HOME EQUITY CONVERSION: A HOUSING STRATEGY FOR THE ELDERLY

by

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ABSTRACT

This paper examines the value of alternative equity conversion instruments for different elderly households. The context is established with an examination of the income and homeownership patterns of older homeowners. The emergence of equity conversion transactions is examined and a typology of transaction types is developed. The cash flow impacts of five transaction options (including a sale at death, an earlier sale, a reverse mortgage, a shared appreciation reverse mortgage and a sale leaseback arrangement) are modelled for four household types, and a sensitivity analysis examines the impact of different economic, household and transaction assumptions. Factors constraining the development of equity conversion tools are also considered.

Equity conversion is a concept with considerable promise: it can make a substantial contribution to the post-retirement income of many homeowners. However, different instruments have different costs and benefits associated with them, and some are more suited to households with specific characteristics. Variables such as tax treatment, economic conditions and household characteristics can have a substantial impact on the value of transactions. The principal conclusion is that, under a set of conservative economic assumptions, two transaction types -- sale leasebacks and reverse mortgages -- are the options with the highest value but that the ranking of alternatives is extremely sensitive to changing economic conditions.

ACKNOWLEDGEMENTS

INTRODUCTION AND PROBLEM STATEMENT

As they age, many elderly homeowners find themselves in a difficult position. Their home is their principal asset, but the only way to tap into this "nest egg" to supplement current income is to sell it and move. This option is unacceptable for many: they have a strong attachment to their homes and neighborhoods, and would prefer getting by on less income to moving. Traditional refinancing is usually unacceptable because of the need to make immediate monthly repayments.

Over the past decade, an increasing amount of attention has been paid to the development of a new set of financial instruments which allow elderly owners to supplement incomes by liquidating home equity while retaining tenure. A variety of different equity conversion instruments, including reverse mortgages and sale arrangements with lifetime leases, have emerged.

The elderly are a diverse group, with varying characteristics and needs. The principal hypothesis of this paper is that some transactions would be more suitable for specific household types. The initial analysis assumes that variables such as income, home value, and household composition would have a major impact on the relative value of equity conversion alternatives.

This paper considers the impact of equity conversion options on different household types. Chapter 1 discusses two conditions

which support the development of equity conversion options for the elderly: high equity holdings and low incomes. In this chapter, four household profiles are developed to describe different classes of elderly households. In Chapter 2, the development of different equity conversion mechanisms is discussed, and programs currently offered by public and private agencies are outlined. Chapter 3 models transaction options for four household profiles, and considers the impact of changing economic, household and transaction-related variables for each transaction. Chapter 4 discusses some of the constraints which inhibit the demand for and supply of equity conversion tools. Finally, the conclusion summarizes and interprets the results of this research and discusses the potential for public policy initiatives.

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Chapter I

CONTEXT

1.1 INTRODUCTION

In recent years, the notion of the "greying of America" has
gained popular attention. The American population is growing
older: while only five percent of the U.S. population was
elderly (aged 65 and over) in 1930, by 1980 this proportion had
more than doubled. This trend is continuing: it is projected
that by 2020, over 17% of the U.S. population will be elderly,
increasing to 22% by 2050.

The reason for this demographic shift is complex, involving
a increased life expectancy, a lower birth rate and shifting
migration patterns. The situation in America is similar to that
in other countries. "All world regions are witnessing an
increase in the absolute and relative size of their older
population...the number of older persons in the world is expected
to increase from 376 million in 1980 to 1,121 million in 2025."
(AARP, 1984 p. 19)

Over the next few decades, the aging of the population can
be expected to influence several areas of public policy,
including social services, welfare programs and pension policies.
One area in which the impact of an aging population will be
especially great is housing policy. As the population ages, the
demand for housing services will become more specialized,
shifting away from large suburban single family units towards

housing alternatives more suited to elderly needs. At the same time, as the current generation of homeowners ages, there is an increasing likelihood that they will choose to remain in their homes during their retirement years.

There is a need to develop a range of housing alternatives which address the diverse needs of the growing elderly population. A variety of housing strategies are now emerging to help fill this gap, ranging from congregate housing to accessory apartments. One innovation is the development of new financial tools which meet the income needs of an aging "house-rich" population. This chapter explores some of the factors which lead to a demand for these tools, and develops a set of four profiles which describe different elderly households.

1.2 INCOME AND EXPENDITURE PATTERNS

1.21 Income Levels

When compared with the population as a whole, elderly individuals have lower incomes, and these decline with age. This is "associated with factors over which the elderly persons themselves have little control: their sex and race, the health and survival of their spouses, and their own health and ability to continue to work at acceptable wages." (AARP, 1984, p.26) In addition, it has been suggested that "the factors which predict income in retirement are the same ones that determine income before retirement: family background, education, occupation, duration and consistency of employment, and marital status." (Struyk and Soldo, 1980)

In real dollars, the median income for individuals aged 65 and over has increased over time, reflecting both increasing real incomes and and increases in federal transfer payments to the aged. However, some subgroups (one-person households, women and minorities) continue to have very low incomes. The elderly in rural areas and in central cities have incomes lower than those of their suburban counterparts. What emerges is not so much a picture of poverty among the elderly as one of incomes affected by factors such as age, location, household composition, race and gender.

Despite the fact that they posess a valuable asset, many elderly homeowners have low incomes. Among both mortgaged and non-mortgaged owners, median incomes of the elderly tend to be much lower (in most cases less than half) of those of all other age groups. (U.S. 1981 Census of Housing Survey of Residential Finance)In 1980, among those who owned their homes debt-free, over half had incomes under $10,000. An additional 30 percent had incomes between $10,000 and $20,000. For those who had mortgage debt, the median income was higher ($13,700) This higher figure results from a concentration of mortgage-bearing homeowners in the higher income "young-old" age group and from the fact that high income elderly households are more likely to accept (and better able to afford) mortgage debt.

Several cautions must be made when drawing conclusions from statistics on the income and poverty status of the elderly. "One major limitation is [these statistics'] restriction to money

income by design and probably to legal and recorded money income
by default; that is, noncash benefits, illegal income and
underground income are excluded...Still another limitation is the
gross underreporting of income other than wage or salary income,
such as self-employment income, interest, dividends and
Supplementary Security Income." (U.S. Census Supplementary
Report, p.107) As much of the income received by the elderly
falls into these categories, it is likely that their actual
incomes are substantially higher than those reported in the Census.

