to individual investors. The data also highlight the relatively small size of non-syndicated projects. As shown in the chart, 29 percent of all projects that are sole proprietorships will receive less than $1,000 in annual credits.

4.3.2 Syndication Costs

Exhibit 4-10 presents information on the costs associated with syndicating tax credit units. Syndication costs are expressed as a percentage of gross equity raised from investors, and reflect amounts used to cover various expenses associated with the sale (e.g., commissions to brokers) as well as the syndicator's fee or profit. Net equity -- the amount left after syndication costs -- reflects the funds that are actually available for investment in the property (although some of these funds will be used to cover the developer's up-front fee).

As shown in Exhibit 4-10, there was considerable variation in reported syndication costs. Overall, some 42 percent of all units reported no syndication costs. About one-third of these units were sole-proprietorships and, hence, did not involve syndication. The rest were private placements and often did not involve the services of an outside syndicator. Units reporting at least some costs associated with syndication tended to fall into one of two clusters: those with costs between 6 and 10 percent of gross investor equity (typically private placements); and those with costs between 21 and 25 percent (typically public offerings).

Exhibit 4-9

Distribution of Projects by Annual Credit Amount (1987 and 1988)

	Non-Syndicated	Syndicated		
		Public	Private	All
$1-$499	18.6	0	0	0
$500-999	10.4	0	0	0
$1,000-10,000	71.0	0	16.6	12.2
$10,000-50,000	0.0	23.1	48.8	42.0
$50,000-100,000	0.0	38.3	23.5	25.9
$100,000-200,000	0.0	24.7	5.7	9.6
$200,000-290,000	0.0	0.9	2.4	2.0
$290,000-500,000	0.0	8.5	2.3	6.8
$500,000+	0.0	4.6	0.7	1.5
All Projects	100.0	100.0	100.0	100.0

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 4-10

Distribution of Units by Syndication Costs (1987 and 1988)

	All Units	Syndicated Units: Public Offerings	Syndicated Units: Private Placements	Syndicated Units: All Syndicated Units
Syndication Costs/Gross Investor Equity				
0	41.7%	0.0%	46.3%	32.6%
1-5%	5.3	0.0	9.6	6.1
6-10%	13.1	1.7	20.3	15.1
11-15%	6.8	7.2	9.0	7.9
16-20%	7.0	20.0	3.4	8.1
21-25%	17.8	53.5	5.4	21.3
26-30%	1.2	2.4	1.1	1.4
31-35%	5.6	15.2	3.1	6.5
Over 35%	1.5	0.0	1.6	1.0
All Units	100.0%	100.0%	100.0%	100.0%
Average Syndication Costs				
All Units	10.5%	22.3%	7.4%	12.1%
Units With Syndication Costs	17.9%	22.9%	13.8%	17.9%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

There are several possible explanations for the large proportion of units reporting zero syndication costs in private offerings. Syndicators typically quote project developers a net price for the syndication. As a result, some developers who responded to our survey may have simply ignored these charges. Alternatively, they may have included the costs that were associated with syndication as part of the project's development costs or, in cases where the developer was also the syndicator, as part of the developer's fee. On the other hand, syndication costs could well be negligible for a small partnership of investors who may possibly have participated in previous projects together.[4]

Overall, syndication costs averaged about 22 percent of gross investor equity in publicly syndicated units, compared to about 7 percent in privately syndicated units. When syndicated projects reporting zero syndication costs are excluded, the averages for private placements rises to 14 percent. However, this figure is still considerably below comparable estimates obtained from syndicators as opposed to project developers.[5] Although the number of responses is too small to be more than illustrative, syndicators associated with private placements reported an average fee of about 21 percent of gross investor equity.

Exhibit 4-11 provides a breakdown of syndication usage and costs by subsidy mix, production type, and credit year. The first three columns in the chart show the distribution of various types of tax credit units by the type of syndication employed. For example, according to our estimates, 50 percent of all "credit only" units are owned by a single investor (i.e., non-syndicated), 30 percent were sold through public offerings, and 21 percent were privately placed. The next two columns present the average syndication costs of each unit type, again expressed as a percent of gross equity raised. Two different averages are presented: the first includes all units within a given category, while the second excludes units with no reported syndication costs.

As shown in the chart, the form of syndication varied significantly with the unit's subsidy mix. Units in credit only projects or projects with tenant-based assistance were much more likely to be individually owned, a pattern which undoubtedly reflects the smaller sizes of these developments. On the other hand, Section 8 Mod Rehab projects were much more likely to be publicly syndicated, perhaps because such developments are more easily packaged into "standardized" deals. The majority of units in the remaining

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[4] If the data do reflect reporting errors, the impact on estimated rates of return (see Chapter 6) would vary with the type of error. For example, if syndication costs were simply ignored, rates of return would be overstated. However, the relatively high ratio of gross equity to credits observed for private syndications (see Section 4.2.3) suggests that this is probably not the case. On the other hand, if syndication costs have been incurred and included along with other development items, syndication costs will be understated but returns to gross equity will be correct.

[5] As described in Appendix A, completed syndicator's surveys were received from only 12 organizations representing 23 sample projects.

Exhibit 4-11

Syndicated Type and Costs by Subsidy Mix, Production Type, and Year

	Distribution of Units by Syndication Type			Average Syndication Costs [1,2]	
	Non-Syndicated	Public Offerings	Private Placements	All Units	Units With Syndication Costs
SUBSIDY MIX					
Credit Only	49.9	29.5	20.6	6.6%	17.8%
Previous Subsidy	0.0	32.4	67.6	17.1	18.4
Section 8 Mod Rehab	5.2	77.3	17.5	19.1	22.7
FmHA 515	0.0	22.7	77.3	13.3	17.2
Tenant-Based	39.7	6.5	53.8	1.3	20.0
Other	7.8	13.3	78.9	5.2	14.9
PRODUCTION TYPE					
New Construction	5.3	24.4	70.3	10.5	17.4
Major Rehab	8.0	39.5	52.5	11.6	18.6
Minor Rehab	63.6	0.4	36.0	2.9	10.3
Acquisition	31.9	31.3	36.8	14.3	21.0
YEAR					
1987	15.8	20.6	63.6	8.8	15.2
1988	15.4	28.6	56.0	11.3	19.3

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

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[1] Expressed as a percent of gross investor equity.

[2] Data weighted to reflect the average tax credit unit.

subsidy variants were privately placed, although public offerings were used for about 20 to 30 percent of all units developed.

The form of syndication used had a major impact on the average syndication costs of the different program types. When units with no reported costs are included, averages range from a low of 1.3 percent for units with tenant-based subsidies to 19.1 percent for Section 8 Mod Rehab units. When such units are excluded from the calculations, the variations are much less pronounced. However, the highest average syndication costs are again observed in Section 8 Mod Rehab units, a pattern that most likely reflects their heavy use of public offerings.

Syndication usage also varies with production type, with the heaviest concentration of sole-proprietorships occurring in units involving minor rehab and, to a lesser degree, simple acquisition. These patterns are again reflected in variations in the average cost of syndication. The data also suggest a rise in the proportion of units that are publicly syndicated, as well as an increase in the average level of syndication costs between 1987 and 1988.

4.3.3 Equity Received per Tax Credit Dollar

Investors in tax credit projects can receive returns from several different sources, including:

- credits, which can be used against taxes on other income and are taken over a period of 10 years;
- cash flow, i.e., profits from operation;
- residuals, i.e., profits from the sale of property; and
- other tax benefits, i.e., deprecation and other losses.[6]

According to our survey, the majority of syndicators regard the credit as the primary source of return in tax credit projects, with all other benefits considered highly speculative. While total returns are addressed in Chapter 6, this section looks at projected returns from the credit alone. Such returns reflect the effective price that investors have paid for each tax credit dollar received.

Exhibit 4-12 presents information on observed variations in this price, defined as the amount of gross equity raised per dollar of tax credit received. As shown in the chart, each tax credit dollar has generated about 80¢ in gross investor equity for the typical tax credit unit.[7] Gross equity

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[6] These can be taken in full by corporate investors but must be accumulated and used only at sale by individual investors.

[7] Gross equity is discounted (at 8.62 per year) to account for phased pay ins. Overall, 26.3% of the publicly syndicated and 29.1% of the privately syndicated units reported a pay-in period of two or more years.

Exhibit 4-12

Distribution of Projects and Units by Gross Equity Ratio (1987 and 1988)

Gross Equity + Total Tax Credits[1]	Projects	Units
.01-.10	2.0	0.0
.11-.20	5.4	1.2
.21-.30	12.1	5.7
.31-.40	5.2	6.9
.41-.50	12.3	9.8
.51-.60	17.0	17.9
.61-.70	14.9	26.1
.71-.80	9.3	9.5
.81-.90	2.4	5.4
.91-.99	6.6	0.2
1.00 or more	12.8	17.3
	100.0%	100.0%
Average Gross Equity Ratio	71.7%	80.1%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

[1] Defined as 10 times the annual tax credit allocation.

generated per tax credit dollar varied considerably across the sample. About half of all LIHTC units had ratios between 51 and 80 percent. However, over 20 percent of all units had equity/tax credit ratios that were less than this amount, and about 17 percent had reported ratios exceeding 1.0. Ratios in excess of one would imply that project investors expect significant returns from other factors, primarily cash flow and appreciation.

Exhibit 4-13 provides additional information on equity ratios by syndication status. As shown, the typical non-syndicated unit raised about 85¢ for each tax credit dollar. By contrast, public syndications and private offerings raised 67 and 87 cents, respectively.

The ability of private offerings to raise more equity per tax credit dollar may well reflect the value of other anticipated returns from these developments. As indicated above, private offerings typically focus on one or a few related properties; knowledgeable investors can make their own assessments of the potential returns. Publicly syndicated properties, by contrast, are purchased as part of a pool. Returns other than the credit are literally unknown.

On the other hand, the data presented in Exhibit 4-13 also suggest that reporting problems may be involved or that private syndications as defined in this study encompass a broad range of projects with very different investment profiles. As discussed previously, about 40 percent of privately syndicated projects reported zero syndication fees. As shown in the exhibit, this group also reports far higher equity investments relative to credits than other private placements. Among these properties are a number of 100 percent equity financed developments as well as two cases in which the developer elected not to capitalize certain costs. When zero syndication fee units are excluded, the remainder look much more comparable to publicly syndicated units.

Exhibit 4-13 also depicts the amount of net equity raised per tax credit dollar received (i.e., gross equity minus the costs of syndication). As shown in the chart, the average ratio of net equity to total tax credits received was similar for non syndicated and privately syndicated units -- 85 and 82 cents respectively. However, the net equity ratio was significantly lower for public offerings, with an average of only about 51¢ per credit dollar. The subset of private syndications that reported some syndication cost also show a net equity to credit ratio that is similar to that for public syndications.

The results presented in Exhibit 4-13 for publicly-syndicated projects are generally consistent with other sources of information, including our Syndicators Survey. In this survey, syndicators were asked to indicate for a "typical" project the amount raised from investors (cents per tax credit dollar) and the amount actually paid to the project. Syndicators responding for four public funds indicated average gross equity raised of 64¢ per credit dollar and net equity of 47¢. The Developers Survey results fall well within the ranges mentioned by the syndicators and are also consistent with other rules of thumb, e.g., that syndication costs are typically 25% of gross equity.

Exhibit 4-13

Gross and Net Equity Ratios by Syndication Type[1]
(1987 and 1988)

	Gross Equity + Credits	Net Equity + Credits
Non-Syndicated Units	0.847	0.847
Syndicated Units		
Public Offerings	0.666	0.512
Private Placements		
No Reported Syndication Cost	1.151	1.151
Reported Syndication Cost	0.630	0.539
All Private Placements	0.872	0.822
All Syndicated Units	0.794	0.712

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

[1] Data weighted to reflect the average tax credit unit.

Our results for privately-syndicated projects, by contrast, differ substantially from those for publicly-syndicated projects and from syndicators' survey responses. The six syndicators involved in private offerings who responded to our Syndicators Survey suggested prices very similar to those reported for public offerings (57¢ and 45¢ respectively). Moreover, they reported fees ranging from 10 to 27 percent, with an average of about 21 percent -- close to the 25 percent standard for public offerings.

As noted above, a possible explanation for the higher equity contributions is that investors in private syndications expect greater returns from sources other than the credit. It is also possible that the privately syndicated projects in our sample cover a rather broad range of project types such that aggregation is misleading. Finally, the differences may reflect problems in the reporting of gross and net amounts and in accounting for syndication fees.

4.4 Developer and Syndicator Perspectives on the Credit

As discussed in Chapter 1, the tax credit program experienced a slow rate of initial allocations, with only about 22 percent of the available credit used in 1987 and 68 percent in 1988. Although this appears in retrospect to have reflected normal start-up problems associated with a new and relatively complex program, early concerns focused both on the adequacy of the credit to stimulate new production as well as a host of specific provisions that appeared to make credits more difficult or costly to use.

To gather more information on development constraints and issues, sample developers were asked to identify specific aspects of the credit that had posed "major problems" or obstacles in project development. Significantly, the most frequently cited problems related to attracting investors to the project -- specifically, passive loss restrictions (55 percent) and investor income limits (51 percent). Together these provisions limited the amount of funds any one individual would be willing to invest in the property and also restricted the pool of available tax credit investors by phasing out tax credit benefits for those with incomes over $200,000 per year. Note that 1989 changes to the program lifted investor caps but retained the limits on passive loss deductions.

Other aspects of the program that caused developers problems included the limited availability of credits, the difficulties of developing projects within the program's income limits, the program's strict recapture provisions, rent adjustments based on family size, and the limited availability of other public subsidies to assist in project development. Overall, sample developers were likely to view the development of tax credit projects as involving more time, effort, and risk than previous low-income housing programs, while viewing the financial returns as about the same.

For their parts, syndicators reported that (as of Summer 1989) tax credit deals were somewhat difficult to market to investors. Nevertheless, just over half indicated there was still unmet demand for tax credit investments on the part of individual investors and about 40 percent of those who responded felt there was unmet demand among corporate investors.

As reported by syndicators, the types of projects easiest to market to investors include those with other subsidies, such as Section 8 or FmHA. Other favorable characteristics included suburban locations, elderly tenants, fixed interest rate financing, and 100 percent low-income tenants. The most difficult types to market were those without subsidies, those with short-term or floating-rate debt, inner-city projects, and those with minimal developer guarantees.

All syndicators saw the credit itself as the primary source of return in tax credit projects. Syndicators of projects sold through public offerings were likely to see cash flow as the next most important contribution to returns, followed by property appreciation and other losses. Syndicators reporting on privately-syndicated projects tended to rate passive losses more highly and also looked to greater returns from property appreciation than from cash flow.

A number of the syndicators who responded to our survey cited specific problems in developing/marketing tax credit properties. In particular, syndicators noted that uncertainty about future tax changes (as well as the complexity associated with filing returns) had discouraged investment in credit projects. Other problems included the limited availability of credits, limits on investor incomes, and the perception of risk in tax credit projects.

4.5 Summary

Most of the tax credit units produced to date have been assembled by for-profit developers with extensive experience in rental housing in general, and low-income housing in particular. Ninety-one percent of all units were developed by profit-motivated firms, and forty-five percent were produced by developers with over 2,000 units of previous rental experience. Only single-family units tended to be developed by individuals with relatively little prior experience.

Developers have typically sold shares in tax credit projects to one or more outside investors, either through large public offerings (28 percent) or private placements and other partnership arrangements (58 percent). Non-syndicated projects -- or sole-proprietorships -- account for only about 14 percent of all tax credit units.

Larger projects typically require a larger pool of outside investors due to statutory limitations on an individual investor's use of tax credits (no more than $8,250 in a given year). As a result, development costs vary with the form of syndication, ranging from $190,000 for sole-proprietorships, to $1.0 million for projects that were privately placed, to $2.1 million for projects sold through public offerings.

Each tax credit dollar has generated roughly 80¢ in gross investor equity. However, public syndications raised only about 66¢ per tax credit dollar, compared to 87¢ for private placements and 85¢ for sole-proprietorships. The higher ratios observed among the latter two ownership types may reflect the value of other anticipated returns from these developments such as cash flow and/or property appreciation. However, problems in the reporting of equity amounts cannot be discounted.

Net equity raised -- i.e., gross investor equity less syndication costs -- was similar for sole proprietorships and private placements: developers of these types of units received an average of 85¢ and 82¢ respectively, for each tax credit dollar generated. By contrast, the net equity ratio was significantly lower for public offerings, averaging only about 52¢ per credit dollar. This pattern reflects the lower effective price that investors have paid for such units, as well as significantly higher syndication costs associated with public offerings.

Chapter 5

Sources and Uses of Funds

This chapter examines the underlying financial structure of LIHTC projects. The analysis is based on survey data for a sample of 100 tax credit projects containing some 4,703 dwelling units.[1] The chapter begins with a detailed analysis of the sources and uses of funds in the average LIHTC unit. This is followed by an examination of variations in the financial structure of LIHTC units stratified by syndication status, subsidy mix, credit year, and production type.

Note that the discussion presented below focuses on the level and types of funds that were raised in support of LIHTC projects, as well as on the various uses to which those funds were put. However, we do not examine the profitability of the projects per se. Such an analysis is presented in Chapter 6, which uses a detailed financial model to estimate rates of return projected for project investors.