1.22 Income Sources

    The income sources of the elderly tend to differ from those
of younger households, primarily because elderly individuals are
less likely to work. The most significant income source in
retirement is pension income, accounting for over half of the
income of elderly-headed households. Differences exist between
household types. Married couples and single men are more likely
to rely on earnings, while single women rely more on social
security, income from assets and public assistance.

Table 1.1   Percent of Income From Various Sources
            Households With Head Aged 65 and Over, 1976

	Married Couples	Single Women	Single Men
Earnings	29%	11%	18%
Social Security	34	47	41
Public Pensions	8	7	10
Private Pensions	8	5	9
Income from Assets	18	21	15
Public Assistance	1	4	3
Other	2	2	3

Source: Walters (1983), derived from Grad and Foster (1979)

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The contribution of various components to retirement income affects how well the incomes of the elderly can keep pace with inflation. While Social Security and most public pensions are indexed, the current federal administration is proposing delays in cost of living increases, allowing the constant dollar value of these incomes to decline over time. Private pensions may be indexed or fixed. Typically, the contribution from earnings declines as the householder ages. Therefore, while many elderly have incomes which can be expected to remain stable over time, others face the prospect of having their real incomes decline during their retirement years.

1.23 Poverty

If equity conversion is framed as a strategy to supplement inadequate incomes, it is important to consider the level of need. One measure is the percentage of households with incomes below the poverty line. For both elderly owners and renters, one of the most important variables predicting poverty status is household composition. Among married couple homeowners, the incidence of poverty is relatively low (7%) A considerably higher proportion of both single male (18%) and single female homeowners (23%) had incomes which fell below the poverty line. In all cases, owners fared better than renters: among renters 13% of all elderly couples and roughly one-third of all elderly single-headed households lived in poverty.

Table 1.2 Poverty Status of Owners and Renters
          Percentage of Households with 1979 Incomes Below
          the Poverty Line

	Owners		Renters	
	All Ages	65 +	All Ages	65 +
Married Couple	4.34%	7.06%	12.04%	12.59%
Male Householder	10.96	17.73	18.07	27.04
Female Householder	20.31	23.36	33.43	32.41

Source: Metropolitan Housing Characteristics, U.S. Summary

Equity conversion has been promoted on the basis of its
potential anti-poverty impact. In a detailed analysis of the
1977 Annual Housing Survey, Jacobs (1982) demonstrated that one
quarter of all low-income elderly homeowners could raise their
incomes above the poverty level by liquidating the equity in
their homes. He notes, however, that this potential is greater
for older households (as the benefits from equity conversion
are higher because they are spread over a shorter period), and
for owners of homes in areas with high property values.

1.24 Expenditure Patterns

Income is a variable which should not be examined in
isolation. The expenditure patterns of the elderly must also be
considered. The 1972-3 Consumer Expenditure Survey showed that
while "shelter, food, transportation and recreation are the
leading items in family budgets...for families with elderly
householders, health care displaces recreation, and the four
largest categories become shelter, food, transportation and
health care." (ibid, p.112) When these expenditure patterns are
considered, the economic well-being of the elderly appears to be

declining. An examination of consumer price indices between 1967 and 1983 reveals that in three of the expenditure categories which make up the largest proportion of the elderly's budget (home ownership, medical care, and public transportation) prices have increased substantially faster than the consumer price index, a weighted average of all consumption items. (Statistical Abstract of the U.S., 1984)

Housing is a major item in the elderly's budget. The Consumer Expenditure survey showed that the proportion of the budget spent on housing by the elderly (34%) was higher than that of younger age groups (30%) and concludes that "this is not because of large mortgage payments, since most elderly persons own their own homes. Rather, it is because the homes of the elderly are generally old and often in need of major repairs." (U.S. Census Supplementary Report, p.112)

1.3 THE ELDERLY AND HOME OWNERSHIP

1.31 Ownership Patterns

In 1981, there were 83.4 million occupied housing units in the United States, and roughly two-thirds of these were owner occupied. Elderly householders lived in 22 percent of these units, and in 17 percent of the nation's rental units. Among units occupied by elderly owners, single family dwellings were the dominant housing form (85%), followed by structures with two or more units (10%) and other forms of housing (6%). Nearly half of the single-family homes were occupied by married couple households.

When compared to all other age groups, percentage homeownership is highest among the elderly and near-elderly. In all age categories, married couples are most likely to own housing. For this group, 66% of the couples aged 35 to 44 owned housing. Percentage of homeownership peaks for the cohort aged 45 to 64 (87%), and then declines slightly for couples aged 65 and over. Elderly male and female headed single households tend to have lower ownership rates (59%).

Table 1.3 Percent Owner-Occupied by Age and Family Status, 1980

Age of Owner	Married Couples	Male Householder	Female Householder
15 to 24	36.49%	14.49%	7.83%
25 to 34	66.91	29.15	23.46
35 to 44	82.56	42.66	44.63
45 to 64	87.09	50.71	59.48
65 and over	83.04	59.03	59.66

1.32 Home Equity

In addition to high rates of ownership, a large proportion of the elderly own their homes debt-free (85% of all elderly one-unit owners compared with 38% for all homeowners). Married couple households are most likely to have some mortgage debt, primarily because they tend to be younger and have higher incomes. The elderly also tend to owe less on their mortgages. Among elderly single-family householders, over half of those with mortgages owed less than 20% of their home value and only 17% owed more than half their home value. Figure 1.1 compares the percent of mortgage debt held by different age groups.