5.1 Overall Sources and Uses of Funds

This section examines the various sources and uses of funds for the average LIHTC project. Sources of funds have been classified into three broad categories:

> Equity. The first category depicts gross project equity (i.e., equity raised before the cost of syndication).[2] Equity comes from two principle sources: limited partners (in the case of syndicated projects) and project developers and/or general partners. For syndicated projects, any shortfall in the amount of funds required to cover up-front development and syndication costs (including the developer fee) were assumed to come from the project's developer in the form of an equity contribution.[3] For non-syndicated projects, the equity contribution of the project's developer was defined as the

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[1] See Appendix A for a discussion of the developers survey sample and its limitations. Note that the analysis in this chapter excludes 4 projects without detailed development cost data.

[2] The equity figures presented in this chapter have not been discounted to reflect phased equity contributions. However, the impact of such phased contributions is incorporated in the rate of return analysis presented in Chapter 6.

[3] 51 percent of the syndicated projects in the sample had a reported equity shortfall; 75 percent of these projects also reported a developer's fee. Based on our discussions with several survey respondents, we assumed that any shortfall was met by an equity contribution by the developer. However, an alternative approach would have been to reduce the reported developer's fee by the apparent shortfall in funds.

difference between the project's development costs and the sum of all loans and grants.

Loans. The second source of funds is mortgage financing, including market rate and below-market loans. While this category includes balloon mortgages maturing within a relatively short period of time (e.g., 3 to 5 years), it excludes bridge loans arranged to cover phased equity contributions to the project.

Grants. The last source of funds includes grants and forgivable deferred payment loans.

Four broad uses of funds have been identified:

Development Costs. The first and largest category represents total development costs prior to the inclusion of a development fee. Such expenditures include both the "hard" and "soft" costs associated with project development, including: land and structure acquisition; construction and rehabilitation costs; construction period carrying charges (i.e., interest and property taxes); and various financing and legal fees.

Developer Fee. The next category reflects the up-front developer's fee. While developers may receive additional compensation from project cash flow or appreciation, up-front fees typically represent the largest source of compensation for developers who do not retain a significant ownership position in the project. In general, sole-proprietorships do not report a development fee.

Syndication Expenses. The third use of funds represents the costs associated with raising equity for the project. Projects sold through an outside syndicator typically incur a fee for the syndicator's services and expenses (e.g., brokers fees), in addition to the legal and organizational costs associated with formation of the partnership *per se*. Both types of costs are included in this category.

Residual. The last category captures any residual funds that may remain after the above three uses have been met. Such residuals could be used in a wide variety of ways, including funding operating or capital reserves, supporting anticipated rehabilitation or construction expenses not included in initial development costs, compensating developers for other costs not captured by the survey data (for example, providing bridge loans for staged equity contributions), or providing additional up-front compensation to the project developer.

Including a residual category ensures that sources and uses will always balance.[4]

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[4] As noted earlier, whenever development costs exceeded reported equity contributions and loans and grants, the developer was assumed to contribute enough additional equity to make up for the shortfall in funds. As a result, sources and uses will balance for these "deficit" projects as well.

Exhibit 5-1 presents the results of the survey data. The statistics have been derived on both a per-project and per-unit basis, and have been weighted to reflect total production in 1987 and 1988. Estimates of the amount of credit received by the average project differ somewhat from those derived from the NCSHA data. However, the differences are fairly small, particularly when expressed on a per-unit basis.[5]

5.1.1 Sources of Funds

As shown in the chart, over $1.2 million was raised in support of the average LIHTC project, or about $44,400 per unit. Mortgage debt constituted the largest source of project funding, averaging about 70 percent of all funds raised for the typical unit. Equity contributions accounted for about 28 percent of the average unit's total sources, while only about 2 percent was raised from out-right grants or forgivable deferred payment loans. The remainder of this section describes the various sources of funds in more detail.

Equity Contributions. Gross equity contributions averaged about $405,600 per development or $12,700 per unit. As shown in Exhibit 5-2, the majority of projects and units had equity shares between 11 and 30 percent. While about 18 percent of the projects surveyed reported equity shares in excess of 50 percent, they tended to be relatively small. As a result, only about 2 percent of all tax credit units were found in such developments. At the other extreme, 25 percent of all projects (and 16 percent of all units) had equity contributions that amounted to less than 10 percent of all funds raised.[6] Once again, in comparison to other developments, low equity projects tended to be quite small.

Debt Financing. Debt financing represented the largest single source of project funding, averaging about 70 percent of total sources or some $30,948 per unit developed. Although not presented here, the distribution of projects and units by the relative importance of debt financing approximates the inverse of the equity distributions presented in Exhibit 5-2. Since grants are a negligible share of project financing, projects primarily financed through equity contributions have high mortgage ratios, and vice versa.

Exhibit 5-3 presents information on the nature and relative importance of these loans. Mortgages have been classified by source, subsidy type (i.e., market versus below market), and payment schedule. The first column in the chart presents the proportion of units receiving each mortgage type; since many projects received multiple loans, these proportions do not sum to one. The second column presents the contribution of each mortgage type to the aggregate amount of mortgage dollars that were received by LIHTC units. The last column presents the average mortgage amount for units with each type of loan.

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[5] For example, the NCSHA data estimates the average credit amount to be $55,101 per project and $1,976 per unit.

[6] A more detailed discussion of gross equity raised per tax credit dollar received is presented in Chapter 4.

Exhibit 5-1

Sources and Uses of Funds
(1987 and 1988)

	Per Project		Per Unit	
	$	%	$	%
Sources of Funds				
Gross Equity	405,636	32%	12,722	28%
Loans	822,930	66	30,948	70
Grants	21,993	2	741	2
Total Sources	1,250,559	100%	44,412	100%
Uses of Funds				
Development Costs	1,081,908	87%	38,598	87%
Developer's Fee	105,780	8	3,788	9
Syndication Expenses	49,984	4	1,605	3
Residual	12,886	1	421	1
Total Uses	1,250,559	100%	44,412	100%
Annual Tax Credits Received	61,649	NA	1,810	NA

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

[1] The statistic reflects the ratio of the averages, where Total Tax Credits received was defined as 10 times the average annual tax credit received.

Exhibit 5-2

Distribution of Projects and Units by Gross Equity Ratios (1987 and 1988)

Gross Equity ÷ Total Sources	Distribution of Projects (%)	Distribution of Units (%)
.01-.10	25.3	16.1
.11-.20	11.0	25.7
.21-.30	30.1	25.7
.31-.40	11.5	20.1
.41-.50	4.4	3.9
.51-.60	5.0	6.4
.61-.70	0.0	0.0
.71-.80	4.4	0.0
.81-.90	0.0	0.0
.91-1.00	8.3	2.0
	100.0%	100.0%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and limitations.

Exhibit 5-3

Mortgage Characteristics of LIHTC Units (1987 and 1988)

	Units With Mortgage Type (%)	Percent of Total Loan Dollars	Average Amount for Units Reporting Loan ($)
Mortgage Source:			
Private Lenders[1]	52.8%	38.5%	$23,464
Tax Exempt Bonds	8.9	15.3	55,382
Taxable Bonds	3.3	3.1	30,239
Farmers Home 515	28.4	27.1	30,773
CDBG/UDAG/EODAG/ Rental Rehab	11.6	7.9	22,072
Other State/Local	19.9	8.0	12,963
All Units	NA	100.0	$32,856
Mortgage Type			
Below Market	51.5	62.9	$36,233
Market	51.1	37.1	21,486
All Units	NA	100.0	$32,856
Payment Schedule			
Conventional/Self Amortizing	91.0	89.1	$29,763
Amortizing Loan with Early Balloon	5.1	2.9	16,944
Deferred Payment Loan	5.5	2.4	13,241
Interest Only Loan	0.0	0.0	3,981
Cash Flow Loan	7.6	4.0	16,203
Graduated Payment Loans	1.2	1.1	28,150
Participation Loan	0.4	0.5	36,364
All Units	NA	100.0	$32,856
Number of Mortgages			
0	1.9	0	$ 0
1	67.5	56.7	27,072
2	19.2	19.5	32,702
3+	11.4	23.8	67,471
	100.0	100.0	$32,856

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

[1] Includes FHA loans.

As shown in the exhibit, private lenders (i.e., banks and S&Ls) represented the single most important source of mortgage financing. About 53 percent of Tax Credit units had at least one private loan which, on a program-wide basis, accounted for about 39 percent of total loan funds received. Farmers Home represented the next largest source of debt financing, accounting for about 27 percent of all mortgage dollars. Other federal, state, and local lending sources represented between 3 and 15 percent of total loans received, with state and local mortgages supported by tax-exempt bonds representing the third most important source.

The size of the loan varied with the mortgage source. The largest mortgages were backed by tax exempt mortgage revenue bonds, which averaged about $55,000 per unit. Although only 9 percent of the units developed thus far have received this type of loan, they accounted for about 15 percent of all funds raised as a result of their larger size. At the other extreme, one out of every five tax credit units received a state or local loan. However, since these loans were relatively small -- averaging only about $13,000 per unit -- they accounted for only about 8 percent of all the mortgage dollars that were received by LIHTC units.

Mortgage terms and payment schedules also varied considerably. Fifty-two percent of all tax credit units received at least one below market mortgage, which had an average interest rate of 2.4 percent, compared to 9.5 percent for market rate loans. Below-market loans also tended to be relatively large, averaging about $36,000 per unit. As a result of their larger size, subsidized mortgages accounted for approximately 63 percent of all the loan funds received thus far.

Payment schedules were frequently structured to increase the development's ability to handle debt. Some 15 percent of all tax credit units had at least one mortgage in which the initial debt service payments that were less than those associated with a conventional self-amortizing or balloon mortgage. Such special payment arrangements included deferred payment loans (which accounted for 2 percent of total loan dollars); graduated payment mortgages (1 percent); participation loans (0.5 percent); and cash flow loans (4 percent).[7]

Grants. The last and smallest source of funds for LIHTC projects were grants and forgivable deferred payment loans, which contributed an average of $741 per unit or about two percent of all funds raised. However, only about 15 percent of LIHTC units received some form of grant assistance. The average grant amount for these units was roughly $4,860. The great majority of these grants were federally funded (and, hence, reduced the tax credit basis). Based on our survey data, 48 percent of the grant monies received by LIHTC units came from the HODAG program, another 38 percent from Rental Rehab, and the remaining 14 percent from CDBG.

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[7] "Cash flow loans" restrict monthly mortgage payments to funds available from project cash flow.

5.1.2 Uses of Funds

Eighty-seven (87) percent of the funds that were raised in support of the average LIHTC unit were used to cover up-front development costs. Another 9 percent went to up-front developer fees, and about 3 percent were used to cover the costs associated with syndication. The residual category, which captured instances in which reported sources (i.e., equity, loans, and grants) exceeded reported uses (i.e., development costs, developer fees, and syndication costs), absorbed the remaining one percent of all funds raised. This section explores these various uses of funds in more detail.

Development Costs. The typical LIHTC project cost about $1.1 million to develop, or $38,600 per unit. Twenty-four percent was used for acquisition; another 66 percent went for rehabilitation or construction costs; and the remaining 10 percent was used to cover the various soft costs (excluding developer fees) that were associated with project development. Exhibit 5-4 presents the underlying distribution of these various costs on both a project and per-unit basis.

As shown in the chart, about 43 percent of the units in the sample had development costs that were between $30,000 and $40,000 per unit. About 25 percent of the units had costs below this range, while the remaining 32 percent had costs in excess of $40,000 per unit. For the most part, there were relatively few units whose costs were extremely high or low. Less than one percent of the units had total costs that were less than $10,000 per unit. At the other extreme, only 2 percent had costs that exceeded $70,000, a figure that is not uncommon in other subsidized construction or rehabilitation programs.

Developers Fees. The next largest use of LIHTC funds was for up-front developer fees. Such fees, which serve to compensate project developers for the time involved in putting the deals together, absorbed about 9 percent of all funds raised. When expressed as a fraction of the project's total development costs (a convention more in line with industry norms), LIHTC developers received an average fee of about 10 percent. The distribution of these fees was described in Chapter 4.

Syndication Costs. The costs associated with syndication -- which were also examined in Chapter 4 -- absorbed about 3 percent of all funds raised, or $1,605 per unit. Such costs represent about 13 percent of the gross investor equity that has been invested in LIHTC projects. Thus, for each dollar of equity raised, about 87¢ has been made available to LIHTC projects, while the remaining 13¢ has been used to cover the costs of syndication.

Residual Costs. The final use category is a residual one, and captures instances in which the reported sources of funds (i.e., equity, loans, and grants) exceeds the reported uses (i.e., development costs, developer fees, syndication costs).[8] The overall impact of such residuals was fairly small,

[8] When the opposite occurred (i.e., reported uses exceeded reported sources), the developer was assumed to make an equity contribution. Such contributions are included in the gross equity figures presented in the charts.

Exhibit 5-4

Distribution of Development Costs (1987 and 1988)

	Total Development Costs[1]	Acquisition Costs	Construction Costs	Other Costs
Distribution of Units by Per-Unit Costs				
$0	0.0	0.1	10.2	16.7
$1-$2,000	0.0	23.5	4.6	33.4
2,000-4,999	0.1	28.2	13.4	22.8
5,000-9,999	0.1	14.2	0.1	11.5
10,000-19,999	11.6	17.2	7.9	15.6
20,000-29,999	13.6	8.4	26.0	0.0
30,000-39,999	42.8	8.4	18.9	0.0
40,000-49,999	7.5	0.0	6.0	0.0
50,000-59,999	11.1	0.0	10.1	0.0
60,000-69,999	11.3	0.0	0.3	0.0
70,000+	1.9	0.0	2.5	0.0
All Units	100.0%	100.0%	100.0%	100.0%
Average Per-Unit Costs				
All Units	$38,566	$9,289	$25,578	$3,806
Units Reporting Costs	$38,566	$9,300	$28,461	$4,566
Distribution of Projects by Total Costs				
$0	0.0	2.3	5.7	33.9
$1-$100,000	21.5	64.2	20.8	45.7
$100,000-$499,999	19.3	17.8	28.8	15.1
$500,000-$999,999	29.8	10.5	23.8	4.9
$1,000,000-$1,999,999	18.8	3.0	14.5	0.1
$2,000,000-$2,999,999	3.1	0.6	0.6	0.0
$3,000,000-$3,999,999	0.0	0.1	3.6	0.3
$4,000,000-$4,999,999	2.2	0.8	1.5	0.0
$5,000,000-$9,999,999	5.1	0.8	0.6	0.0
$10,000,000	0.3	0.0	0.0	0.0
All Projects	100.0%	100.0%	100.0%	100.0%
Average Costs				
All Units	$1,060,361	$282,576	$703,334	$ 93,801
Units Reporting Costs	$1,060,361	$289,220	$745,910	$141,999

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

[1] Excludes developer fee.

accounting for only about one percent of total uses. However, for the subset of affected projects, the impact was somewhat larger. Residuals occurred in about 20 percent of the projects surveyed. For these developments, residual funds accounted for about 4 percent of total uses.

Despite repeated efforts to recontact survey respondents, we were unable to determine the intended use of these residuals in the majority of cases. As a result, we could not identify the extent to which such monies were invested in the project (for example, to fund reserves or to support additional construction) or were received as additional compensation by the project's developer. However, the majority of those who did respond indicated that the funds had stayed with the project.

5.2 Factors Affecting Sources and Uses of Funds

The previous sections described the financial structure of tax credit units as a whole. The following ones explore the extent to which the financial data vary across identifiable project types. In particular, we examine differences in the average sources and uses of funds by syndication status, credit year, subsidy mix, and credit type.

5.2.1 Variations by Syndication Status

Exhibit 5-5 presents information on the sources and uses of funds for syndicated and non-syndicated projects. Syndicated projects have been further stratified into private and public offerings. Additional information on the characteristics of LIHTC projects by syndication status was presented in Chapter 4 (see Exhibit 4-8).

As shown in Exhibit 5-5, development costs varied significantly by syndication status. Non-syndicated units had relatively low development costs, averaging $17,275. Syndicated units, by contrast, were more than twice as expensive, averaging $41,944. There was virtually no difference between units sold through public vs. private offerings.

Development fees also varied significantly by syndication status. The majority of non-syndicated projects did not report a development fee per se.[9] Since the project developer typically owns 100 percent of the development, such fees would only affect the tax treatment of the project and, conceivably, the amount of credit that was obtained. The largest development fees were realized in projects sold through public offerings. Since developers of such projects typically retained a significantly lower ownership share, these higher fees apparently serve as the principle source of compensation.

Syndication costs also vary according to the type of offering. Such costs, which include allowances for brokers fees, absorbed about 8 percent of the total funds available for projects that were sold through a public offering. Viewed alternatively, syndication costs averaged about 22 percent of total gross equity raised. Syndication costs associated with private offerings were considerably lower, accounting for about 2 percent of total

[9] One non-syndicated project was a turn-key development.