Table 1.4   Percentage of Properties Mortgaged by Household
             Composition (1980) Householder Aged 65 and Over

(percent)	Married Couples	Male Householder	Female Householder
Mortgaged	32.2	14.9	14.6
Not Mortgaged	77.8	85.1	85.4
Total	100.0	100.0	100.0

Table 1.5   Mortgage Status by Age -- 1 Unit Owner-Occupied
             Households

Age of Owner	Not Mortgaged	Mortgaged
less than 25	8.09	91.91
25 to 34	6.65	93.35
35 to 44	13.26	86.74
45 to 54	28.16	71.84
55 to 64	55.57	44.43
65 and over	85.14	14.86

Source: U.S. Census: Metropolitan Housing Characteristics and
          Survey of Residential Finance

Home equity is the difference between the market value of a
home and the amount of debt secured by it. Because of high
levels of ownership and relatively low mortgage values, there is
a substantial amount of wealth locked into the home equity of the
elderly. Estimates range from $500 to over $600 billion.
(Edmonds, and U.S. Senate Special Committee on Aging, 1982)

The high level of home ownership and low mortages of the
elderly result, to a large extent, from public policy and housing
costs as well as individuals' preference for home ownership. It

FIGURE 1.1   NUMBER OF HOMES AND PERCENTAGE DEBT BY OWNER AGE
             1 UNIT OWNER-OCCUPIED HOMES, 1981

1 Unit Homes by Owner Age and Debt
(Debt as a % of Total Home Value)
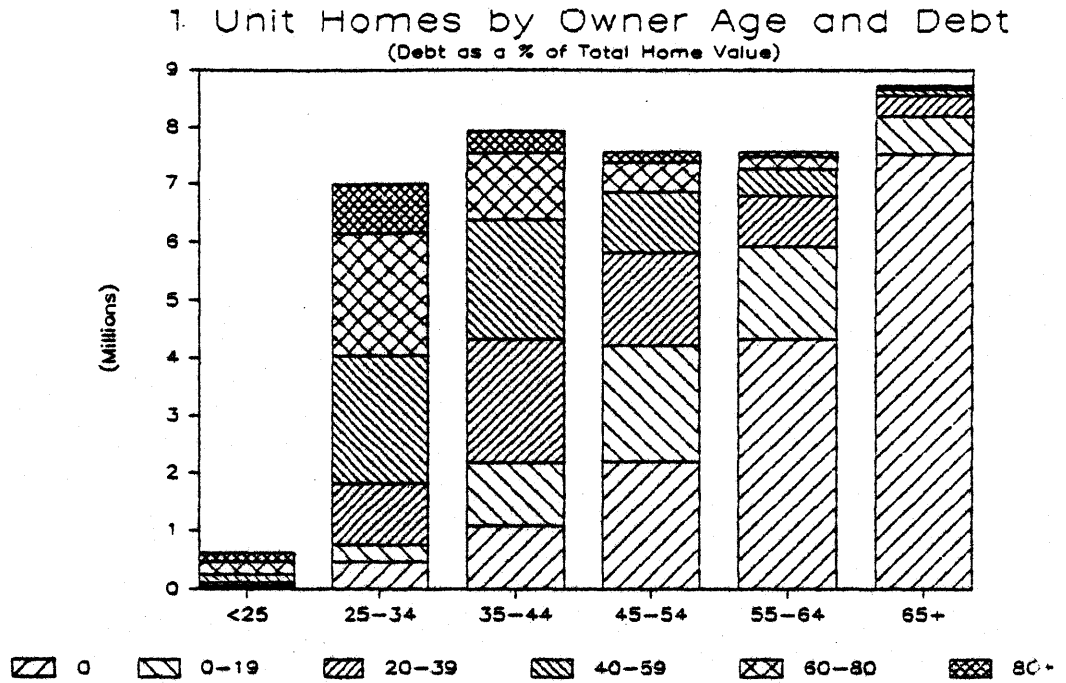
Source: U.S. Census Survey of REsidential Finance, 1981

is important to consider that today's elderly and near-elderly
are members of a group which was purchasing homes during a period
characterized by unprecedented federal support for homeownership,
as well as by substantial economic growth and rapid inflation in
the price of housing. This suggests that if public support of
homeownership is reduced, inflation of housing values slows, or
the costs of homeownership increase, there will be a decline in
the amount of equity held by younger cohorts approaching
retirement age in the next few decades.

1.33 Equity and Retirement Assets

Home equity represents the largest proportion of most
elderly households' assets. It is possible to distinguish
between three types of assets: liquid assets, illiquid assets
and home equity. According to the Social Security
Administration's Retirement History Study (a longitudinal study
of 11,153 individuals who were approaching retirement age in
1969), home equity represents a major proportion of the elderly's
retirement wealth. Equity accounted for between 39 and 42% of
the value of all assets held by elderly respondents as they aged.
It was most significant for non-married women (50% ot total
assets in 1975), followed by married couples (42%) and non-
married men (35%).

As the cohort aged, both the median amount of home equity
and the portion of total assets it represented increased,
resulting both from inflation in housing values and reduced
mortgage debt. Friedman and Sjogren (1981), in their analysis of

this data, note that "what is particularly interesting about the figures is the absence of any marked pattern of asset reduction." (p.20) Given the barriers to liquidating home equity, the largest portion of these assets, this conclusion is not surprising.

1.4 HOUSEHOLD PROFILES

The previous sections have discussed the income patterns and equity holdings of the elderly. The use of summary statistics, however, obscures the fact that the elderly are an extremely diverse group. Clearly, different households have different needs, values and standards of living.

One way to examine these differences is to consider "classes" of elderly households. Rosenberry (1983) has discussed three: the integrated elderly (previously middle and upper-middle class individuals who hold assets in addition to a home and are able to maintain their standard of living); the downwardly mobile elderly (previously middle and working class individuals without significant assets other than a home but with assured income); and the marginal elderly (those who depend almost entirely on partial Social Security incomes supplemented by benefits from means-tested programs.)

The income dimension is one of several variables which can affect the suitability of equity conversion for an elderly household. Other variables can be divided into two categories: those which involve a household's characteristics and those which involve the qualities of the home they own. Variables falling into the first category include the life expectancy of

householders and the household composition. Property variables
involve whether the housing services provided by the unit and
neighborhood are a good match with the health and living
standards of the elder.

In order to model differences among the elderly, a set of
prototype households were developed. Combining income, household
and property assumptions, these general profiles are used in
Chapter 3 to test the suitability of equity conversion for
different elderly groups and to consider which variables affect
the value of alternate transaction types.(1)

Profile 1:

This profile describes an elderly widow, aged 80. She fits into
the category of "marginal elderly", living on Supplementary
Social Security income, a spouse's partial social security
pension and other means-tested government programs. Her annual
income of $8,556 is the current median for single female
homeowners. She owns her inner city home, valued at $44,000
debt-free. Her income is indexed to the inflation rate.

Profile 2:

Profile 2 represents a single male, aged 75. As one of the
"downwardly mobile elderly", he lives on the combination of an
indexed social security pension and a fixed private pension plan.
Only half of his annual income of $10,200 can be expected to keep
pace with inflation. His home, in an older suburb, is valued at
$43,000 and he has no mortgage debt.

Profile 3:

This profile describes an elderly couple, both aged 70. They are
members of the "integrated" class of elderly. Their annual
income of $17,500 comes from a combination of indexed pensions
and investment income, and so will increase with inflation.
Their home, owned debt-free in a modern suburb, is worth $55,000.

Profile 4:

Profile 4 was included to test the tax consequences of equity conversion for higher income households. This couple (both aged 70) has a fully indexed income of $35,000 (200% of the median) and they own a home valued at $110,000 with no mortgage.

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(1) The following criteria were used to develop the profiles outlined above. For each, median incomes of homeowners aged 65 and over for each household tye were used, and housing values were median home values for these household types. In all cases, these were roughly consistent with the values of homes owned by individuals with these income levels. The exception was profile 4, where a more affluent household was described. In all cases, median incomes were inflated to current dollars using the consumer price index and census home values were inflated using the average increase in sale prices of existing homes over the past three years.

Overall, the selection of characteristics was intended both to maximize differences between the four profiles and to provide a set of "most likely" scenarios (for example, an elderly widow is most likely to have a very low income.)

Chapter II

A TYPOLOGY OF EQUITY CONVERSION INSTRUMENTS

2.1 INTRODUCTION

Equity conversion is term used to describe the process of transferring equity in a home to liquid assets while retaining tenure. Three general approaches exist: loan plans (reverse mortgages), shared equity plans and sale leaseback arrangements. In this chapter, the emergence of different equity conversion techniques is discussed and the three approaches are described and compared.

Equity conversion is not an option which only has appeal for the elderly. Loans which help homeowners tap into home equity to supplement current income have been available for some time. Second mortgages, for example, are loans which liquidate home equity. However, the equity conversion instruments discussed in this section are particularly suitable for older households because of this group's high equity holdings, relatively low incomes and (in some cases) special tax status.

2.2 THE DEVELOPMENT OF EQUITY CONVERSION TOOLS
2.21 The United States

Reverse mortgages started to gain attention in the United States in the early 1970's. Like many financial innovations, the concept has been slow to take hold. Reasons for this include conservatism of financial institutions, constraints imposed by

tax and banking regulations and a lack of awareness among
potential consumers. (Constraints are discussed further in
Chapter 4.)

Early reverse mortgage plans were small scale, special
purpose arrangements designed to meet specific client needs. The
first was written in 1961 by Deering Savings and Loan to meet the
special needs of an elderly client. Since then, this bank has
arranged about 50 transactions. Broadview Savings and Loan, a
state chartered bank in Cleveland, Ohio developed a loan product
called "Equi-Pay" in 1977. (Scholen and Chen, 1980)

Since 1982 (when financial institutions were specifically
authorized to write reverse mortgages by the Federal Home Loan
Bank Board), a number of other banks have started to offer
reverse mortgages. In most cases, these are considered a public
service, and in every case they represent only a very small
proportion of the bank's loan portfolio.

To date, only a few hundred reverse mortgages have been
arranged in the United States. However, use of this instrument
can be expected to increase over time. Several factors,
including more experience with the transaction, the development
of consumer protection legislation and an increase in reverse
mortgage counselling by public agencies, can be expected to
increase both the demand and supply for these instruments over
the next few years.

The idea of equity conversion has been promoted strongly by
several groups in the United States. An influential organization

has been the National Center for Home Equity Conversion in
Madison, Wisconsin.   This public agency (funded through the U.S.
Department of Health and Human Services' Administration on Aging
and a variety of foundations and other agencies) has acted as a
clearinghouse for information on conversion, and has actively
promoted the concept to financial institutions, public agencies
and the news media.   "The project's basic approach as been to
stimulate and coordinate an ever-growing network of individuals
and resources ... In addition to its research, development and
demonstration activities, the project has also been substantialy
involved in promotion, information and referral, consulting,
organizing, resource mobilization and public relations."   (NCHEC,
1982, pp. 2-3)   These activities appear to have been successful
-- several states and municipalities have now established their
own agencies to promote equity conversion.

Unlike reverse mortgages, sale leaseback agreements have
been arranged on an informal basis for many years.   It is not
possible to assess the market penetration of this transaction, as
it usually involves an informal contract between family members.
However, it is only recently that after-tax benefits of this
instrument have become particularly advantageous for both
investors and older homeowners.

The first private sale leaseback plan was developed by the
Fouratt corporation in 1979.   This firm matches seniors who wish
to gain additional income with investors who purchase the
property at a discounted rate and lease it back to the owner.

Fouratt charges a fee for brokering the transaction and the firm
places a heavy emphasis on counselling. (Scholen et al, 1980)
Since this plan was developed, a small number of public and
private agencies have also begun to arrange sale leaseback
transactions. Two of these -- the Buffalo "HELP" Plan and
Grannie Mae -- are discussed in section 2.33.

2.22 Other Countries

The American experience can be contrasted with that in other
countries, where equity conversion mechanisms have been in use for
some time. In Britain, a private firm called Home Reversions
Limited offers a plan where it receives title to an elder's home
in return for a lifetime annuity and guaranteed tenure. This
plan is similar to American sale leaseback transactions in that
it uses a discounted purchase price and depends on favorable tax
treatment for its value. (Bartel and Daly, 1981)

In France, a less formal arrangement, the "vent en viager"
has been institutionalized. It is sale leaseback agreement
between two individuals and can be arranged by a notary. The
elder sells her property to a buyer and the price is divided by
the seller's life expectancy. Payments continue until the seller
dies, at which time the home reverts to the buyer. This
arrangement is established both in French property laws and
income tax regulations. An estimated 400,000 homeowners in
France now particiate in this arrangement. (Bartel and Daly,
1981)

Limited versions of sale leaseback programs have also been

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established in Italy, Belgium and Tokyo, Japan.

In Canada, reverse mortgages were first offered in 1972 when the Metropolitan Trust Company marketed a variable rate fixed-term mortgage. This plan was abandoned shortly after its inception, possibly because of the tremendous increase in interest rates after 1979. (Baudouin, 1974) Another financial institution, Quebec's Fiducie Pret et Revenue also offers a reverse mortgage instrument which has been used by homeowners of all ages who have a temporary need for liquid income. In addition, the province of British Columbia has offered a property tax deferrment program since 1974, but the participation rate in this program has been limited. (Baldouin, 1984)

The development of equity conversion transactions in other countries appears to be a function of the combination of several factors: the structure of financial institutions, the existence of legal constraints and favorable tax legislation.