Exhibit 5-5

Sources and Uses Per Unit by Syndication Status (1987 and 1988)

	Syndicated							
	All[1]		Public		Private		Non-Syndicated	
	$	%	$	%	$	%	$	%
Sources of Funds								
Gross Equity	14,366	29.5	18,828	36.6	12,373	26.4	2,254	13.0
Loans	33,593	69.0	32,428	63.1	33,487	71.4	14,099	81.6
Grants	711	1.5	132	0.3	1,058	2.2	931	5.4
TOTAL SOURCES	48,670	100	51,389	100	46,918	100	17,284	100
Uses of Funds								
Development Costs	41,944	86.2	41,600	80.9	41,505	88.4	17,275	99.9
Developer's Fee	4,382	9.0	5,584	10.9	4,018	8.6	8	0.1
Syndication Costs	1,857	3.8	4,077	7.9	825	1.8	0	0
Residual	487	1.0	128	0.3	570	1.2	0	0
TOTAL USES	48,670	100	51,389	100	46,918	100	17,284	100
Annual Tax Credits Received	2,027		2,702		1,643		427	
Sample Size	86		24		58		14	

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

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[1] Includes 4 projects where type of offering was missing.

[2] The statistic reflects the ratio of the averages, where Total Tax Credits received was defined as 10 times the average annual tax credit received.

[3] Net Equity defined as gross investor equity less syndication costs.

uses and about 7 percent of the gross equity raised. By definition, syndication costs for non-syndicated projects were zero.

The combined impact of variations in developer fees and syndication costs is quite pronounced. Virtually all of the funds which were raised through non-syndicated projects were used to support development costs. This compares with 88 percent for projects sold through private placements (typically involving only one or two outside partners) and 81 percent for projects syndicated through public offerings. Again, these differentials may to a large extent reflect the costs associated with developing larger projects.

The figures in the chart also reveal significant differences in the relative importance of the various sources of funds. Loans and grants were most important for non-syndicated projects and least important for projects that were sold through public offerings. The relative importance of equity displayed the opposite pattern, ranging from a low of 13 percent for non-syndicated projects and a high of 37 percent for public offerings. Despite these variations, the ratio of the average loan amount to the average development cost (exclusive of fees) was about the same for the three project types, averaging between 78 and 81 percent. This pattern suggests that much of the equity which was invested in syndicated projects was ultimately absorbed by the various soft costs that were associated with the development and syndication of the project.

5.2.2 Variations by Subsidy Mix

Sources and uses also vary by subsidy mix. Exhibit 5-6 presents information on the average unit developed under each of the six main program variants:

- credit only projects;
- Section 8 Moderate Rehabilitation projects;
- FmHA 515 projects;
- projects with tenant-based assistance (e.g., vouchers or certificates);
- projects with previous assistance; and
- other kinds of assisted projects.

Exhibit 5-7 presents additional data on project size, syndication status, and investment type for each subsidy variant. Note that the sample sizes are extremely small. As a result, most of the observed differences are not statistically significant. However, the patterns displayed by the survey data -- for example, variations in project size and the average per unit credit amount -- are generally consistent with comparable statistics generated from the NCSHA data.

In general, units combining a mix of federal and local grants and loans (labeled "other subsidies" in the chart) absorbed the greatest amount of resources, averaging about $65,000 per unit. In addition to having relatively high development costs (about $58,000 per unit), such units also had a relatively high incidence of residual funds ($1,100 per unit). Conceivably, the reliance on a mix of subsidy sources may have weakened the financial

Exhibit 5-6

Per Unit Sources and Uses of Funds by Program Type (1987 and 1988)

	Credit Only		Section 8 Mod		FmHA		Tenant Based		Pre-Existing		Other	
	$	%	$	%	$	%	$	%	$	%	$	%
Sources of Funds												
Gross Equity	13,146	40.1	18,053	36.8	8,271	21.0	8,578	29.4	7,583	22.5	18,921	29.0
Loans	19,615	59.9	30,952	63.2	31,108	79.0	20,557	70.6	26,114	77.5	43,421	66.6
Grants	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2,902	4.4
Total	32,761	100.0	49,005	100.0	39,379	100.0	29,135	100.0	33,697	100.0	65,244	100.0
Uses of Funds												
Development Costs	29,601	90.4	38,369	78.3	33,072	84.0	25,775	88.5	30,079	89.3	58,237	89.3
Development Fee	1,392	4.2	6,806	13.9	4,680	11.9	2,595	8.9	2,086	6.2	4,512	6.9
Syndication Costs	1,769	5.4	3,743	7.6	1,336	3.4	264	0.9	1,359	4.0	1,395	2.1
Residual	0	0.0	87	0.2	291	0.7	501	1.7	174	0.5	1,100	1.7
Total	32,761	100.0	49,005	100.0	39,379	100.0	29,135	100.0	33,697	100.0	65,244	100.0
Annual Tax Credits Received	1,924		2,658		1,404		1,851		1,122		2,220	
Sample Size	10		12		38		15		8		17	

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 5-7

Project Characteristics by Program Type (1987 and 1988)

	Credit Only	Section 8 Mod	FmHA	Tenant Based	Pre-Existing	Other
Average Project Size	52	39	29	5	79	18
Average Development Costs[1] per Project ($1,000s)	$1,668	$1,596	$972	$140	$2,446	$985
Investor Type[2]						
Individual	53.1	40.8	51.7	46.9	55.3	30.3
Corporate	5.1	11.0	16.5	47.0	7.2	58.3
Both	41.8	48.2	31.8	6.1	37.5	11.4
	100.0	100.0	100.0	100.0	100.0	100.0
Developer's Ownership Share[1]	58.2	15.9	11.2	73.7	8.4	41.2
Syndication Type[1]						
Non-Syndicated	52.3	5.2	0.0	38.6	0.0	6.3
Public Syndications	40.7	77.3	22.7	6.6	32.4	13.5
Private Syndications	7.0	17.5	77.3	54.8	67.6	80.2
	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

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[1] Excluding developers fee.

[2] Weighted by number of units in the projects.

control of funding sources and led to higher costs and a higher incidence of potentially "excess" funds.

At the other extreme, units with tenant-based voucher and certificates appear to have been the least expensive to develop, with a total resource requirement of about $29,000 per unit. Although these units also had a relatively high incidence of residual funds ($500 per unit), their development costs were relatively low, averaging about $26,000 per unit and about $140,000 per project. Most of these projects were extremely small. The average development in the sample had less than 5 units, and about 70 percent were single-family homes.

The remaining program variants fall in between these two extremes. Credit only units and units with previous assistance have relatively low resource requirements when expressed on a per-unit basis, averaging about $33,000. However, both project types tend to be rather large, averaging 52 units per development for credit-only projects and 79 units per development for projects with previous assistance. As a result, total funding requirements for the average project (as opposed to unit) tend to be relatively high for both program types. Not surprisingly, a sizable fraction of all the units in these categories were sold through public offerings.

Farmers Home projects, which account for the largest proportion of tax credit units, have an average resource requirement of about $39,000 per unit, 84 percent of which is applied to the project's development costs. Equity invested in Farmers Home projects is below the norm, accounting for only about 21 percent of all funds raised. This outcome is consistent with the structure of the FmHA 515 loan program, which finances between 95 and 97 percent of a project's development costs (excluding fees). Funds raised in excess of those required to cover development (and syndication) costs can be retained as a development fee. According to our estimates, such fees averaged about 14 percent of development costs. While these fees are significantly below the average fees obtained in Section 8 Mod Rehab projects (18 percent), they are well above the fees reported in the other program variants (between 5 and 10 percent).

The Section 8 Moderate Rehabilitation Program, which can no longer be used in combination with the tax credit, appeared to be unique in several respects. To begin with, its overall resource requirements were at the high end of the spectrum averaging about $48,000 per unit. In addition, Mod Rehab projects have the lowest proportion of total funds being used to support the project's development costs (78 percent). Two factors contribute to this pattern. First, developer fees are relatively high, absorbing about 14 percent of all funds raised; as shown in Exhibit 5-7, the high development fees may in part be explained by the relatively low ownership shares being retained by project developers. In addition, syndication costs are relatively high for Mod Rehab projects, absorbing about 8 percent of all funds raised and representing about 21 percent of gross investor equity. These costs are primarily attributable to the heavy use of public offerings to generate equity for Mod Rehab projects.

5.2.3 Variations by Year

Exhibits 5-8 and 5-9 present comparable information on sources and uses of funds by tax credit year. For the most part, these data do not reveal pronounced differences in the financial structure of tax credit projects over time. However, 1988 projects tended to be more expensive than projects developed in the initial program year. Per-unit funding requirements increased by abut 16 percent. Although development costs (excluding fees) increased by 11 percent, developers fees and syndication costs increased at a much more rapid rate. In particular, average development fees rose from 7 to 11 percent of development costs, while average syndication fees rose from 10 to 13.5 percent of gross investor equity. As a result of these rising fees, the proportion of total funds that were used to support development costs fell from 90 to 86 percent. These trends are consistent with the greater reliance on public syndications for 1988 developments. Only about 21 percent of all LIHTC units were sold through public offerings in 1987, compared to about 31 percent in 1988.

5.2.4 Variations by Production Type

The final set of exhibits (5-10 and 5-11) present data on the characteristics of tax credit units stratified by production type. Four types of projects have been identified: new construction, major rehab (construction costs above $20,000 per unit, including fee), minor rehab (construction costs between $2,000 and $20,000 per unit, including fee), and acquisition. While rehab projects are potentially eligible for both an acquisition and construction credit, "acquisition" projects are only eligible for the 4 percent credit.

Not surprisingly, projects tend to be clustered into two distinct groups. Those involving new construction and major rehab have fairly similar characteristics: they are relatively expensive, they are almost always syndicated, and development fees and syndication costs are relatively high. In contrast, projects involving minor rehab or simple acquisition have significantly lower development costs and funding requirements (on a per-unit basis) and are much less likely to be syndicated.

Despite these similarities, each program variant has some fairly distinct characteristics. For example, units classified as major rehabs have the highest resource requirements (over $56,000 per unit), the highest development costs ($47,000), and the highest incidence of residual funds. They also have the lowest proportion of available funds that are used to support development costs (84 percent), and receive a larger proportion of their total funding from equity contributions (38 percent) and government grants (4 percent). However, major rehab projects tend to be fairly small, averaging only about 20 units per development. As a result, the development costs of the typical project ($959,000) is significantly below the average funds required for a newly constructed project ($1,357).

Exhibit 5-8

Sources and Uses of Funds by Credit Year: 1987 and 1988

	1987		1988	
	$	%	$	%
Sources of Funds				
Gross Equity	10,972	27.4	13,594	29.2
Loans	28,980	72.4	31,927	68.5
Grants	70	0.2	1,075	2.3
Total	40,022	100.0	46,596	100.0
Uses of Funds				
Development Costs	35,849	89.6	39,965	85.8
Development Fee	2,548	6.4	4,406	9.5
Syndication Costs	1,140	2.8	1,837	3.9
Residual	485	1.2	389	0.8
Total	40,022	100.0	46,596	100.0
Annual Tax Credits Received	1,725		1,852	
Sample Size	42		58	

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 5-9

Project Characteristics by Credit Year: 1987 and 1988

	1987	1988
Project Average Project Size	30	30
Investor Type[1]		
Individual	56.3%	40.5%
Corporate	23.3	24.5
Both	20.4	35.0
	100.0%	100.0%
Developer's Ownership Share[1]	25.9%	32.8%
Syndication Type[1]		
Non-Syndicated	14.7%	13.0%
Public Syndications	20.8	31.1
Private Syndications	64.5	55.9
	100.0%	100.0%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

[1] Weighted by number of units in the projects.

Exhibit 5-10

Per Unit Sources and Uses of Funds by Production Type (1987 and 1988)

	New Construction		Major Rehab		Minor Rehab		Acquisition Only	
	$	%	$	%	$	%	$	%
Sources of Funds								
Gross Equity	11,965	25.0	21,368	38.0	3,271	14.6	6,392	23.8
Loans	35,635	74.3	32,704	58.2	19,109	85.4	20,423	76.2
Grants	347	0.7	2,167	3.8	0	0.0	0	0.0
Total	47,947	100.0	56,239	100.0	22,380	100.0	26,815	100.0
Uses of Funds								
Development Costs	41,943	87.5	47,150	83.8	21,489	96.0	24,017	89.6
Development Fee	4,333	9.0	5,282	9.4	652	2.9	1,502	5.6
Syndication Costs	1,470	3.0	2,672	4.8	238	1.1	1,128	4.2
Residual	201	0.5	1,135	2.0	1	0.0	168	0.6
Total	47,947	100.0	56,239	100.0	22,380	100.0	26,815	100.0
Annual Tax Credits Received	1,798		2,952		590		817	
Sample Size	56		26		10		8	

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 5-11

Project Characteristics by Production Type
(1987 and 1988)

	New Construction	Major Rehab	Minor Rehab	Acquisition Only
Average Project Size	36	20	38	33
Average Development Cost per Project ($1,000s)	$1,357	$959	$767	$910
Investor Type[1]				
Individual	45.4	33.5	100.0	62.6
Corporate	20.5	42.2	0.0	6.0
Both	34.1	24.3	0.0	31.4
	100.0	100.0	100.0	100.0
Developer's Ownership Share[1]	28.2	13.3	72.0	34.1
Syndication Type[1]				
Non-Syndicated	0.2	8.0	63.3	31.9
Public Syndications	27.5	39.5	0.4	31.3
Private Syndications	72.3	52.5	36.3	36.8
	100.0	100.0	100.0	100.0

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

[1] Weighted by number of units in the projects.

5.3 Summary

Over $1.2 million was raised in support of the average LIHTC development, or about $44,400 per unit. Mortgage debt constituted the largest source of project funding, averaging about 70 percent of all funds raised. Equity contributions accounted for about 28 percent of the average unit's total sources, while only about 2 percent was raised from grants or forgivable deferred payment loans.

About half of the tax units developed thus far have received at least one below-market mortgage. Such mortgages have an average interest rate of roughly two-and-one-half percent and account for over 60 percent of total loan funds received. The largest single source of subsidized debt financing was the Farmers Home Administration. However, below-market loans were also provided by state and local tax-exempt bond issues, federally-funded housing programs (e.g., CDBG, UDAG, Rental Rehab), and a variety of other state and local programs.

Eighty-seven percent of the funds that were raised in support of the average LIHTC unit were used to cover its up-front development costs. The typical LIHTC project cost about $1.1 million to develop, or $38,600 per unit. Twenty-four percent of development costs were used for acquisition; another 66 percent went for rehabilitation or construction costs; and the remaining 10 percent was used to cover the various soft costs (excluding developer fees) that were associated with project development.

The next largest use of LIHTC funds was for up-front developer fees, which averaged about 10 percent of development costs. However, one out of every three tax credit units did not report a developers fee, about half of these sole-proprietorships. When such units are excluded from the figures, the average development fee increases to 14 percent. In general, developers who retained the highest ownership shares received the lowest development fees. The costs associated with syndication -- including legal expenses, sales commissions, and syndication fees -- absorbed another 3 percent of all funds raised, or about 13 percent of gross investor equity.

Reported sources of funds (i.e., equity, loans, and grants) exceeded reported uses (i.e., development costs, developer fees, syndication costs) in about 20 percent of the projects surveyed. Available data do not enable one to identify the extent to which such monies were invested in the project (for example, to fund reserves or to support additional construction) or were received as additional compensation by the project's developer. However, adding residual funds to the reported development fee would increase the average rate from 10 to 11 percent in the sample as a whole, and from 14 to 19 percent for projects with residual funds.

Sources and uses of funds varied by subsidy type. In general, units combining a mix of federal and local grants and loans absorbed the greatest amount of resources, averaging about $65,000 per unit. In addition to having relatively high development costs (about $58,000 per unit), such units also had a relatively high incidence of residual funds ($1,100 per unit). Conceivably, the reliance on a mix of subsidy sources may have weakened the

financial control of funding sources and led to higher costs and a higher incidence of potentially "excess" funds.

Units with tenant-based voucher and certificates appear to have been the least expensive to develop, with a total resource requirement of about $29,000 per unit. Although these units also had a relatively high incidence of residual funds ($500 per unit), their development costs were relatively low, averaging about $26,000 per unit and about $140,000 per project. Most of these projects were extremely small. The average development in the sample had less than 5 units, and about 70 percent were single-family homes.

The remaining program variants fall in between these two extremes. Credit only units and units with previous assistance have relatively low resource requirements when expressed on a per-unit basis, averaging about $33,000. However, both project types tend to be rather large, averaging 52 units per development for credit-only projects and 79 units per development for projects with previous assistance. As a result, total funding requirements for the average project (as opposed to unit) tend to be relatively high for both program types. Not surprisingly, a sizable fraction of all the units in these categories were sold through public offerings.

Farmers Home projects have an average resource requirement of about $39,000 per unit, 84 percent of which is applied to the project's development costs. Equity invested in Farmers Home projects is below the norm, accounting for only about 21 percent of all funds raised. This outcome is consistent with the structure of the FmHA 515 loan program, which finances between 95 and 97 percent of a project's development costs (excluding fees). Funds raised in excess of those required to cover development (and syndication) costs can be retained as a development fee. According to our estimates, such fees averaged about 14 percent of development costs.

Finally, units developed under the Section 8 Moderate Rehabilitation Program -- which are no longer eligible for the tax credit -- were among the most expensive, with an average resource requirement of roughly $48,000. In addition, Mod Rehab projects have the lowest proportion of total funds being used to support the project's development costs (78 percent). Two factors contribute to this pattern. First, developer fees are relatively high, averaging about 18 percent of development costs. In addition, syndication costs are relatively high for Mod Rehab projects, absorbing about 8 percent of all funds raised and representing about 21 percent of gross investor equity. These costs are primarily attributable to the heavy use of public offerings and the below-average ownership share retained by project developers.