2.3 EQUITY CONVERSION APPROACHES

2.31 Reverse Equity Mortgages

A reverse mortgage is simply a loan, secured by property, for which repayment is deferred. Its structure is similar to that of a construction loan: capital is drawn down over time and a balance composed of interest and principal accumulates for repayment at a future date. The major difference between reverse and standard forward mortgages is that the former has an accumulating loan balance. This affects the way that interest is

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charged: standard mortgages have very high interest payments initially, while reverse mortgages have very low interest charges which grow over time.

Payments to a home owner under a reverse mortgage can be periodic, periodic with adjustments for inflation, lump sums, or disbursed on a draw-down basis (involving irregular disbursements to cover expenses such as property taxes or repairs). The most common arrangement is a monthly loan payment to the homeowner.

Two approaches exist for structuring a reverse mortgage: the loan can be written for a fixed term or a fixed amount. "The two are equivalent if the loan has equal periodic disbursement and a fixed interest rate. In all other cases the two methods of term limitation are different." (Barnet et al, 1984) Reverse mortgages are generally written for relatively short terms. For those loans with regular payments, three and five year terms are common and terms longer than ten years are rare. The primary reason is the low value of payments for reverse mortgages with long terms. For example, a deferred payment loan with a 5 year term and a 10% interest rate would yield monthly payments of $12.91 per $1000 dollars of converted equity while a twenty year term would yield only $1.32.

The accumulation of debt at the end of the mortgage term is a concern for homeowners who have a fixed term reverse mortgage but long life expectancies and no plans to move. However, if a home has appreciated at the end of term, it may be possible for the owner to refinance the mortgage. Winerobe (1981) has

demonstrated that even a relatively modest rate of home appreciation (5% over a ten year term) will allow a new loan to be renegotiated for half the term of the original transaction.

A number of variations on the standard fixed rate reverse mortgage exist. These include variable interest rates, optional annuity purchases, inflation-adjusted payments and shared appreciation schemes.

Like other mortgages, a reverse mortgage can carry a variable rather than a fixed interest rate. This option is usually considered to be unappealing to older homowners because of the risk that interest rates will increase. Inflated interest rates could be very costly especially when a large loan balance exists near the end of the mortgage term.

Annuity purchases are an optional enhancement to reverse mortgage schemes. While some individuals buy an annuity which has immediate payments (often with a lump sum payment borrowed as part of the mortgage amount) the purchase of a deferred anuity (where payments start at loan maturity and continue until the death of the buyer) is more common. A major problem is that a spread often exists between the consumer's rate of return on mortgages and annuities, and it would then be the case that money would be borrowed at the higher rate to buy a benefit at the lower. An additional concern is the net value of annuities to the older homeowner -- often loan payments are preferred because they receive more favorable tax treatment and are less likely to

limit eligibility for means-tested government programs.(Scholen et al, 1980)

Inflation-adjusted payments are another reverse mortgage option. Under this variation, payments are structured to increase during the life of the mortgage. Interest continues to be paid on the outstanding loan balance and the term (or payment schedule) is adjusted accordingly. This option benefits homeowners who are worried that inflation will erode the value of the income they receive over time.

Shared appreciation reverse mortgages are an option under which the elder gives up a portion of the future appreciation of the property in return for increased benefits. This tool is discussed in greater detail in section 2.32.

The largest public sector agency which arranges reverse mortgages is the San Fransisco Development Fund, a non-profit corporation which has been managing the "RAM" (Reverse Annuity Mortgage) program since 1980. The program offers counselling, contact with approved lenders and a set of standard forms. By the end of 1984, 65 mortgages had been arranged by the plan, with an average value of $118,112 (a value reflecting the gernerally higher property values in the West.) An additional 45 reverse mortages had been arranged by affiliated public agencies in California. The agencies using the RAM plan appear to recommend reverse mortgages selectively: less than one quarter of the homeowner interviews have led to reverse mortgage agreements. (SFDF Activity Report, December 31, 1984)

The RAM plan arranges standard reverse mortgages as well as two variations: a graduated payment plan where the monthly payments are increased by 6% per year and an adjustable reverse mortgage plan where the property is reappraised twice within a ten year period and the payment is adjusted based on a cost of living index and property appreciation.

2.32 Shared Appreciation Reverse Mortgages

A shared appreciation mortgage is similar in many respects to the standard reverse mortgage. The major difference is the addition of a contingent interest component which allows the lender to share in the appreciation of the property. The result is that a share of one component of ownership -- the right to future increases in value -- is transferred to the lending institution.

Only one shared appreciation reverse mortgage, Prudential-Bache's "Century Plan", is currently being offered. The mortgage carries a below market 11.5% interest rate in addition to a contingent interest rate which depends on appreciation in the home's value.

Applicants who qualify (aged 62 years and owning a property in good condition) can decide whether to liquidate all of their home's equity, or (if they wish to leave an estate) some proportion of it. They receive monthly payments of up to $700 until they move or reach the age of 100. Because the payments are considered a loan rather than income, they are tax-free. The

amount of the disbusement depends on the owner's life expectancy. When a couple owns a home, the life expectancy is considered to be that of the last survivor. (Prudential-Bache, no date) Because the designed to pool risks of life expectancy and home appreciation, all homes of equal value are assessed in the same way, regardless of their appreciation potential. (Wessel, 1985)

This transaction is currently offered in New Jersey and Pennsylvania. Prudential Bache expects to market the plan in several other states in 1985. The firm has closed 135 transactions during its first fourteen months of operation, and expects its intensive marketing to increase this market penetration. (Wessel, 1985) The average age of participants is 76 years, and monthly payments average $350. (Providence Journal-Bulletin, October, 1984)

2.33 Sale Leaseback Transactions

The most significant way in which sale leaseback transactions differ from both types of reverse mortgages is that they involve the sale of a property rather than the use of its value to secure a loan. The simplest type of sale leaseback involves a contract for the sale of a property (to an investor or family member) where the elder homeowner retains tenure as a renter. When the former owner dies or moves, the investor is free to sell, rent or occupy the home.

A variant of the plan is a sale with life estate. Under this version, the elder owner sells the home to an investor, but retains a lifetime right to occupy the home.