Chapter 6

Financial Analysis

This chapter presents a financial analysis of LIHTC projects from the survey sample. The analysis was performed by Price Waterhouse, using the computer model it developed for this purpose and the database prepared by ICF.

The chief product of the financial analysis is an estimate of the internal rate of return that an equity investor may earn on the after-tax benefits from a project. We refer to one particular set of economic assumptions about the future performance of projects as the "base case." We first estimate internal rates of return and related statistics for this base case (Section 6.1). Then we re-estimate the internal rates of return under alternative economic assumptions in an effort to see whether such assumptions have had a material effect on the calculations (Sections 6.2-6.5). Finally, we re-estimate the internal rates of return in hypothetical cases that are designed to indicate the significance of the low-income housing credit to equity investors in the projects in the projects (Section 6.6).

The calculated internal rate of return is only an estimate, principally because it incorporates economic assumptions about the future performance of the project. As such, the returns presented in this chapter should not be taken as indicative of actual returns available in the market for any project or group of projects; rather they should be viewed as suggestive of the magnitude of the incentives provided to tax credit projects and the relative returns provided by different project types. Caveats regarding the limitations of the survey sample are also application to these estimates.[1]

6.1 Base Case Analysis

This section describes the methodology and results of the financial analysis for the base case. The results relate to sources of after-tax cash flow to equity investors, after-tax internal rates of return to equity investors, and estimated costs to the public sector.

6.1.1 Methodology and Assumptions

The financial analysis model estimates the equity investors' after-tax cash flow in three main blocks: 1) pre-tax cash flow (including cash flow from operations and from disposition of a project); 2) tax liability before tax credits; and 3) tax credits.

Pre-tax Cash Flow From Operations

An investor earns a part of pre-tax income from the cash flow of the project. Operations provide cash flow in the form of gross rents, rental and operating subsidies, and other operating income. Costs arise from collection losses, operating expenses, and debt service.

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[1] See Appendix A for a detailed discussion of the sample and its limitations.

Several assumptions are made in order to calculate pre-tax operating income in the base case. Gross rental income, government operating assistance, and other gross operating income are inflated at 2 percent per year. Gross operating income is then reduced by operating expenses, which are assumed to inflate at 3 percent per year, and by vacancy and collection loss, which is derived as a percentage of gross operating income. For the first year, the vacancy and collection loss percentage has been set at the level indicated by survey respondents; for subsequent years, the percentage has been fixed for all projects at 5 percent.

In most projects, a portion of pre-tax income is set aside as reserves for replacing depreciated property.[2] In addition, equity investors sometimes pay a small percentage of pre-tax income to the operator of the project. In the event that the project incurs a pre-tax cash deficit in any year, however, the operator of the project will often guarantee the deficit and the investor will not incur any pre-tax loss from operations. In a limited partnership, the equity investor sometimes pays an additional portion of pre-tax cash flow to a general partner as compensation for managing the partnership.

If a project uses certain government subsidies (e.g., FmHA 515), the amount of cash flow may be limited by law to a percentage of the gross equity contributions (8 percent in this case). Any amounts above the statutory limit are carried over in the model to an escrow account which earns interest at the same rate as the account for replacement reserves. The escrow account balance is disbursed as part of pre-tax cash flow from disposition of the project.

Pre-tax Cash Flow From Disposition

The other part of pre-tax income is derived from disposition of the project. The base case assumes that the project earns just enough sales proceeds at disposition to pay remaining debt balances and that the only other cash flow to investors at disposition will be the distribution of replacement reserve and escrow balances.

In the base case, therefore, cash flow to the investor consists only of amounts from operations plus tax credits less tax liability. The assumption of no net cash flow from sales proceeds has been adopted because of limited survey information on the projected appreciation of the property. In addition, some prospectus and pro-forma financial statements submitted with survey responses have adopted the same assumption. Also, some investment

[2] The model maintains a reserve account, the balance of which generates interest at an 8 percent annual rate. The balance of the account is reinvested every five years. For the purposes of tax depreciation, it is assumed that the reserve is reinvested in property with a depreciable life of 5 years.

literature suggests that parties considering investments in low income housing projects do not expect significant cash flow from disposition.[3]

Tax Liability

Separate calculations of tax liability are necessary for corporate and individual investors. The model assumes a corporate investor pays a 34 percent federal marginal income tax rate, and an individual investor 28 percent. The model further differentiates corporate and individual investors with respect to the use of tax losses. The corporate investor is assumed to use any losses in the year in which they are incurred. The individual is assumed to carry over any losses and use them only to the extent of any taxable income from the project in future years.[4]

Other than the two differences described above, the model treats individual and corporate investors in the same way. A limited partner claims deductions from taxable income in the form of deductible business expenses, depreciation, and amortization, and earns the low income housing credit and perhaps a historic rehabilitation tax credit. In the model, these tax deductions and credits are proportionate to the limited partner's share of project cash flows.

The depreciable basis of real property and personal property indicated in survey responses is depreciated over 27.5 and 5 years, respectively. The model sets the state and local income tax rate at 7.00 percent, and assumes that combined state and local taxable income equals federal taxable income prior to any deduction for state and local taxes.

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[3] Smith, D.A., "Qualified Housing Tax Credits: The Only Shelter Game in Town," Real Estate Review, Fall 1987, pp. 15-20.

Smith states that "Investors will buy qualified housing for its tax shelter. All other factors will be less significant. Residual value is seriously reduced by the type of property that is eligible for the credits and by the fifteen year restriction period (p. 18)."

"Low Income Housing Tax Credit Not Helping Generate Enough New Housing," Tax Management Real Estate Journal, Oct. 1988, pp. 227-229.

This article also states that projects are unlikely to have significant value after 15 years.

[4] The limitation on the individual investors' use of losses is consistent with the assumption that such losses are passive activity losses under Internal Revenue Code (IRC §469) and that individual investors do not have taxable income from other passive activities against which the losses may be used. The model assumes that any unused passive losses carried over to the year of disposition may be used in that year without limitation.

Tax Credits

Based on information in the developers' survey, the model calculates low income housing tax credits to be claimed in years one to 11 of the project, and accounts for historical rehabilitation tax credits, if any. The following information from the survey is used to calculate the amount of low income housing tax credit which may be claimed in each year:

- **Eligible basis:** the maximum amount of basis eligible for determination of the credit according to the rules in sec. 42(d) of the Internal Revenue Code.

- **Applicable fraction:** the percentage applied to the eligible basis to determine the amount of basis which qualifies for the credit ("qualified basis"). Under IRC §42(c), the applicable fraction is the lesser of the units or floor space which are attributed to low income residency. In the model, it is assumed that the applicable fraction and, therefore, the qualified basis does not change over the course of the project.[5]

- **Applicable percentage:** the percentage applied to the amount of the qualified basis to determine the low-income housing credit under IRC §42(b). For property placed in service during 1987, the applicable percentage is 9 percent for new buildings and substantial rehabilitation expenditures which are not federally subsidized and 4 percent for all other buildings. For property placed in service in later years, the applicable percentage is adjusted to maintain a present value of 70 percent and 30 percent for the two types of credits.

- **First-year proration percentage:** IRC §42(f) provides the taxpayer several options for determining the month in which the credit period begins. One-tenth of the total credit is prorated according to the month in which the credit period begins and may be claimed in the first year. A full one tenth of the credit may be claimed in years 2 through 10. Any remaining credit due to the first year proration may be claimed in the eleventh year of the credit period.

In addition to the low-income housing credit, a separate credit may be available for certain rehabilitation expenditures incurred in improving certified historic structures (IRC §46 and §48(g)). In the model, investors

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[5] The vacancy rate is set in the first year at the amount indicated by survey respondents and at 5 percent for subsequent years. For projects in which the first year vacancy rate is less than 5 percent, the simplifying assumption is that the increase in the second year would be considered a de minimis change not requiring credit recapture. For projects in which the average first year vacancy rate is more than 5 percent, it is assumed that the higher rate is due to rent-up of the project and that by year-end a five percent vacancy rate has been achieved.

earn the amount of any historic rehabilitation tax credit indicated by survey respondents in the first year of the project. Little use was made of historic rehabilitation credits by projects in the sample; fewer than 6 percent of survey respondents report any historic rehabilitation tax credits. The analysis assumes full use of tax credits earned by both individual and corporate investors.

After-tax Cash Flows and Internal Rates of Return

The financial analysis model calculates expected after-tax internal rates of return (IRR's) to individual and corporate equity investors in a low-income housing project. Results have been analyzed for the sample as a whole, as well as for projects categorized by subsidy mix, type of construction, whether syndicated or not, and year of tax credit allocation. All results have been weighted to reflect returns to the average LIHTC housing unit.

The calculation of IRR's depends on a number of projections provided by survey respondents or assumed for the financial model. Consequently, IRR's vary widely and may not reflect the actual rates that will eventually be earned by investors. With this limitation in mind, the results presented in the remaining sections of this chapter focus less on the absolute level of rates of return and more on the composition of returns and the magnitude of changes that result under certain alternative assumptions.

6.1.2 Sources of After-tax Cash Flow to Equity Investors

Exhibit 6-1 shows the present discounted value of estimated after-tax cash flow to individual equity investors on an initial investment of $10,000. The exhibit also shows the percentage composition of individual equity investors' after-tax returns according to the three components discussed above. Percentages have been computed as the ratio of the present value of each component to total after-tax cash flow, and therefore sum to 100 percent.

On average, tax credits are the most important component when all projects are considered at once, without regard to any of the stratifications. The contribution of tax credits to total after-tax cash flow is estimated to be 75 percent for the average LIHTC unit. Pre-tax income accounts for about 29 percent of after-tax cash flow, and income taxes before credits reduce after-tax cash flow by an estimated 4 percent.

Projects which receive no government assistance other than the low income housing tax credit derive the highest percentage of after-tax cash flows from tax credits (over 90 percent). FmHA projects and Section 8 Moderate Rehabilitation projects also appear to depend more heavily on tax credits for cash flow than indicated by the average for all projects. Only projects with a mix of other subsidies generate more cash flow from pre-tax income than from tax credits; on average, about 59 percent of after-tax cash flow from such units is generated by pre-tax income.

As indicated by the negative percentages in Exhibit 6-1, the average unit in most categories generates taxable income in present value terms. However, projects with previous subsidies derive a small amount of after-tax cash flow from the use of tax losses in the year of disposition. In the

Exhibit 6-1

Cash Flow Components as a Percentage of After-Tax Returns to Individual Investors[1]

	Present Value of Returns	Percentage of Returns: Pretax Income or Loss	Tax Liability Before Credits	Tax Credits
BY SUBSIDY TYPE:				
LIHTC Only	$14,031	13%	-3%	91%
Previous Subsidy	$13,909	22%	8%	70%
Moderate Rehabilitation	$13,017	19%	-1%	81%
FmHA	$15,375	18%	-0%	82%
Certificate/voucher	$16,173	51%	-27%	76%
Other	$24,130	59%	-11%	53%
BY CONSTRUCTION/REHABILITATION TYPE:				
New Construction	$19,313	30%	-8%	78%
Major Rehabilitation	$15,066	15%	8%	77%
Minor Rehabilitation	$15,327	45%	-16%	71%
Acquisition Only	$11,798	40%	-1%	61%
BY SYNDICATION TYPE:				
Syndicated	$16,833	27%	-2%	75%
Non-syndicated	$16,890	40%	-17%	77%
BY YEAR:				
1987	$13,871	21%	-5%	84%
1988	$18,181	32%	-4%	71%
TOTAL SAMPLE	$16,842	29%	-4%	75%

Note: Percentages may not add to 100 due to rounding

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

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[1] All amounts were calculated as present discounted values, prior to computing percentages. The discount rate used is 6.8 percent per year, the after-tax average yield on A-rated corporate bonds during 1987-88 to an individual whose overall marginal income tax rate is 33 percent (i.e., the combined federal and state tax rate, reduced by deduction of state tax for federal tax purposes).

subsidy group, estimated tax liability before credits relative to after-tax cash flow is the greatest for certificate voucher projects.

The average ratio of tax credits to total after-tax cash flow is at least 60 percent for all types of construction, rehabilitation, and acquisition. On average, acquisition-only projects rely relatively less on tax credits than other construction/rehabilitation subgroups. Major rehabilitation projects are also estimated to derive a small portion of cash flow from the use of tax losses.

Low-income housing tax credits account for about the same amount of after-tax cash flow in syndicated projects (75%) as in non-syndicated projects (77%). Low-income housing credits account for more of the after-tax cash flow in projects with credits allocated in 1987 (84%) than those with 1988 allocations (71%). Conversely, pre-tax income appears to be a more important component of after-tax cash flow for units developed in 1988 rather than 1987.

6.1.3 After-tax IRR to Equity Investors

Exhibit 6-2 presents estimates of the average after-tax internal rate of return (IRR) for LIHTC units categorized by subsidy mix, construction type, syndication status, and credit year. According to these estimates, the average after-tax internal rate of return will be between 17 and 19 percent. These results do not appear to be significantly different from many observations in the literature. The Housing and Development Reporter (April 3, 1989 pp. 966-67) suggested that projected rates of return for individual investors will be between 16 and 17 percent, in 1988. Other articles have projected rates of return between 12 and 40 percent.[6]

Under the methodology used in this analysis, the average estimated IRR for individual investors will generally be lower than that for corporate investors in the same projects. Certificate/voucher projects may be the exception, as shown in the exhibit. While under base case assumptions the passive loss restrictions will generally result in a lower rate of return for

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[6] Brewer, E.C., "Corporate Investments in Low Income Housing," Corporate Taxation, March/April 1989. ("A computation of internal rate of return could easily yield 25-40%, far outpacing other corporate investments")

Tyson, W. C., "Syndicating Low Income Housing Tax Credit Projects for Capital," The Real Estate Finance Journal, Summer 1988, pp. 44-50. ("It is projected that the projects (in the National Equity Fund) will yield a 15% after-tax return to investors...")

Haight, G.T. and Smith, K.J., "Tax Reform and Low Income Housing Rehabilitation," Journal of Real Estate Development, Winter 1988, 36-44. (The authors develop a model which projects a 22 percent after-tax IRR for individual investors).

Smith, D.A., "Syndication Topics," Real Estate Review, Fall 1987, pp. 15-20. (The author develops a model which projects an after-tax IRR of 12.5 percent.)

Exhibit 6-2

After-Tax Internal Rates of Return
Projections for 1987 and 1988 Projects

	Corporate Investor	Individual Investor
BY SUBSIDY TYPE:		
LIHTC only	14%	12%
Previous Subsidy	16%	13%
Moderate Rehabilitation	15%	14%
FmHA	19%	16%
Certificate/voucher	25%	26%
Other	24%	23%
BY CONSTRUCTION/REHABILITATION TYPE:		
New Construction	20%	19%
Major Rehabilitation	18%	16%
Minor Rehabilitation	17%	13%
Acquisition Only	16%	14%
BY SYNDICATION TYPE:		
Syndicated	18%	16%
Non-syndicated	21%	19%
BY YEAR:		
1987	16%	15%
1988	20%	18%
TOTAL SAMPLE	19%	17%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

individual investors, higher corporate income tax rates may cause the individual investor to earn a higher after-tax IRR than the corporate investor in some projects. (The previous section noted that on average certificate/voucher projects have a higher tax liability relative to after-tax cash flow than any other type of project.)

It is necessary to remember that the different rates calculated for individual and corporate investors are solely the consequence of applying different tax treatments to the same data. In actual transactions, tax advantages or disadvantages may be taken into account in setting other terms of the transaction.

Credit-only units have the lowest estimated IRRs, averaging 14 percent for corporate investors and 12 percent for individual investors. On the other hand, units with a mix of subsidies and certificate/voucher projects have the highest average IRR. Rates of return also appear to be marginally higher for newly-constructed units, non-syndicated developments, and projects whose credit was allocated in 1988.[7]

6.1.4 Present Value of Public Sector Assistance

Public assistance to low-income housing occurs not only around the time that the project is placed in service but, like the benefits of the low-income housing credit and of subsidized loans, may continue into future years as well. Present value analysis is one method of aggregating benefits that occur over many years. It treats one dollar of future cost as being of lesser value than one dollar of present cost. The rate of discount that is applied to governmental assistance which is provided in the future is often related to the interest rate paid by the government. The present value of a string of costs that are paid over many years is thus dependent on the discount rate applied to future costs. In general, a higher present value results when a lower discount rate is used.

The estimated present value of various forms of government assistance for LIHTC units over a 15-year holding period is shown in Exhibit 6-3.[8] All entries in the exhibit are measured on a pre-tax basis, with present values computed using a pre-tax discount rate. Thus, changes in income taxes, if any, due to the receipt of operating subsidies or grants and to the payment of interest are not included. The after-tax subsidy element of loans is the difference between the original principal and the present value of debt service payments.

Under these assumptions, the average LIHTC unit will receive governmental assistance which amounts to about $37,600 in present value terms.

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[7] The estimated increase of IRRs for 1988 conflicts with other estimates. See, Housing and Development Reporter, April 3, 1989, pp. 966-67.

[8] The discount rate is assumed to be 8.62 percent per year, the 1987 and 1988 average yield for 10-year Treasury bonds. The 20-year holding period required for FmHA projects have been reduced to 15 years for purposes of comparability in the cost estimates.

Exhibit 6-3

Present Discounted Value of Government Subsidies Per Unit

	LIHTC	Historic Rehab Credit	Grants	Operating Subsidies	Subsidized Loans	Total
BY SUBSIDY TYPE:						
Credit Only	$13,166	$0	$0	$0	$0	$13,166
Previous Subsidy	$6,955	$0	$0	$25,686	$4,196	$36,837
Moderate Rehabilitation	$16,766	$1,468	$0	$46,891	$336	$65,461
FmHA	$8,976	$0	$0	$6,533	$17,268	$32,777
Certificate/voucher	$11,946	$0	$0	$18,196	$0	$30,141
Other	$14,021	$3,369	$2,902	$26,095	$11,024	$57,411
BY CONSTRUCTION/REHABILITATION TYPE:						
New Construction	$11,735	$0	$311	$10,575	$13,092	$35,716
Major Rehabilitation	$18,600	$3,784	$2,167	$28,112	$2,064	$54,727
Minor Rehabilitation	$3,611	$0	$0	$7,757	$4,383	$15,751
Acquisition Only	$5,104	$0	$0	$24,144	$555	$29,803
BY SYNDICATION TYPE:						
Syndicated	$13,054	$1,114	$686	$17,583	$9,152	$41,601
Non-syndicated	$4,397	$0	$792	$10,237	$0	$15,426
BY YEAR:						
1987	$10,940	$441	$70	$15,060	$8,305	$34,826
1988	$12,099	$1,178	$992	$17,102	$7,517	$38,888
TOTAL SAMPLE	$11,739	$946	$702	$16,468	$7,762	$37,627

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 6-4

Individual Investor After-Tax Returns
Property Appreciation Case

	Base Case	2% Land Appreciation	2% Land and Building Appreciation
BY SUBSIDY TYPE:			
Credit Only	12%	12%	15%
Previous Subsidy	13%	13%	15%
Moderate Rehabilitation	14%	14%	16%
FmHA	16%	17%	18%
Certificate/voucher	26%	27%	28%
Other	23%	23%	24%
BY CONSTRUCTION/REHABILITATION TYPE:			
New Construction	19%	19%	20%
Major Rehabilitation	16%	16%	18%
Minor Rehabilitation	13%	15%	20%
Acquisition Only	14%	14%	17%
BY SYNDICATION TYPE:			
Syndicated	16%	17%	18%
Non-syndicated	19%	20%	24%
BY YEAR:			
1987	15%	15%	18%
1988	18%	18%	19%
TOTAL SAMPLE	17%	17%	19%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

This total consists primarily of operating subsidies (44 percent), the low income housing tax credit (31 percent), and subsidized loans (21 percent).

Some categories of projects show a much different profile from these averages. Per unit subsidies to Section 8 Moderate Rehabilitation projects and projects with a mix of subsidies are well above average. Projects involving major rehabilitation and syndicated projects also are estimated to have relatively high per unit subsidies.

In contrast, units assisted only by the LIHTC have the smallest per unit subsidy -- about one-third the average amount. Projects involving minor rehabilitation and nonsyndicated projects also are estimated to have relatively low per unit subsidies.

Operating subsidies -- the chief component of average per unit subsidies -- account for more than two-thirds the per unit subsidy in the case of previously subsidized projects, and Section 8 Moderate Rehabilitation projects. The prominence of operating subsidies in Section 8 projects may reflect the facts that virtually all tenants receive a rental subsidy and, as described in Chapter 3, have incomes that are under 15 percent of the local median.

The low-income housing credit -- the second most important component of average per unit subsidies -- accounts for more than one-third of the per unit subsidy in the case of certificate/voucher projects, projects involving major rehabilitation, and of course projects which benefit only from the LIHTC.

Subsidized loans -- the third most important component of average per unit subsidies -- accounts for more than one-quarter of the per unit subsidy in the case of FmHA projects, newly-constructed projects, and projects involving minor rehabilitation.

There appears to be no clear connection between per unit subsidization (Exhibit 6-3) and rates of return to equity investors (Exhibit 6-2), when different categories of projects are reviewed. In the three categories that show the highest estimated per unit subsidization, rates of return are below average in two categories (Section 8 Moderate Rehabilitation projects and projects involving major rehabilitation). Working the other way, in the three categories that show the highest estimated rate of return, per unit subsidization is below average in two categories (certificate/voucher projects and nonsyndicated projects).

6.2 Property Appreciation Case

This case examines the role that future property appreciation plays in projecting investor returns. It compares base case IRRs to those projected under two alternative assumptions about sales proceeds earned at project disposition.

6.2.1 Methodology and Assumptions

As previously explained, the base case calculations assume that the disposition of property does not generate additional cash flow to project

investors. The purpose of this section is to test the sensitivity of results due to this assumption. Accordingly, individual investor IRR's are calculated under two alternative assumptions. In the first alternative, sales proceeds not only provide enough cash to pay debt balances but also reflect a 2 percent annual appreciation on land. The second alternative assumes a 2 percent annual appreciation on land and buildings, out of which the debt balance must be paid.[9]

6.2.2 Results

Results are shown in Exhibit 6-4. In general, the first alternative assumption (relating to land appreciation only) does not materially increase estimated IRR's. The second alternative assumption (relating to land and building appreciation) has a somewhat greater impact on estimated IRRs. In both cases, the impact is lessened by the fact that increased realizations occur well in the future and are thus heavily discounted in the computation of an internal rate of return.

The alternative appreciation assumptions make the greatest difference for projects involving minor rehabilitation. The land and building appreciation assumption would increase average IRRs by 7 percentage points for this subgroup. Non-syndicated projects are also more sensitive to assumptions about appreciation and would gain an average of 5 percentage points of IRR under the land/building appreciation assumption. All other subgroups would gain not more than 3 percentage points in the land and building appreciation case versus the base case.

6.3 Cash Flow and Operating Expense Case

In this case, cash flows before taxes are set to zero to assess the importance of pre-tax income to total investor return. In addition, the importance of controlling operating expenses is considered by increasing the assumed spread between operating expense inflation and operating income inflation.

6.3.1 Methodology and Assumptions

This section tests the sensitivity of base case results to assumptions about pre-tax cash flow and operating expense. Because pre-tax cash flows are subject to a number of assumptions about inflation, vacancy rates, financing, and disposition of the project, it was decided to determine the impact of setting pre-tax cash flows equal to zero. In projects with pre-tax cash flow deficits, this assumption will increase rates of return.

Two other alternatives to the base case have been developed to focus on the sensitivity of results to operating expense inflation. The first alternative increases the base-case spread between inflation rates for

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[9] The appreciation rate of two percent equals the assumed inflation rate for operating income. It also approximates the average of appreciation rates indicated in survey responses.

operating expense and income from 1 to 5 percentage points. The second alternative sets the spread at 10 percentage points.

6.3.2 Results

The results of the simulations shown in Exhibit 6-5 indicate that operating expense inflation and pre-tax earnings play an important role in the return to equity investors. This is to be expected in light of the estimate in Exhibit 6-1 that 29 percent of after-tax returns are derived from pre-tax income. Setting pre-tax income to zero, for instance, results in an average decrease in individual investor IRRs of about 8 percentage points, while setting operating expense inflation to 5 and 10 points above operating income inflation results in decreases of 6 and 9 percentage points, respectively.

While results across subgroups vary widely, no average IRR would exceed 10 percent under the assumption of zero pre-tax income. Inflation in expenses would also greatly impact financial results across subgroups. Projects in the previous-subsidy, minor rehabilitation, and acquisition - only subgroups would have the largest declines in IRR.

It may be concluded that generating pre-tax income and controlling project operating expenses have a significant impact on investor cash flows and that the sensitivity of IRR results to the parameters used for projections varies widely across survey subgroups.

6.4 Conventional Financing Case

6.4.1 Methodology and Assumptions

The amount of debt service is one of the most important determinants of pre-tax cash flow. Exhibit 6-6 summarizes the average structure of loans in terms of interest rates, the number of years in which the loan must be paid, and the ratio of loans to the total value of the project. To gauge the importance of subsidized loans and loans with non-conventional repayment schedules, the IRRs projected for individual investors have been compared with those that were calculated in a conventional financing case. The term in the conventional financing case is assumed to be 30 years and the mortgage rate is set to the 1987-1988 average HUD series on contract rates for conventional first mortgages.[10]

6.4.2 Results

Results are shown in Exhibit 6-6. While conventional mortgage rates exceeded 10 percent in 1987 and 1988, the average financing rates for the entire sample and each subgroup are below this rate. The sample average loan term is approximately 30 years, but the average varies considerably across subgroups. As expected, interest rates for FmHA projects are much less than those associated with conventional loans, and terms are longer. In addition,

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[10] Federal Reserve Bulletin, Washington: Board of Governors of the Federal Reserve System, January, 1990, pp. A-37.

Exhibit 6-5

Individual Investor After-Tax Returns
Pretax Income and Operating Expense Cases

	Base Case	Zero Pretax Income/Loss	7% Operating Expense Inflation	12% Operating Expense Inflation
BY SUBSIDY TYPE:				
Credit Only	12%	10%	2%	3%
Previous Subsidy	13%	7%	1%	-3%
Moderate Rehabilitation	14%	8%	11%	10%
FmHA	16%	10%	11%	8%
Certificate/voucher	26%	7%	24%	18%
Other	23%	8%	21%	17%
BY CONSTRUCTION/REHABILITATION TYPE:				
New Construction	19%	10%	15%	12%
Major Rehabilitation	16%	10%	14%	11%
Minor Rehabilitation	13%	5%	-1%	-7%
Acquisition Only	14%	2%	5%	1%
BY SYNDICATION TYPE:				
Syndicated	16%	9%	12%	9%
Non-syndicated	19%	8%	4%	3%
BY YEAR:				
1987	15%	8%	9%	6%
1988	18%	9%	12%	9%
TOTAL SAMPLE	17%	9%	11%	8%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 6-6

Average Characteristics of Project Financing

	Average Financing Rates	Average Years to Pay Loans	Average Loan to Value Ratio	Individual Investor After-Tax IRR Assuming: Reported Financing	Individual Investor After-Tax IRR Assuming: Conventional Financing
BY SUBSIDY TYPE:					
LIHTC only	9.46%	23	72.45%	12%	9%
Previous Subsidy	6.29%	28	80.40%	13%	2%
Moderate Rehabilitation	9.76%	31	70.58%	14%	13%
FmHA	1.25%	50	80.74%	16%	7%
Certificate/voucher	9.94%	11	73.95%	26%	25%
Other	7.01%	21	77.36%	23%	2%
BY CONSTRUCTION/REHABILITATION TYPE:					
New Construction	4.44%	35	76.51%	19%	5%
Major Rehabilitation	8.86%	25	63.44%	16%	14%
Minor Rehabilitation	7.17%	28	88.00%	13%	2%
Acquisition Only	8.07%	24	77.44%	14%	7%
BY SYNDICATION TYPE:					
Syndicated	5.69%	32	73.28%	16%	5%
Non-Syndicated	9.74%	21	81.78%	19%	16%
BY ALLOCATION YEAR					
1987	5.58%	30	75.45%	15%	8%
1988	6.64%	31	74.16%	18%	7%
TOTAL SAMPLE	6.31%	30	74.56%	17%	7%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 6-7

Individual Investor After-Tax Returns
Equity Pay-in Case

	Survey Data	No Pay-in For Equity Investments
BY SUBSIDY TYPE:		
Credit Only	12%	11%
Previous Subsidy	13%	13%
Moderate Rehabilitation	14%	13%
FmHA	16%	15%
Certificate/voucher	26%	26%
Other	23%	21%
BY CONSTRUCTION/REHABILITATION TYPE:		
New Construction	19%	17%
Major Rehabilitation	16%	14%
Cosmetic Rehabilitation	13%	13%
Acquisition Only	14%	14%
BY SYNDICATION TYPE:		
Syndicated	16%	15%
Non-syndicated	19%	19%
BY YEAR:		
1987	15%	14%
1988	18%	16%
TOTAL SAMPLE	17%	16%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 6-8

Distribution of After-Tax Internal Rates of Return

IRR Ranges	Based on Survey Data		Assuming No LIHTC	
	Corporate Investor	Individual Investor	Corporate Investor	Individual Investor
Less than -0%	1%	0%	56%	62%
0 to 5%	6	6	17	25
5 to 10%	16	20	14	1
10 to 15%	16	34	3	1
15 to 20%	29	8	2	3
20 to 25%	15	14	2	2
25 to 30%	3	2	7	0
30 to 35%	10	2	0	7
35 to 40%	1	10	0	0
40 to 45%	5	2	0	0
45 to 50%	0	2	0	0
More than 50%	0	0	0	0
Total	100%	100%	100%	100%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 6-9

After-Tax Internal Rates of Return With and Without Low Income Housing Tax Credits

	Corporate Investor		Individual Investor	
	Rate of Return With LIHTC	Rate of Return No LIHTC	Rate of Return With LIHTC	Rate of Return No LIHTC
BY SUBSIDY TYPE:				
LIHTC Only	14%	-3%	12%	-4%
Previous Subsidy	16%	-1%	13%	-7%
Moderate Rehabilitation	15%	-6%	14%	-6%
FmHA	19%	-1%	16%	-2%
Certificate/voucher	25%	7%	26%	8%
Other	24%	8%	23%	4%
BY CONSTRUCTION/REHABILITATION TYPE:				
New Construction	20%	2%	19%	2%
Major Rehabilitation	18%	-4%	16%	-9%
Cosmetic Rehabilitation	17%	3%	13%	-6%
Acquisition Only	16%	2%	14%	2%
BY SYNDICATION TYPE:				
Syndicated	18%	-0%	16%	-3%
Non-syndicated	21%	5%	19%	4%
BY YEAR:				
1987	16%	-1%	15%	-5%
1988	20%	1%	18%	0%
TOTAL SAMPLE	19%	1%	17%	-2%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 6-10

Average Monthly Income Per Unit
Amount Reported Versus Amount Required to Sustain Rates of Return With No LIHTCs

	Corporate Investor			Individual Investor		
	Income Reported	Income Required	Percent Change	Income Reported	Income Required	Percent Change
BY SUBSIDY TYPE:						
LIHTC Only	$296	$532	80%	$296	$496	68%
Previous Subsidy	$408	$525	28%	$408	$501	23%
Moderate Rehabilitation	$482	$762	58%	$482	$731	52%
FmHA	$253	$390	54%	$253	$363	44%
Certificate/voucher	$380	$631	66%	$380	$614	62%
Other	$545	$821	50%	$545	$782	43%
BY CONSTRUCTION/REHABILITATION TYPE:						
New Construction	$381	$585	54%	$381	$553	45%
Major Rehabilitation	$422	$768	82%	$422	$720	71%
Cosmetic Rehabilitation	$315	$377	20%	$315	$367	16%
Acquisition Only	$350	$434	24%	$350	$416	19%
BY SYNDICATION TYPE:						
Syndicated	$399	$632	58%	$399	$597	50%
Non-syndicated	$272	$347	27%	$272	$336	23%
BY YEAR:						
1987	$353	$536	52%	$351	$507	43%
1988	$392	$613	56%	$392	$581	48%
TOTAL SAMPLE	$380	$589	55%	$380	$558	47%

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

the average loan-to-value ratio is more than 80 percent. Projects with previous subsidies also have relatively high loan-to-value ratios.

The results of the simulation shown in the last two columns of the exhibit indicate that, on average, subsidized and non-conventional loans account for a ten percentage point difference between IRRs in the base case versus the conventional financing case. Across subsidy types, subsidized and non-conventional financing appear to be relatively more important for projects in the previous-subsidy and other-subsidy subgroups. Only in the certificate/voucher subgroup does the IRR exceed 15 percent under the conventional loan assumption. Across the construction and rehabilitation subgroups, IRRs would fall below 10 percent without subsidized and non-conventional financing in every subgroup except in major rehabilitation. Syndicated projects and projects with 1988 allocations appear to be relatively more sensitive to assumptions about financing than non-syndicated projects and projects with 1987 allocations.

6.5 Equity Contribution Case

6.5.1 Methodology and Assumptions

The final alternative case tests the sensitivity of results to a requirement that investors pay equity in a lump sum in the first year of the project. IRRs for this case are compared to those from the base case in which some projects permit investors to pay their equity contribution in installments over a number of years.

6.5.2 Results

The results in Exhibit 6-7 show that not allowing equity investments to be paid in installments would have the effect of lowering average individual investor IRRs by about one or two percentage points. The impact would not appear to be significant in any category.

6.6 Non-credit Assisted Case

This case compares the average IRRs of credit-assisted projects in the base case with the average IRRs projected when the low income housing tax credit is removed from the investors' after-tax cash flow. After the cash flow benefit of the credit is removed, the increase in operating income that would be required to achieve base case IRRs is computed.

6.6.1 Methodology and Assumptions

Exhibit 6-1 has already indicated that the low income housing tax credit generally provides a larger percentage of after-tax cash flow than pre-tax income. This section further illustrates the role that the credit plays in investor returns by examining what happens if it is removed from cash flows. First, Exhibit 6-8 reports the estimated decrease in after-tax IRRs by comparing the distribution of rates of return with and without the credit. For each subgroup, Exhibit 6-9 reports the average IRRs earned with and without the low income housing tax credit.