An optional enhancement is the use of receipts from the sale of the home to purchase an annuity. When the transaction involves a lump sum payment to the homeowner, an annuity may be purchased to provide income for life. When the older homeowner finances the purchase, a deferred annuity (intended to supplement income when seller-financing terminates) is often recommended by counselling agencies.

Sale leaseback transactions involving investors can be quite complex because of the need for contractual guarantees which results from the different interests of sellers and investors. If the transaction involves a fixed or below market rent, the investor receives a higher return if the elder gives up tenure quickly. In the absence of an agreement regulating rent levels in a leaseback situation, this could be encouraged simply by raising the rent to an unaffordable level. The owner has the opposing interest in security of tenure, and therefore wants guarantees that the rent level on the property will be regulated.

The notion of fair market rent and fair sale value are important to the tax treatment of sale leasebacks. If the sale is considered to be an "arms-length" transaction (i.e. not an attempt at tax evasion), the tax consequences of sale-leaseback transactions benefit both parties. The buyer can deduct mortgage interest, expenses and property depreciation from taxable income. The seller (if she is aged over 55 and can take advantage of the one-time capital gains exclusion of $125,000) does not have to pay tax on income received from the sale. To date, the Internal

Revenue Service has been reluctant to release a firm ruling on the taxation status of sale leaseback arrangements, using guidelines of fair sale price and fair market rent to determine whether a transaction is legitimate.

Some private firms marketing sale leasebacks have emerged. Grannie Mae is a national sale leaseback service offered by a California firm called the Family Backed Mortgage Association. This firm offers a transaction analysis and set of standard sale-leaseback forms for a $250 fee, and also charges an origination fee for arranging the transaction. (The same firm offers regular shared appreciation mortages to family members under similar conditions.) Participation is limited to sellers who are 55 years of age or older and have not used the once-in-a-lifetime capital gains tax exclusion of $125,000 for home sales. (FBMA, 1983) While the program literature encourages sales between family members, it does mention a limited list of investors who will enter sale-leaseback agreements with elder homeowners. Despite intensive marketing and 25,000 consumer enquiries, the plan has yet to close its first transaction. Several reasons for this have been suggested, including high costs, an uncertain tax environment and poor business practices. (NCHEC, Oct 1984)

The first public sector equity conversion plan -- Buffalo's HELP (Home Equity Living Plan) has had greater success. The plan has two goals: housing preservation and improving the quality of life of older homeowners. (HELP, no date) Older homeowners who meet program guidelines (residents aged 60 years or older who own

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their homes debt-free or have a small mortgage and who live in areas where homes are expected to appreciate) sell their homes to the agency but retain the right to live there until they die. In return, the program pays them either a lump sum or a lifetime annuity and takes responsibility for municipal taxes and major repairs. The average income of participants is $7000 and the average home value is $25,000. (NCHEC, October 1984) To date, 31 homeowners have participated (the number is limited by program funding) and a number of other cities have expressed interest in establishing similar programs.

2.35 Other Equity Conversion Mechanisms

Two other tools have emerged for converting equity: deferred home improvement loans and property tax deferral. While neither can be considered an equity conversion plan because no additional income is generated, both do allow equity to be depleted by deferring ownership costs.

These mechanisms have emerged in many jurisdictions. Property tax deferral programs typically allow elder homeowners to reduce some or all of their municipal property taxes, and the amount accumulates as a debt secured by the home. Tax deferral programs currently exist in 17 states, and typically have age and income limitations.

Deferred payment loans work in the same way: a public agency pays the cost of certain home repair expenses (major repairs and weatherization are common) and the loan balance (which often carrries a below market interest rate) is recovered

when the home is sold or the owner dies. Deferred loan programs
currently operate in Wisconsin and New Jersey. (Baudouin, 1984)

2.35 Comparison of Approaches

Three basic types of equity conversion plans -- reverse
mortgages, shared appreciation reverse mortgages and sale
leaseback arrangements -- were identified in this chapter. The
major variable which distinguishes between them is whether the
transaction involves the transfer of ownership. Reverse
mortgages are simply loans; sale leasebacks are sale contracts
where the seller retains some contractual rights; and shared
appreciation loans require the mortgagor to give up rights to an
appreciation portion of her home's value.

Two other important elements exist: the type and timing of
the payment to the homeowner and the originator of the
transaction. The type of consideration given to an owner varies:
it can be a periodic payment, an annuity, the right to draw on a
line of credit or a lump sum payment. The institution which
invests in the transaction may be a bank, an insurance company, a
private investor, a public agency, or (in the case of a sale
leaseback) a friend or family member. Both variables affect the
nature of the transaction and the constraints to which it is
subject.

A comparison of the characteristics of the three equity
conversion approaches is made in figure 2.1.

Table 2.1: Comparison of Equity Conversion Transactions

	Reverse Mortgage	Shared Appreciation Reverse Mortgage	Sale/ Leaseback
TRANSACTION TYPE			
transaction	loan	loan	sale
appreciation	remains with owner	shared	transferred to buyer
PAYMENT TYPE			
interest	fixed (repayment deferred)	variable (contingent interest)	none
payments to elder	regular, variable or lump sum	regular payments	lump sum, seller financed or annuity
ORIGINATOR			
buyer/ mortgator	lending institution	insurance agency(1)	investor, public agency or family member

(1) This type of plan is currently only offered by Prudential-Bache. Conceivably, it could be offered by banks or private investors. It should not be confused with another type of innovative financial instrument -- shared appreciation or split-equity purchases, where an investor and a buyer purchase a home and share the appreciation.

Chapter III

MODELLING THE IMPACT OF EQUITY CONVERSION ALTERNATIVES

3.1   INTRODUCTION

The selection of an equity conversion option represents a choice involving a stream of benefits and costs over time. The rational homeowner will examine available options based on a set of expectationsand needs, asking herself, "what's best for me?" As homeowners are unlikely to undertake equity conversion in the absence of legal and financial counselling, it is assumed that they have access to advice on the value, cost and tax treatment of various options.

There are two ways to evaluate the income stream from conversion alternatives. The first is the calculation of the present value of the net value of costs and liabilities over time. The second involves how well the timing and amount of a net income stream meets the needs of a particular household. Other criteria include the homeowner's evaluation of the risks associated with different conversion options, the availability of different programs, and psychic costs associated with assuming debt or selling a home.