In addition, this section focuses on the amount that might be required to compensate the investor for the loss of the credit. Assuming that a low income housing project were built without the credit and that equity investors earn the same rate of return as in the base case implies an increase in other receipts from the project. One indicator of the compensating increase in receipts is the minimum additional operating income per housing unit required to preserve an investor's after-tax rate of return from a credit-assisted project, assuming no other changes in financial structure. The compensating increase in operating income is determined inclusive of stemming tax effects. For example, higher rents would increase the taxable income of an individual investor and may accelerate the time at which previously undeducted passive losses become deductible.

Exhibit 6-10 reports the first-year monthly income per unit that would be required to compensate investors for the loss of the credit. The reported results which involve the compensating increase are subject to interpretative limitations.[11] Nevertheless, they indicate in understandable terms the financial significance of the low-income housing tax credit for a project.

6.6.2 Results

Under base case assumptions, only about 7 percent of projects are estimated to yield less than a five percent internal rate of return to corporate investors, while almost two-thirds have estimated IRRs over 15 percent (Exhibit 6-8). When the low income housing tax credit is set to zero, however, about half of the weighted survey sample would incur after-tax cash flow deficits and less than 12 percent of projects would yield corporate IRR's over 15 percent.

The results in Exhibit 6-9 show that, on average, projects would have an estimated cash flow deficit without the credit. The average IRR without the credit for the overall sample, as well as for many subgroups, would be less than zero. The highest average IRR for corporate investors would occur in the certificate/voucher category, but would not exceed 9 percent.

While it is difficult to set an exact benchmark for the after-tax cash flow required to attract equity investors, rates of return below 5 percent clearly do not match those which may be achieved in the market for relatively risk free investments. It may be concluded, therefore, that the low income housing tax credit plays a critical role in the feasibility of the projects which have been structured like the projects in the survey sample. The model projections suggest that rates of return required to attract equity investors

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[11] The compensating increase in income is an artificial construct. It does not constitute a prediction that operating income would be higher by the calculated amount if the low-income housing tax credit had not been available to the credit-assisted project. It is quite unlikely that the various parties would agree to structure a credit-assisted transaction and a creditless transaction in exactly the same way except for the rent to be charged. Moreover, the compensating rental increase may imply a level of rent which would not be affordable or attractive for a sufficient number of low-income tenants, or perhaps for any low-income tenants at all.

and, therefore, insure the feasibility of the project, would be difficult to obtain if the credit is set to zero and no other financial aspects of the project are changed.

Considering the entire sample, Exhibit 6-10 shows that compensating the corporate investor for the loss of the low income housing tax credit would require the economic equivalent of an average increase in monthly gross operating income from $380 per unit to $589 per unit, an increase of 55 percent. Similarly, the compensating increase in the case of an individual investor would represent an increase of almost 47 percent.

Considering the sample by type of subsidy, the compensating increase in income to the corporate investor would range from less than 30 percent for previous subsidy projects to 80 percent for LIHTC only projects. In accordance with the expectation that cosmetic rehabilitation and acquisition only projects would earn a relatively lower credit, such projects require less than a 25 percent increase in operating income to compensate the corporate investor. By contrast, the compensating increase for major rehabilitation and new construction projects, which would be expected to earn relatively more low income housing tax credit, would be 82 and 54 percent, respectively.

In terms of percentage increases, the compensating income required for syndicated projects would be more than double that required for non-syndicated projects. Projects with the low income housing tax credit allocated in 1988 would require slightly higher compensation than projects with 1987 allocations.

While it would be difficult to assess the feasibility of increasing gross operating income for the sampled projects, increases of 50 percent, or even 25 percent, in gross rent and rental subsidies are obviously high and further illustrate the importance of the low income housing tax credit to the feasibility of the projects.

6.7 Summary

This chapter has presented the results of a financial analysis of tax credit projects conducted by Price Waterhouse. The analysis uses a financial model developed specifically for this study which estimates internal rates of return for the sample projects. It is important to note, however, that the model relies on economic assumptions about the future performance of the projects. Thus the model results are only estimates and may differ from actual returns to investors for a given project or group of projects.

According to these estimates, the average tax credit unit has a projected IRR of between 17 and 19 percent. In any given development, returns to individual investors are generally lower than those projected for corporate investors due to passive income restrictions on the individual investor's use of tax losses. Estimated rates of return vary somewhat by subsidy mix, although the differences are not pronounced for most program types. However, units with a mix of other subsidies and certificate/voucher projects have estimated rates of return that are between 6 and 11 percentage points higher than the other program variants. This pattern appears to reflect the above-average cash flow that is being generated by such developments.

An examination of the underlying composition of projected returns reveals that the credit itself is far and away the most important contributor to the profitability of the average project. The financial analysis also suggests that the majority of units developed thus far need the credit to be financially viable. For example, about 6 out of every 10 units would have an after-tax cash flow deficit if the credit were eliminated, and only about 12 percent would yield a projected IRR above 15 percent. Only two subsidy types would continue to project a positive average return without the credit -- units developed in combination with tenant-based vouchers and certificates and units with a mix of other subsidies.

The analysis also produced estimates of the public sector costs of LIHTC units calculated over a 15-year holding period. Such costs reflect the net present value of the various forms of government assistance that have been received by tax credit units, including: subsidized loans; operating subsidies; grants; historic rehabilitation credits; and the tax credit itself. Since the projections embody a number of key assumptions regarding future inflation, interest rates and income growth, these estimates should be viewed as illustrative at best.

According to the analysis, the average LIHTC unit will receive a stream of subsidies whose 15-year costs to the public sector will amount to roughly $38,000 (in present value terms). Operating subsidies account for the largest component of total subsidy costs, averaging about $16,400 per unit (or 44 percent of projected costs). In contrast, tax credits contribute about $11,700 to the subsidy cost of the average unit, while below-market loans account for another $7,700.

Section 8 Mod Rehab projects and projects with a mix of other subsidies are the most heavily subsidized developments. Units in such projects receive a combination of government subsidies whose overall cost to the public sector amount to $65,000 and $57,000, respectively. Not surprisingly, units with just the tax credit receive the least amount of subsidy, averaging about $13,000 per unit. Although projects with tenant-based rental assistance have costs that are considerably higher (about $30,000 per unit), their costs are comparable to credit only units when tenant-based rental subsidies are excluded. The remaining program types receive subsidies whose projected costs to the public sector are between $33,000 and $37,000 per unit.

Chapter 7

The Tax Credit as a Housing Assistance Tool

The findings presented in this paper describe the Tax Credit Program as it operated in its first two years. Legislation enacted at the end of 1989 extended the credit for another year and modified the program in an attempt to increase its effectiveness as a housing production and assistance tool. This chapter assesses the role that the Tax Credit has played thus far in the support of low-income housing and, to the extent that available data allow, examines its cost-effectiveness in comparison to other assistance approaches.

The overall effectiveness of the program is judged from three broad perspectives:

- first, with respect to its impact on the supply of low-income housing;
- second, with respect to its costs; and
- third, with respect to both the level and the distribution of benefits that it provides to low-income households.

While previous chapters have dealt with these issues in some detail, this chapter summarizes the major findings of the study as they relate to the formulation of housing policy.

7.1 Impact on Production

Assessing the impact of the LIHTC on the production of low-income housing is an inherently complex task. Ideally, one would need to know the level of production that would have occurred in the absence of the program. Such projections, while highly desirable, are well beyond the scope of this research and, given the state of existing forecasting models, would be subject to considerable error. As a result, the production impact of the Tax Credit program must be assessed in a more indirect way based on the nature of the activity that has occurred thus far as well as on the estimated impact of the credit <u>per se</u> on the financial returns to equity investors.

As a first step, it is useful to put the program in some perspective, and to assess its relative contribution to the overall supply of low-income housing. To date, tax credit units represent a relatively small share of the assisted housing stock. Even if the entire allocation for 1989 were to be used, total production achieved thus far would amount to roughly 250,000 units. This figure represents about 6 percent of the existing stock of federally-assisted housing (4.1 million units). Thus, when judged from this broad perspective, the impact of the program has been relatively small to date.

However, when judged from the perspective of new production, its impact has been significantly greater. Available data do not enable one to identify the total number of affordable housing units that were produced in 1987 and

1988. However, one can approximate the number of Section 8 Moderate Rehab units that were placed into service over the period, as well as the number of units that were constructed under the FmHA 515 program. These estimates are presented in Exhibit 7-1, along with the number of tax credit units that also received each kind of subsidy.

The figures in the chart suggest that the low-income housing tax credit has become a major factor in the production of subsidized housing. According to our rough calculations, about 75 percent of the production that occurred under the Mod Rehab and FmHA programs in 1988 also received an LIHTC. While Mod Rehab projects are no longer eligible to receive the credit, FmHA should continue to use it heavily. Tax credits are also likely to be used in virtually all of the units that are produced under mortgage revenue bonds (MRBs) since such credits do not count against the state's allocated share and since income requirements under an MRB are comparable to those established by the credit.

The heavy use of the tax credit in combination with other assistance programs does not in itself imply that the LIHTC was needed in order to achieve this production. However, the financial analysis presented in Chapter 6 lends at least some support to this hypothesis. As previously described, the majority of projects that have been developed under the program to date would have achieved a negative rate of return -- or, alternatively, would have required a substantial rent increase -- had the credit not been used. In the absence of the credit, different types of units might have been produced or the same units might have been financed or syndicated differently. But despite these important caveats, the tax credit appears to have played a key role in insuring the financial viability of the sampled developments.

It is also important to recognize that the tax credit has primarily been used to support new construction and major rehabilitation. As described in Chapter 2, over 70 percent of the units developed thus far fell into these two categories, and their importance has been increasing over time. Given the impact of the credit on the projected profitability of these developments, the production of such units most likely represents a net addition to the affordable housing stock. However, the production impact of acquisitions, which accounted for about 13 percent of all tax credit units, is more problematic to assess. While the tax credit was again a key component in making the transactions financially profitable to outside investors, such transactions could have little, if any, impact on the supply of low income housing.[1]

It is also important to recognize that the credit has been combined with other subsidies in the great majority of units developed thus far (about 80 percent). The result has been to allow the credit program to operate in a

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[1] The large majority of these units were previously subsidized under the older production programs (e.g., Section 221(d)3, Section 8 New Construction) and may have needed the credit to restore the profitability of the development. However, absent additional data, one cannot determine the extent to which the credit per se played an important role in preventing defaults.

Exhibit 7-1

Tax Credit Share in Total Production
(1987 and 1988)

	Total Production	Tax Credit Units	Percent of Total
Section 8 Mod Rehab			
1987	12,433[1]	4,396[2]	35.4
1988	7,859[1]	5,817[2]	74.0
FmHA Section 515			
1987	17,434[3]	10,176	58.4
1988	16,489[3]	12,603	76.4

SOURCES: HUD, FmHA, HAC, NCSHA.

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[1] Data are based on all projects that reached HAP (95% occupied) in each calendar year. As such, they reflect a slightly later stage than tax credit units, which need only have been "made available for occupancy" in that year.

[2] Data are based on total units in projects that received Section 8 Mod Rehab subsidies. Assistance may not be provided for all units in the project.

[3] Data are based on obligations of FmHA funds and reflect the working drawing stage. Lag time between this stage and construction completion is unknown.

broader set of markets than it might otherwise have served. When the credit was used alone, it has tended to be concentrated in high income, low cost areas. Markets with less favorable economic conditions -- particularly those where construction costs are high in relationship to household income -- have tended to be underserved by the tax credit program. Although the widespread provision of additional subsidies has mitigated this pattern somewhat, the proportion of 1988 tax credit units that were located in unfavorable markets was only 64 percent of the share expected on the basis of population alone.

7.2 Relative Costs

As described above, the credit program has been a reasonably effective production tool despite its relatively slow initial start-up and the various caveats noted above. Based on an average credit amount of $2,185 per unit, the program is capable of supporting about 145,000 new units per year. However, the relative efficiency of the tax credit depends to a large degree on its costs in comparison to other approaches designed to support the housing needs of low income households. It also depends on the extent to which it has been able to serve a broad range of household types.

This section compares the public sector costs of the typical tax credit unit to the costs of a housing voucher. Such comparisons help to adjust for variations in the relative cost of standard housing across different housing markets. Vouchers also provide a useful benchmark for assessing the overall effectiveness of the different program variants. While vouchers may be ineffective in certain types of housing markets and for certain types of households, they are the principal focus of current federal programs and generally represent the least-cost approach for housing assistance.

The section also examines costs from the perspective of the various actors involved in the creation of tax credit units. In particular, it assesses the extent to which the tax credit has generated "excess" returns to developers, syndicators, and equity investors.

7.2.1 Comparing LIHTC Costs to Housing Vouchers

Exhibit 7-2 compares the estimated costs of LIHTC units to the estimated costs of a housing voucher. Estimated costs for a housing voucher have been derived for each program type based on the actual income of project residents and the local FMR. We began by calculating the assistance payment in the initial year -- defined as the difference between the FMR and 30 percent of the household's adjusted income.[2] We then estimated the present value of a 15-year stream of assistance payments, using a two percent rate of inflation

[2] Under the Section 8 program, gross family income is adjusted for the presence of minors ($480 per child) and elderly individuals ($400), as well as for child care and medical expenses. However, such data were not collected through the survey. Ignoring such adjustments will tend to underestimate voucher costs.

Exhibit 7-2

Estimated LIHTC Versus Voucher Costs[1] (1987 and 1988)

	Average FMR	Average Tenant Income	Average LIHTC Subsidy Costs	Average Voucher Costs	Ratio of LIHTC Costs to Voucher Costs
Credit Only	$340	$11,719	$13,166	$ 7,355	1.8
Pre-Existing	369	7,121	36,837	22,108	1.7
Section 8 Mod Rehab	473	4,564	65,461	44,618	1.5
FmHA Section 515	340	8,921	32,777	14,215	2.3
Tenant-Based Assistance	424	9,606	30,141	21,175	1.4
Other Subsidies	415	20,379	57,411	9,781	5.9
All Units	$381	$11,898	$37,627	$15,516	2.4

SOURCES: HUD Section 8 Data; ICF Developer Survey. See Appendix A for a discussion of the survey sample and its limitations.

[1] Costs reflect net present value of 15-year subsidy stream.

and an 8.6 percent government discount rate, and assuming that the assistance payments do not affect the taxable income of recipients or area landlords. (These procedures and assumptions are comparable to those employed in deriving the cost estimates presented in Chapter 6). Note that the estimates for housing vouchers do not include an allowance for the PHA's administrative costs. Since comparable data are not available for tax credit units, they have been excluded from both sets of projections.

As shown in the chart, the projected cost of the average tax credit unit over a 15 year period of time ($37,627) is almost two-and-one-half times as high as the comparable cost of a housing voucher ($15,516). The fact that the average tax credit unit is more expensive than a housing voucher is not surprising, nor is it unique to the LIHTC. In fact, the relatively high costs of new construction and substantial rehabilitation programs in comparison to housing vouchers were used as the principle justification for the elimination of most production programs in the early years of the Reagan Administration.

What is perhaps more revealing is the relative ranking of the different program variants in comparison to housing vouchers. Since the latter are based on the actual incomes and location of project residents, this relative ranking in effect controls for intra-program differences in the kinds of markets and households served. However, as will be described in more detail below, it does not control for variations in the level of benefits received by project residents.

Several notable patterns emerge when the different program variants are assessed in this way. The most striking pattern relates to Section 8 Moderate Rehabilitation units. While their estimated costs are relatively high -- averaging about $65,000 over the 15-year period -- their costs in relationship to housing vouchers are comparable, if not somewhat below the ratios observed for the other program variants. Two factors explain this outcome: first, the incomes of Section 8 tenants are extremely low; and second, such units tend to be located in relatively expensive markets. Both factors make the cost of an "otherwise" comparable housing voucher relatively high in comparison to other programs.

The relative ranking of credit only units also changes when they are examined from this perspective. On the one hand, credit only units represent the least expensive program variant, averaging roughly $13,000 per unit. On the other hand, tenant incomes are relatively high and FMRs are relatively low. As a result, the ratio between the LIHTC subsidy costs and the cost of similarly targeted housing vouchers is comparable to that observed for most of the other program variants.

However, the data do suggest that two program variants -- namely, Farmers Home and "Mixed Subsidy" developments -- have ratios that are significantly above the ones observed for other kinds of units. As described in Chapter 6, both program variants receive relatively large capital and operating subsidies. At the same time, both have comparable voucher costs that are relatively low. Farmers Home projects tend to be located in low cost areas yet serve tenants whose incomes are close to the overall mean. "Mixed" subsidy projects are located in more expensive areas but have tenant incomes that are relatively high. As a result, neither program variant looks

particularly good when compared to the costs of similarly targeted housing vouchers.

7.2.2 Ranking Program Variants By Transaction Costs

An alternative way of assessing the efficiency of the tax credit program is to examine the extent to which it appears to generate "excess" returns -- either to the equity investors or to project developers and syndicators. Under perfect competition, all parties involved in the development of a tax credit project would receive an amount that reflects the degree of risk assumed, as well as a "market" rate of return on services rendered (for the project developer and syndicator) or capital invested (for the equity partners). However, the conditions required to achieve such results are unlikely to prevail. The limited supply of tax credit allocations and other forms of housing assistance, combined with the informational constraints that likely characterize the equity market for low income housing, could conceivably produce substantial windfall profits for some, if not all of the parties involved in any given transaction.

Unfortunately, there is no way of identifying the precise rate of return or fee that would be "appropriate" for any development (where the appropriate amount is defined as the minimum level required to get the project built). However, information on sources and uses of funds and projected rates of return can be used to shed at least some light on this increasingly important and controversial issue.

The financial analysis presented in Chapter 6 showed relatively little variation in the projected rates of return to tax credit projects by subsidy mix. Furthermore, projected rates of return to tax credit units were more or less in line with projected returns as estimated by major syndicators. These findings suggests that the equity market has been fairly competitive with respect to investments in tax credit units. While riskier projects may well earn a higher rate of return, there was no pronounced tendency for certain program variants to have significantly higher rates of return.

The one major exception to this general conclusion relates to "mixed subsidy" developments, which had projected rates of return of about 23 to 24 percent. As described in Chapter 5, developers of such units retained a relatively high ownership share, and relied heavily on private placements and corporate investors to generate equity. Presumably, the "boutique" nature of these developments, coupled with the difficulties associated with determining "appropriate" subsidy amounts when multiple sources are involved, might have produced some windfall gains. On the other hand, given the obvious complexities involved in such developments, higher rates might well be required to compensate developers (and their other partners) for participating in the project.

The fees being earned by developers and syndicators show a somewhat greater degree of variation by subsidy mix, and the combined impact is often relatively large. As described in Chapters 4 and 5, Section 8 Mod Rehab units had the highest combined syndication and development fees. As a result, a relatively low proportion of all funds raised (78 percent) was used to underwrite their development costs. Although the proportion was also

relatively low for Farmers Home units (84 percent), the remaining program variants had ratios that were each about 90 percent.

At a minimum, such findings suggest that the transaction costs associated with these two program variants -- Section 8 and Farmers Home -- have tended to be relatively high. In both types, developers have retained relatively low ownership shares, which appears to be associated with higher up front compensation. Also, Section 8 Mod Rehab projects have been syndicated primarily through public offerings which, as shown in Chapter 4, are the most costly mechanism.

Higher costs could well be justified if these program variants were inherently more complex to package and sell. However, if this were not the case, these findings would suggest that at least some participating developers and syndicators have been experiencing windfall gains -- a conclusion that is at least consistent with recent concerns regarding the allocation of Section 8 Mod Rehab contracts.

7.3 Tenant Benefits

A final way of assessing the relative efficacy of the tax credit program is from the perspective of its intended beneficiaries -- namely, the residents of LIHTC projects. As described in Chapter 3, the tax credit program has generally served a relatively high proportion of very low-income households. About 87 percent of the households currently living in LIHTC units had incomes below 60 percent of the local median -- the income limitation established in the vast majority of tax credit projects. The average income of these "qualifying" tenants was only about $8,900 in 1989, or about 35 percent of the local median. One out of every four qualifying tenants had an income below $5,000 per year.

The LIHTC's ability to serve households at the lower end of the income scale depends in large part on the widespread use of rental assistance. Over 45 percent of all current residents also receive a rental subsidy. The incomes of such households were considerably below the incomes of other qualifying residents ($5,981 versus $11,404). The rents that were charged to qualifying households also appeared to vary with the receipt of rental assistance. Residents receiving a voucher or certificate had rents that were about 91 percent of the ceiling established by the LIHTC, compared to 83 percent for unassisted households.

These patterns enhanced, but did ensure the affordability of tax credit units. As noted in Chapter 3, three out of every four residents of LIHTC projects has a rent-to-income ratio of 30 percent or less. However, while tenants with additional subsidies paid 30 percent of their incomes toward rent, the average ratio for qualifying households without assistance was 37 percent. About 60 percent of all such households paid more than 30 percent of their incomes on rent, and about 10 percent paid more than half.

Unassisted households also had a higher incidence of over-crowding although this was not a widespread phenomenon. About 4 percent of all qualifying households without additional assistance exceeded Section 8 Occupancy standards. Most of these residents were in credit only projects

where the proportion exceeding occupancy standards was roughly 9 percent. Although rent-to-income ratios in these developments were relatively low (about 33 percent on average), at least part of this favorable result was achieved at the expense of some over-crowding.

The above results suggest that the LIHTC has generally served a wide range of income groups, despite initial concerns that families with incomes considerably below the established ceilings would be excluded from the program. The data also suggest that rents are generally affordable and that the vast majority of families are adequately housed. The principle reason for these favorable findings appears to be the provision of rental subsidies. Households without such assistance generally had higher incomes, paid somewhat lower rents, but nevertheless devoted a higher proportion of their income to rent. In addition, roughly 4 percent of all such households live in a unit that was too small.

Exhibit 7-3 presents estimates of the overall value of the benefits that have been received by LIHTC residents. Benefits have been measured as the difference between the Fair Market Rent (FMR) of each unit and the rent that the household pays (including utilities). For households with rental subsidies, the latter is equal to 30 percent of their total income; for households without assistance, it equals the unit's actual rent. Whenever the amount that the tenant paid exceeded the FMR, benefit levels were set to zero.

These calculations assume that the applicable FMR represents the true "market" value of each tax credit unit. This is obviously not the case. The underlying value of any unit may be higher or lower than the FMR depending on its specific set of amenities and the characteristics of its neighborhood. However, while we attempted to collect information on the market value of the surveyed units, such data were typically missing and, in any event, would be subject to an unknown respondent error. As a result, the benefit estimates presented here should be viewed as extremely rough approximations of the underlying rents savings that may have been actually realized by LIHTC residents.

According to these estimates, the average LIHTC resident saved about $121 per month as a result of the various subsidies provided under the program. Such savings varied with qualifying status and the receipt of rental assistance. As shown in the chart, benefits were highest for tenants with rental assistance, averaging about $231 per month. This relatively high benefit level reflects the fact that the rent contribution of such households is limited to 30 percent of their total income. Benefits were lowest for non-qualifying households, averaging about $13 per month. As described in Chapter 3, the rents that were paid by such households were significantly higher than the rents that were paid by qualifying tenants, and often exceeded the FMR.

Savings that accrued to qualifying households who did not receive a rental subsidy fell in between these two extremes. Such households had an average benefit level of roughly $56 per month. As described in Chapter 3, the rents that were paid by these tenants tended to be somewhat below the rents that were charged to subsidized tenants ($347 versus $317). However, unlike subsidized tenants, qualifying households without a certificate or voucher paid the entire rent amount. Since the amount of rent skewing was not

Exhibit 7-3

Monthly Rent Savings by Income and Subsidy Status (1987 and 1988)

BY SUBSIDY STATUS	
Qualifying With Subsidies	$231
Qualifying Without Subsidies	56
Non-Qualifying	13
All Households	$121
BY HOUSEHOLD INCOME	
All Qualifying Households	
Under $5,000	$275
$5,000- 7,499	163
7,500- 9,999	86
10,000-12,499	68
12,500-14,999	47
15,000+	57
All Qualifying Households	$134
Qualifying Households without Subsidies	
Under $5,000	$ 67
5,000- 7,499	55
7,500- 9,999	58
10,000-12,499	59
12,500-14,999	44
15,000-19,999	54
All Households	$ 56

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

pronounced, this resulted in a significantly lower benefit level to qualifying households without assistance.

Benefits levels also varied with the income of project residents. As shown in the exhibit, benefit levels rise as the household's income falls. However, most of this pattern is again due to the provision of additional subsidies to the poorest households (as opposed to the skewing of project rents in favor of the very poor). Among qualifying households without assistance, benefit levels are fairly flat across income categories, a pattern that is consistent with the relatively high rent-to-income ratios that were observed among the poorest members of this group.

Exhibit 7-4 presents estimated rent savings by subsidy mix, again distinguishing between qualifying and non-qualifying households with and without additional rental subsidies. The first column presents the average savings received by all project residents. As shown in the chart, the variation in these savings is considerable, ranging from a low of $61 for credit only units to a high of $387 for Section 8 Mod Rehab units. The extremely high average subsidy for Section 8 Mod Rehab tenants reflects a combination of three factors: virtually all of the residents receive a direct rental subsidy; the residents are extremely poor; and FMRs (the presumed market values of the units) are relatively high. Likewise, benefit levels for credit only units are relatively low because rental subsidies are not employed and because FMRs are relatively low.

The second column in the chart presents average benefit levels for qualifying tenants. These figures are close to the averages for all LIHTC residents because, as noted in Chapter 3, the great majority of tenants have incomes below 60 percent of the local median. The one exception is for units with "other subsidies." Only about 65 percent of the units in these developments qualify for the credit. As a result, when one restricts the sample to residents of qualifying units -- whose rents are subject to a mandatory cap -- the average benefit level increases from $75 to $113 per month.

The last two columns in the chart present benefit estimates for qualifying households with and without assistance. The patterns underscore the fact that the benefit levels received by households with certificates and vouchers are almost four times as high as those received by unassisted households. This pattern exists regardless of the development's overall subsidy mix. Benefits received by qualifying households without assistance show relatively little variation by subsidy mix, although the levels observed in "voucher/certificate" projects appear to be relatively low.

Exhibit 7-5 presents some extremely crude cost-benefit calculations for LIHTC units stratified by subsidy mix. The first column estimates the stream of benefits that will accrue to residents of tax credit units over the 15-year subsidy period. The second and third columns present the ratio of these benefit estimates to: (1) the estimated public sector costs of the average LIHTC unit; and (2) the estimated costs of comparably targeted housing vouchers (the cost estimates that underlie these calculations were presented in Exhibit 6-3).

Exhibit 7-4

Monthly Rent Savings by Subsidy Mix
(1987 and 1988)

	All Households	Qualifying Households		
		Total	With Subsidies	Without Subsidies
Credit Only	$ 61	$ 62	NA	$ 62
Pre-Existing Subsidy	187	187	$208	57
Section 8 Mod Rehab	387	387	387	NA
FmHA	99	102	150	70
Vouchers/Certificates	146	150	300	21
Other	75	113	229	41
	$121	$137	$231	$ 56

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

Exhibit 7-5

Cost-Benefit Estimates by Subsidy Mix (1987 and 1988)

	Estimated 15-Year Benefit Stream	Benefits + LIHTC Costs	Benefits + Voucher Costs
Credit Only	7,029	0.53	0.96
Pre-Existing Subsidy	21,532	0.58	0.97
Section 8 Mod Rehab	44,618	0.68	1.00
FmHA	11,439	0.35	0.80
Vouchers/Certificates	16,792	0.56	0.79
Other	8,604	0.15	0.88
	14,001	0.37	0.90

SOURCE: ICF Developer Survey. See Appendix A for a discussion of the sample and its limitations.

To be consistent with the cost calculations, benefits have been derived by translating monthly rent savings to an annual basis, inflating these savings by 2 percent per year over the 15-year subsidy period, and then applying the government's discount rate to the estimated savings stream. While one could reasonably argue that a higher discount rate might be more appropriate for calculating benefits, using the same rate facilitates the cost comparisons. In any event, both the cost and the benefit calculations are extremely crude, and are only presented here to provide a rough ranking of the different program variants in relative (as opposed to absolute) terms.

Note that the 15-year rent-savings (or benefit) estimates presented in the chart are closely linked to the 15-year voucher cost estimates presented in the earlier section. Since both are based on the unit's FMR, differences between the two figures simply reflect differences in the household's rental payment. In particular, benefits will be less than the cost of a housing voucher whenever households pay more than 30 percent of their incomes for rent (the presumed payment standard under a Section 8 certificate or voucher). Benefits will exceed the estimated cost of a housing voucher if (and only if) the rent contribution is less than 30 percent.

Several broad conclusions can be drawn from the figures presented in the chart. The first relates to the level of benefits received by LIHTC residents in comparison to the benefits that would presumably flow from a housing voucher. As shown in Column 3, three program variants -- credit only units, units with previous assistance, and Section 8 Mod Rehab units -- deliver essentially the same average benefit levels as would a Section 8 Certificate or housing voucher. The results for Section 8 Mod Rehab and units with previous assistance are not surprising; as described in Chapter 2, the majority of residents in these development also receive a rental subsidy which, given the methodology employed, yield a benefit level that is equivalent to a voucher. However, the finding for credit only units are less predictable, and suggest that the rents in such developments have been designed with tenant affordability in mind.

Benefits flowing under the other program variants compare less favorably to housing vouchers. This pattern, in turn, implies that rent-to-income ratios among voucher-eligible tenants are generally in excess of 30 percent. Both Farmers Home and units with tenant-based assistance have voucher cost-to-benefit ratios of about 80 percent. While about half of the residents in such developments receive a rental subsidy and, hence, are receiving "voucher-equivalent" benefits, the remaining half have rent-to-income ratios that typically exceed 30 percent. As a result, overall benefit levels are considerably below the levels that would be provided under a voucher program (or, alternatively, under a program that extended rental assistance to 100 percent of all qualifying residents).

The second major finding relates to the ranking of the different programs by their estimated cost-benefit ratios (see column 2). All of these ratios are less than one, a pattern which suggests that the estimated rent savings accruing to LIHTC residents are typically well below the public sector costs of providing those units. This basic conclusion is again not surprising, given the way in which tenant benefits have been measured. Indeed, the patterns are similar to those presented in Exhibit 7-2, which

compared LIHTC and voucher costs. The only differences reflect instances in which tenant rent savings are well below the savings that would result from housing vouchers.

Two program variants again appear to provide relatively low benefit levels in relationship to their costs -- FmHA projects and projects with a mix of other subsidies. At the other extreme, Section 8 Mod Rehab units appear to provide the greatest relative benefits despite recent concerns that development fees and syndication costs have been too high and despite the significantly higher public sector costs that are associated with such developments.

7.4 Summary

Using these various findings to support broad conclusions regarding the overall efficacy of the tax credit program is an inherently challenging task. As described throughout this report, the outcomes achieved thus far have varied with respect to a number of important factors, including the specific mix of subsidies employed, the way in which the development was sold, and the type of project developed. Each of these different variants has been associated with a unique set of outcomes that represent a combination of both strengths and weaknesses. Unless one establishes one criteria as the predominate measure of success -- for example, tenant benefits in relationship to program costs or the amount of gross (or net) equity raised per tax credit dollar -- it is difficult to designate any particular variant as either desirable or undesirable. For the same reasons, it is also difficult to make a global statement regarding the extent to which the LIHTC represents an "efficient" approach to subsidizing housing.

One can, however, use the data presented in this report to refute or support some of the major assertions that have been leveled against the program since its inception in 1987. The first general finding relates to the basic feasibility of the credit per se. Despite initial concerns that the credit would not provide a sufficient incentive to attract developers, production under the program has risen steadily over time. Estimates of credit usage in 1989 suggest that virtually all of the year's tax credit authority has been allocated. Similarly, all of the 1990 credit is expected to be used. Thus, in this most basic sense, the program appears to work.

However, the production that has been realized to date has largely been achieved through the provision of additional operating and capital subsidies. This outcome has been criticized on the grounds that the provision of multiple subsidies will tend to generate excess returns to the various parties involved in the packaging and sale of tax credit units. While developers and syndicators fees do appear to be higher in certain types of heavily subsidized developments -- most notably, Section 8 and Farmers Home -- and while projects with a mix of other subsidies generally had significant higher projected returns, virtually all projects examined in this study needed the credit to be financially viable. As a result, the amount of excess, if it exists at all, is probably fairly small.

In addition, multiple subsidies have played a key role in enabling the program to serve a broad range of market types. Projects relying only on the credit tend to be concentrated in markets where costs are low in relationship to household incomes. While tax credit projects have been built in markets with less favorable economic conditions, they are much more likely to be subsidized. Additional subsidies -- particularly direct rental assistance -- have also enabled the program to serve a much poorer segment of the population. Tenants without a voucher or certificate have incomes that are more than twice as high as those receiving rental assistance. Were such assistance to be eliminated across the board -- as it already has been with respect to Section 8 Mod Rehab subsidies -- program benefits would undoubtedly fall and households at the very bottom of the income distribution would most likely be excluded. Thus, while multiple subsidies may at times produce an "excessive" level of subsidization, it nevertheless has played a key role in ensuring that the program serves very low-income households.

Appendix A

Sampling and Data Collection

This study uses two principal sources of data: information on the universe of tax credit properties (the NCSHA data base) and more detailed data collected for this study on a sample of 1987 and 1988 properties. The following sections describe these data sources in detail including limitations associated with the survey sample.

1. The NCSHA Data

Since the inception of the tax credit program, HUD has contracted to collect basic information about projects receiving LIHTC allocations. This effort is being carried out by the National Council of State Housing Agencies (NCSHA) and entails periodic data submissions on reservations and new allocations from each of the agencies responsible for administering the program.

Three NCSHA data bases were used in this study. The first was the 1987 data base providing key information on each project that received a 1987 tax credit allocation. The second was a mid-year 1988 data base which contained information on 1988 project reservations and allocations as of approximately June of that year. Together with the 1987 data base this file was used to select a sample of projects for intensive analysis in this study. Finally, a third data set covering final allocations for 1988 has been compiled and is used in conjunction with the 1987 file to describe overall activity under the program during its first two years of operation.

Several limitations should be kept in mind in interpreting the NCSHA data. To begin with, the NCSHA data presented in this report refer to 1987 and 1988 allocations. As a result, patterns observed within those years must inevitably be viewed in light of all of the standard caveats associated with the start-up of any program. The start-up time associated with project development, the fact that the 1986 tax act came relatively late in the calendar year, and the initial program requirement that units must be placed in service within the allocated credit year all suggest that the 1987 and early 1988 projects -- which comprise the bulk of the units included in the NCSHA data -- were for the most part in the pipeline prior to the enactment of tax credit legislation. Subsequent technical corrections and revisions to the 1986 act will also undoubtedly influence the kinds of projects that will be developed.