In this chapter, the after tax net cash flow from five investment scenarios is modelled for each of the four household profiles. Two approaches are used to assess the suitability of different options. First, the present value of the net after tax income stream from each option is calculated. Second, an

analysis of how well the householder's total income under each scenario meets income needs is undertaken. This is done by graphing the after tax income stream for each scenario against poverty and median income measures over time.

Five alternative transactions are considered: maintaining the status quo (the owner does not convert, and the home is sold at death), early sale (the owner sells the home and moves), arranging a reverse mortgage, arranging a shared appreciation reverse mortgage, and entering into a sale-leaseback agreement.

A sensitivity analysis is undertaken to determine how the relative value of each plan might change given different assumptions. Four sets of assumptions are considered: inflation, home appreciation, household and transaction variables and changes in the discount rate.

3.2 ASSUMPTIONS

3.21 Household Assumptions

In each case, the household assumptions matched the profiles developed in Chapter 1. Profile 1 was used as a protoype for the marginal elderly: low income elderly households relying primarily on government pensions. Profile 2 described the downwardly mobile elderly, a household type with a low and declining real income. Profile 3 was used to model the integrated elderly -- those with relatively high incomes which keep pace with inflation. Profile 4 had the same characteristics as profile 3, but an income and home value twice as high. This

prototype was included to test the tax benefits accruing to higher income household. Household characteristics are summarized in table 3.1.

Table 3.1 Characteristics of Household Profiles

	Profile 1	Profile 2	Profile 3	Profile 4
Persons	1	1	2	2
Sex	female	male	couple	couple
Age	80	75	70	70
Life Expectancy(1)	9	9	14	14
Current Income(2)	$8,556	$10,200	$17,500	$35,000
% Increasing with inflation	100%	50%	100%	100%
Home Value	$44,000	$43,000	$55,000	$110,000

3.22 Home Value and Tenure

Home values were based on census median home values, inflated to 1983 dollars using the average rate of inflation for sales of existing homes. Values used in the model range between $43,000 and $110,000 (see table 3.1, above.) In all cases, it was assumed that the home is owned debt-free and is not in need of major repairs.

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(1) Life expectancies were taken from 1980 U.S. Department of Health Statistics life tables which show the average remaining years of life for U.S. males and females of all races. For couples, the life expectancy of the last survivor was used to simplify calculations. However, it should be noted that for two person households, probabalistic joint life expectancies tend to be more accurate.

(2) Based on the mean census income for each household type, inflated to 1983 levels using the consumer price index. This includes money income only, and thus excludes unreported income and non-cash benefits.

In the cash flow analysis, no allowance was made for the tax benefits of home ownership, as debt-free ownership was assumed. However, for transactions where the owner changes tenure (an early sale, a reverse mortgage for a shorter term than life expectancy, or a sale leaseback), two additional items appear in the cash flow analysis: rent paid and savings on ownership costs of property taxes and major maintenance. Both are calculated as a percentage of home value, and increase with housing value (rather than the inflation rate) over time. This implies two things: that the market is not rent controlled, and that the new housing rented by the elder has the same value as the home she sells. It is useful to think of this in terms of selling the home and renting an identical house next door where the landlord pays major ownership expenses.

3.23 Market and Transaction Assumptions

In order to evaluate different options, the homeowner must make assumptions about three key market variables: the inflation rate, the rate at which the home is likely to appreciate, and the rate of return on alternate investments. A relatively conservative set of assumptions were used to predict cash flows. The overall premise was that current economic conditions will remain stable over time. These variables, as well as transaction and discount rate assumptions, are discussed below:

> Inflation Rate: The inflation rate (used to inflate fixed dollar transaction costs and incomes) was set to 4%. Additional inflation assumptions are considered in the sensitivity analysis.

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Value of Alternate Investments: As a proxy for the annual
return on invested capital, the current rate of return on
five year treasury bills (11.07%) was used.

Home Appreciation: Historically, the rate of appreciation in
house prices has differed from the inflation rate. In this
model, home appreciation was set to the average increase in
sale prices of existing homes over the last five years
(3.32%.) (NAR, 1983) A variety of appreciation rates were
tested in the sensitivity analysis.

Home appreciation is a function of many factors, including
the location and condition of a home and local market trends.
Of particular interest is the fact that homes are
appreciating much more slowly in some regions (for example,
the Northeast) of the country than others. While the model
uses a national average rate of inflation, the fact that
rates vary by location should be considered.

Interest Rate: The last decade has seen interest rates in
the United States fluctuate widely. For reverse mortgages,
the rate at which they are currently being negotiated (13%)
was used. For sale leaseback transactions, an interest rate
two points (2%) below this market rate was used. The rate
for the shared appreciation reverse mortgage was set at the
rate now offered by Prudential-Bache -- 1.5 points below the
current market rate.

Transaction Costs: In all cases transaction costs reflect
standard costs for current loans or sales. In most cases, a
percentage of the transaction value is used. Where fixed
fees exist (for example, legal and appraisal costs), they
increase with inflation. For sale-leaseback transactions, an
additional cost is a discount on the sale value of the
property.

Discount Rate: Economics tells us that the discount rate
which should be used to calculate the present value of a
stream of benefits and costs should be the value of investing
a similar cash flow in the next-best investment alternative.
As a proxy, a current interest rate on a secure investment is
often used. In the model, the discount rate was set to the
rate of return on alternate investments. It is difficult to
say whether this is an appropriate measure when evaluating
the income expectations of the elderly. Except for those who
have a strong interest in leaving an estate, elderly
individuals are likely to have a higher discount rate for
long term investments simply because they do not expect to
live as long. A counterpoint is the risk aversity of elderly
individuals -- while they have a shorter horizon for
investments, most consider financial security extremely
important. A variety of discount rates were tested in the
sensitivity analysis.

3.24 Tax Treatment

An important assumption in the model is the tax treatment of benefits received under each plan. This varies among plans. For loan plans, benefits are not taxable, and repayment of interest is a tax deduction in the year in which it occurs. For sale plans, investment income is taxed. When the seller finances a sale, as in the sale-leaseback transaction, the interest component of the mortgage payments she receives are also taxable.

For each household profile, tax treatment was based on the marginal tax bracket for a household with the composition described, no additional dependents and standard deductions. It was assumed that owners did not itemize their taxes, and that all used a cash-basis system of accounting. For each transaction, the net change in taxes was calculated and added to the cash flow as a benefit or liability.