In addition, the coverage of the NCSHA data set is not complete, nor is it consistent across years. Eight jurisdictions are excluded in each year, representing roughly 20 percent of all tax credit authority. Moreover, the set of excluded jurisdictions differs between the two years -- for example, Massachusetts is included in 1987 but excluded in 1988. As a result, data for <u>both</u> 1987 and 1988 are available for only 44 agencies.

Third, missing data are a serious problem in all three NCSHA files. The NCSHA effort included an ambitious set of data elements including information on:

- Project characteristics (size,, location, etc.);
- credit type (e.g., acquisition, rehab, new construction) and amount;
- Sources and amounts of financing;
- The nature of other subsidies used in conjunction with tax credits; and
- Project unit sizes and rents.

Unfortunately, however, state-level applications and other documents from which the data were compiled did not always include such information -- particularly information on financing and the receipt of various types of federal and local subsidies.

Such deficiencies have made the classification of projects by subsidy type (e.g., credit only, Section 8 Mod Rehab, etc.) difficult. The structure of the data base requires that projects be classified essentially by elimination; for example, if the subsidy field is blank, one is forced to assume that no assistance is provided. As a result, missing data result in an overstatement of the number of projects falling into the "credit only" category. In addition, confusion regarding the definition of key subsidies (e.g., tenant-based vs. project-based Section 8) appears to have resulted a fair amount of misreporting.

Finally, the definition of a "project" has also been a source of difficulty. Although states were requested to provide information on projects as conventionally defined within the housing industry, the IRS defines each building (within a multi-building development) as a separate "project." Reporting to NCSHA appears to have been inconsistent in this regard, meaning that a town house development (consisting, for example, of 20 units with common financing) may appear either as 20 one-unit "projects" or as a single 20-unit development. In many cases, projects as defined by developers in our survey differed from those reported by states in the NCSHA data base. The survey reports data for projects as the term is conventionally used.

2. Survey of Developers

While the NCSHA data base provided a starting point for the study, the objectives of this evaluation required more detailed information, on the financial structure of tax credit properties, the nature and cost of other government subsidies, and the characteristics of tenants served under the program. Given that such data were generally unavailable from state sources, a developers survey was determined to be the only potential source of such information.

Sample Selection

The sample for the survey was drawn from the 1987 and mid-1988 NCSHA data bases described above. As such, it consists of projects developed in the early stages of the tax credit program. Some observers have argued that later

projects (particularly those receiving allocations after technical corrections) may be quite different from these initial developments. However, given the timing of the data collection effort, this focus was unavoidable.

An attempted sample of 550 properties was selected in order to produce a target sample of about 300 properties after allowing for "drop outs" and developer non-response. Since the 1988 data included both allocated projects and those that had only been "reserved," it was assumed that up to 25 percent of the 1988 cases might fail to be developed under the program.

The sample was divided between the two program years with 40 percent of the selections allocated to 1987 projects and 60 percent to 1988 projects. The greater attention given to 1988 was based on the assumption that these projects were more reflective of properties developed specifically to use tax credits.[1] At the same time, however, a substantial proportion of 1987 projects were included since these were most likely to be fully occupied by the time of the data collection and, therefore, offered an opportunity to examine tenant characteristics and issues of affordability.

In addition to program year, the sample was stratified by the type of subsidy used. Six subsidy types were identified.

- Credit Only - no public subsidies other than the credit
- Previous Subsidies - projects developed under previous programs, including those with Section 236 interest subsidies, Section 221(d) 3 BMIR mortgages, Section 8 New Construction or Substantial Rehab Subsidies, Rent Supplement, RAP, etc.
- Section 8 Moderate Rehab
- FmHA Section 515/521
- Vouchers or Certificates Only
- Other (CDBG, RRP, other local sources)

Within program years, selections were allocated equally among the subsidy types with an exception -- due to their small representation in the universe, Section 8 Mod Rehab and Previous Subsidy projects received one-half of the selections allocated to the other strata. Within each of the 12 strata defined by the cross classification of program year and subsidy type, projects were then selected using a PPS sampling procedure in which projects were selected with probabilities proportional to the number of units in the development.

The number of projects in the population and the number of sampled projects is shown in Exhibit A-1 below. The remainder of this section describes survey procedures, the resulting response rates, and the procedures for weighting the final sample.

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[1] Observers had noted that 1987 projects probably included pipeline developments with financing in place prior to the availability of credits.

Exhibit A-1

Population and Sample Sizes

Stratum	Number in Population	Number in Attempted Sample[1]
1987 Credit Only	426	44
1987 Section 8 Mod Rehab	97	22
1987 FmHA	336	44
1987 Vouchers/Certificates	192	44
1987 Pre-Existing Subsidy	45	22
1987 Other Subsidy	243	44
1988 Credit Only	292	59
1988 Section 8 Mod Rehab	54	40
1988 FmHA	449	59
1988 Vouchers/Certificates	44	40
1988 Pre-Existing Subsidy	37	37
1988 Other Subsidy	346	61

[1] An additional 34 projects were reserved for selections from Massachusetts and California. Neither of these States had provided NCSHA with project level data covering the first half of 1988; as such, sample projects from these states could not be selected except by means of state-provided listings. Ultimately both States refused to participate in the study, accounting for a total loss of 65 cases. Other states which declined to participate were Connecticut, Iowa, and South Carolina.

Survey Implementation

The developers survey was designed to collect a substantial amount of detailed data regarding tax credit properties. Key elements of this data collection included information on:

- Project Characteristics (e.g., size, structure type, sources of subsidy);
- Project Financial Data (detailed information on development costs, sources and amounts of financing, credit type and amount, project income and expenses);
- Syndication and Ownership Structure (equity raised, syndication expenses, the allocation of distributions from cash flow and residuals);
- Tenant Incomes and Rents (both aggregate data and data for a sample of units); and
- Developer perspectives and opinions on the tax credit program.

Given the amount and detailed nature of the data requested, the survey was conducted by mail. However, telephone follow-up was used extensively both to encourage non-respondents to complete the survey and to resolve apparent inconsistencies in the data returned.

Once the survey sample was selected, state agencies were provided with a project listing and asked to supply the name and address of the developer, along with any supplementary information about the project that was available. As a result of this process, a total of 186 projects (or 34%) were lost from the study sample. A major reason for these losses was the unwillingness or inability (due to privacy restrictions) of the state to provide a developer contact name. Several states also indicated that they were unwilling to devote staff time to this effort. Overall, five states, accounting for 96 projects, refused to supply any data for this study. In addition, 90 projects were identified for deletion for one of three reasons: 1) the project dropped out of the tax credit program, 2) the project switched to the 1989 credit year, or 3) the project had been duplicated in the data base. Program drop outs accounted for the vast majority of the deletions, with the bulk of these (as expected) among the 1988 sample.[2]

Administration of the developers survey began immediately as contact names and addresses were received from the states. A total of 364 Surveys

[2] About 8% of the 1987 projects reviewed reflected errors or subsequent drop outs, as compared to about 27% for the 1988 sample. It is not known whether these projects were built without using tax credits or were not built at all.

were mailed to developers of valid tax credit projects.[3] Approximately one week after mail out, each developer was contacted by telephone to explain the purpose of the survey and to solicit its early return.[4] Subsequent contacts with non-respondents included a follow-up letter and at least two additional attempts at telephone contact.

Response Rates and Other Limitations of the Survey Data

Of the 364 surveys mailed a total of 113 were returned, resulting in an overall response rate of about 30 percent. After review (see data cleaning procedures below), nine cases were determined to be unusable because they were largely incomplete and no additional data could be obtained from the developer. The final sample includes 104 properties.

Exhibit A-2 summarizes the results of the various data collection phases and also shows, for each stratum, the number of cases in the attempted sample, the number of surveys mailed, and number of usable cases returned. Note that the numbers for each stratum reflect the projects' subsidy type as confirmed by this study. As described earlier, missing or erroneous data in the NCSHA database frequently led to misclassification by subsidy type. All told, 21 of the 104 sample projects proved to be misclassified. Such misclassifications affect the accuracy of the sample since the latter is weighted to reflect the universe.[5]

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[3] In almost all cases drop outs were known to and identified by the State agency. However, six surveys were returned by developers who indicated that they were not participating in the program.

[4] Where direct contact could not be made, survey staff left between 2 and 3 telephone messages and followed up with the same procedure one week later. In a number of cases, the initial contacts resulted in a second mailing of the survey -- either to a different address or to a different person within the same organization.

[5] Misclassifications in the universe data base appeared to be due both to missing data and to errors. Cases that were missing data would tend to be misclassified as "credit only". In fact 38% of the misclassifications were of this type. The table below shows the NCSHA and revised subsidy type for the 21 misclassified projects.

	NCSHA Classification	Survey Classification
Credit Only	8	2
Previous Subsidy	1	2
Mod Rehab	0	6
FmHA	0	2
Certificate/Voucher	5	3
Other	7	6
Total	21	21

Exhibit A-2

Sample Losses and Response Rates

1. Sources of Sample Losses

Properties in attempted sample	550	
Losses due to state refusal	96	17.5%
Losses due to program dropouts	90	16.3%
Surveys mailed	364	66.2%
	550	100.0%
Surveys mailed to valid projects	364	
Losses due to non response	251	68.9%
Losses due to inadequate data	9	2.5%
Usable responses	104	28.6%
	364	100.0%

2. Response Rates by Subsidy Type

	Attempted Sample	Number Mailed	Usable Returns	Response Rate
Credit Only	97	54	12	22%
Previous Subsidy	60	44	8	18%
Moderate Rehabilitation	68	45	12	27%
FmHA	105	90	38	42%
Voucher Certificate	82	47	16	34%
Other	104	84	18	21%
	516	364	104	29%

As shown in Exhibit A-2, response rates varied by subsidy type. Response rates were highest for FmHA projects (42 percent), followed by voucher/certificate projects (34 percent). Previously subsidized projects, those with a mix of other subsidies, and credit only projects had response rates which ranged from 18 to 22 percent.

It is possible that some of the response rate differential is attributable to how much reporting is normally required of developers. For example, FmHA projects are highly regulated and have substantial reporting requirements. Moreover, since these are new projects, much of the basic data (e.g., certified development costs) could be easily pulled from documents being prepared for other uses. By contrast, developers of credit only projects might have less sense of a reporting obligation. It should be remembered, however, that the survey was voluntary and any number of factors may have affected a developer's decision to supply the requested data. This could include systematic self selection based on the profitability of the project.

A comparison of the sample with the universe is presented in Exhibit A-3. As shown, sample projects are farily similar to the universe with respect to project size, percent of units qualifying for the credit, and average credit amount per project and per unit. While the sample appears quite reasonable from this perspective, it is important to remember that the overall sample size is small and cannot support much stratification. Given the other limitations discussed in this section, results drawn from the survey data should be taken as suggestive rather than definitive.

Data Cleaning and Reliability

The survey of project developers was both lengthy and complex. While there is always the possibility of deliberate misreporting in a survey of this type, we believe that there was a far greater chance for error based on carelessness or confusion about specific data elements. As a result, each of the returned surveys was subjected to a series of data cleaning procedures that included call backs as well as consistency checks with other existing data (e.g., NCSHA data and state applications) and checks of internal consistency and reasonableness.

An initial case-by-case review resulted in callbacks (or callback attempts) to virtually all respondents to clarify responses, resolve apparent inconsistencies or to fill in missing data items. As noted above, a small percentage of cases had to be dropped because they were missing key data elements. Additional cleaning and callbacks were made as a result of systematic checks including initial runs of the Price Waterhouse model. Finally, for cases where selected data items were missing (typically items such as expected cost escalation factors or appreciation rates), we developed a series of "edits" designed to fill missing values based on standard assumptions, sample means, or computed estimates using other survey questions.

Procedures for Sample Weighting

Separate sample weights were developed for the major analytical units used in this study, tax credit projects and tax credit units. Procedures for weighting the sample to the universe are described below.

Exhibit A-3

Comparison of the Study Sample and the LIHTC Universe

	Universe		Sample	
	1987	1988	1987	1988
Unit Distribution by Number of Units in the Project				
1	0.9%	0.8%	6.3%	0.5%
2-4	1.6%	1.7%	6.0%	0.1%
5-9	1.9%	1.8%	8.4%	2.4%
10-24	15.0%	12.4%	26.8%	27.7%
25-49	21.1%	22.6%	16.7%	22.0%
50-99	12.7%	18.4%	11.6%	22.1%
100-249	28.7%	21.1%	18.7%	25.2%
250+	18.2%	14.1%	5.5%	0.0%
ALL	100.0%	100.0%	100.0%	100.0%
Average Project Size	28	28	30	30
Unit Distribution by Production Type				
New Construction	41.0%	46.1%	41.9%	52.3%
Major Rehab	24.8%	27.1%	32.7%	23.3%
Minor Rehab	20.6%	12.8%	12.2%	10.4%
Acquisition Only	12.6%	13.0%	13.2%	14.0%
Mixed	1.0%	1.0%	0.0%	0.0%
ALL	100.0%	100.0%	100.0%	100.0%
Percent Qualifying Units	91.3%	90.8%	91.5%	87.6%
Average Credit Per Project	43,117	61,558	58,963	63,321
Average Credit Per Unit by Subsidy	1,545	2,185	1,725	1,852

Source: NCSHA Data and ICF Developer Survey.

Exhibit A-3 (continued)

Comparison of the Study Sample and the LIHTC Universe by Subsidy Mix

	Credit Only	Section 8 Mod Rehab	FmHA	Tenant Based	Pre-Existing	Other
Average Project Size (Units)						
Universe	23	53	30	8	79	30
Sample	52	39	29	5	79	18
Percent of Units Receiving Credit						
Universe	87.8%	95.9%	98.3%	93.0%	97.8%	79.5%
Sample	90.2%	99.9%	97.1%	100.0%	97.8%	70.7%
Average Credit Per Unit ($)						
Universe	$2,284	$2,528	$1,549	$2,265	$1,353	$2,268
Sample	$1,924	$2,658	$1,404	$1,851	$1,122	$2,220

Source: NCSHA Data and ICF Developer Survey.

Project weights were developed in two steps. Step 1 involved the computation of design weight equal to the inverse of the probability of selection for the project. Step 2 involved an overall ratio adjustment to compensate for non-response/non-cooperation and a post-stratification on the basis of project year, subsidy type and credit type. The post-stratification was carried out separately by year, using a procedure known as IPF (iterative proportional fitting) or raking. Sample weights for projects were then reproportioned so that rather than summing the projected number of projects they sum to the total number of sample projects.

Unit weights were also developed in two steps. Unlike a project weight, unit weights are used to aggregate across sample projects in such a way so as to give each project in the population an impact in proportion to the number of units associated with the project. Step 1 of the project weight involved the computation of a design weight equal to the number of units in the project divided by the probability of selection. Step 2 involved an overall ratio adjustment to compensate for non-response/non-cooperation and a post-stratification on the basis of project year, credit type and credit type. The post-stratification was carried out separately by year, using a procedure known as IPF (iterative proportional fitting) or raking. Sample weights for projects were then reproportioned so that rather than summing to the projected number of units in the population they sum to the total number of sample projects.

Tenant Sample

In addition to project level data, the study collected information for a sample of occupied units within each of the sample properties. These data included information on unit size, household size, gross income, gross rent, and receipt of rental assistance. The survey requested these data for all occupied units in properties with 25 occupied units or fewer and for a specified fraction of the units for properties in other size categories. Tenant/unit data were received for 89 properties covering 1,393 tenants.

Weights to be used with tenant-level data were developed in three steps. Tenant weights are used to aggregate across tenant questionnaires in such a way so as to give each project in the population an impact in proportion to the number of occupied units associated with the project. Step 1 of the tenant weight involved the computation of a design weight equal to the total number of units in the project divided by the probability of selection. Step 2 involved an overall ratio adjustment to compensate for non-response/non-cooperation and a post-stratification on the basis of project year, credit type and credit type. The post-stratification was carried out separately by year, using a procedure known as IPF (iterative proportional fitting) or raking. At this second step in the weighting projects the sum of weights was adjusted to the total number of units (both occupied and non-occupied) across all projects. The third step of the weighting process involved the multiplication of the weight developed for each project by a factor equal to the ratio of occupied to total units within each project. This produced an aggregate occupied unit weight for each project. Next, this aggregate occupied unit weight for each project was subdivided among the completed tenant questionnaire for each project. Finally, the weights assigned to each tenant questionnaire were reproportioned to equal the number of tenant questionnaires.

3. Other Data Sources

In addition to the universe and sample data bases described above, two other data collection activities were undertaken as a part of this study.

First, a survey of syndicators was undertaken for each of the syndicated projects in our sample. Data requested through this survey included project-specific information (which was used to supplement information obtained from developers) and general data about the nature of tax credit syndications in which respondents had participated and their reactions to the tax credit program. Surveys were mailed in all cases where a syndicator other than the developer could be identified. Responses were obtained from 12 syndicating organizations representing 23 of our sample projects.

The second activity entailed interviews with state agency representatives for a sample of 15 agencies. Agencies were selected to reflect those with high, medium, and low production (based on proportion of total 1988 authority allocated) as well as geographic diversity. All interviews were conducted by telephone and focused on factors affecting tax credit usage and features of the program that caused problems or difficulty in effectively implementing the LIHTC program.

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