In all cases, it was assumed that the standard $125,000 one-time capital gains exemption for owners aged 55 and over would apply. This assumption is critical: if the exemption has already been used it will radically change the cash flows associated with various options. To simplify the model, it was assumed that when the home was sold at the end of the term, the sale took place just prior to death.

Future tax treatment is an uncertain variable, expecially given proposed changes in federal tax rates. While the model assumes that current tax rates will continue to apply, it should

be recognized that changes in tax regulations could have a major impact on predicted cash flows.

3.25 Investment Alternatives

For those cases where the elder sells the home and receives a lump sum payment (early sale and reverse mortgage) before the end of the term, it is assumed that she invests all of the proceeds in a secure investment with a fixed return. An alternative, which was not modelled, would be for the elder to purchase a lifetime annuity.

These two approaches have different cash flow implications. Under the first, principal is invested, the return is treated like income and in the terminal year the principal is returned. If the seller/mortgator purchased an annuity, she would receive a higher annual return but principal would not be repaid at death.

Different benefits are associated with standard investments and annuities. While both guarantee a lifetime return (under the assumption that investment principal in the first option remains constant), the investment approach tends to be more inflation resistant (as investment returns will fluctuate with the interest rate which is related to some extent to inflation.) An annuity, on the other hand, provides a higher immmediate cash flow.

Because of the different timing of benefits under alternative plans, the impact of the selection of a investment in the model is twofold. Cash flows are lower for sale transactions, and the return of principal in the terminal year

(rather than as a stream of income over the life of the elder)
affects the present value of the investment. This impact is more
pronounced at higher discount rates. Differences in cash flows
and net present value which would result from purchasing an
annuity are presented in Appendix 2.

3.3 COSTS AND BENEFITS OF ALTERNATIVE TRANSACTIONS

3.31 Status Quo

In this case, the householder chooses not to convert. The
benefit she receives is the income from sale (less transaction
costs) at some future date. As this date is set to her life
expectancy, the benefits for the average homeowner will accrue to
her estate.

For all transactions, the status quo was used as a "base
case" -- all changes in income and taxation are considered
relative to this option.

3.32 Early Sale

In this case, the elder sells the home and invests the
proceeds. She moves to alternate housing, pays a market level of
rent and saves on municipal taxes and maintenance costs. Her tax
liability is increased by her investment income.

The primary difference between maintaining the status quo
and arranging an early sale is the loss of tenure. The house is
sold and the proceeds are invested. The relative value of this
transaction depends on a number of variables: the value and tax
treatment of invested income, the rate of home appreciation, the

discount rate and the net cost of securing alternate housing.

3.33 Reverse Mortgage

In this case, the homeowner takes out a five year reverse mortgage. At the end of the mortgage term, it is assumed that the owner will sell the home and move. At this time, the transaction becomes similar to an early sale: the owner invests the net proceeds and rents alternate accommodation.

A term of five years and an 80% loan to value ratio were used as these terms are common for a reverse mortgage. After five years, the accumulation of debt on interest becomes very high. Unless home values are inflating rapidly, a shorter term will always have a higher present value. Different terms are considered in section 3.53.

The benefits of a reverse mortgage are the tax-free monthly advances. An additional benefit is the fact that in the year of sale the interest portion of loan repayment is a deduction against taxable income. Liabilities include closing costs, debt at the end of the loan term, and tax liability when the elder invests the net proceeds from the sale.

3.34 Shared Appreciation Reverse Mortgage

In this case, the owner negotiates a reverse mortgage with a fixed below-market interest rate, giving up 100% of her home's appreciation.

The benefit of this plan is the provision of lifetime payments. The major liabilities are the need to pay off the mortgage at death by liquidating home value and the obligation to forego the value of any home appreciation.

Of all of the cases modelled in the initial analysis, the present value of this plan is the lowest. This is because the plan is a gamble based on tenure expectancy. If the owner maintains tenure past her life expectancy, continuing payments increase the value of the investment. However, if she leaves her home early in the mortgage term, the costs can be very high. The costs and benefits of living beyond or moving prior to life expectancy are considered in section 3.53.

This plan is based on Prudential-Bache's "Century Plan", and uses its fixed interest rate (11.5% compouned monthly). Monthly payments are those which would exist under a fixed rate reverse mortgage with a term set to life expectancy. While these payments in most cases are consistent with annuities offered by Prudential-Bache they are not identical as the firm considers a number of factors (mortality risk, probability of prepayment, expected appreciation and marketing costs) when calculating monthly pay comparison of payouts is presented in Appendix 2.

3.35 Sale Leaseback Transaction

Under a sale leaseback arrangement, the elder sells her home to an investor at a discounted rate. In return, she receives a guarantee of lifetime tenure at a low rent. This scenario is

based on California's RAM Plan. Three elements distinguish this transaction: the sale is at a below market rate (discounted between 10 and 20 percent of appraised value, depending on the life expectancy of the elder), the seller provides mortgage financing at a low rate (2 points below the market rate of interest), and the elder leases back the property with guaranteed tenure at a below-market rent (4.3% of the home value).

Benefits are the initial income from the down-payment, mortgage payments to the seller and ongoing savings on maintenance and property taxes. The major liabilities are the cost of rental payments and the taxable interest portion of the income from sale. An additional liability, reflected in the net cash flow, is the loss of appreciation in home value.

3.4 CASH FLOW ANALYSIS

3.41 Present Value of Investment

The present value was calculated for each of the five transaction options for each profile. This measure includes benefits which accrue to the estate in the terminal year. These exist for the status quo, early sale and reverse mortgage transactions. In addition, when calculating the present value, the income received over time is discounted so that each dollar of net benefit received later in the term is worth less than one received earlier. (See the discussion of the discount rate in section 3.23 and the sensitivity analysis of the role of discount rate and risk in section 3.54) Present values are compared graphically in figure 3.1.

Table 3.2 Net Present Value as a Percentage of Home Value

	Profile 1	Profile 2	Profile 3	Profile 4
Status Quo	50.07%	50.07%	34.87%	34.87%
Early Sale	53.94%	53.41%	37.52%	25.53%
Reverse Mtg.	66.81%	67.00%	66.56%	66.08%
S.A.R.M.	36.60%	36.56%	20.64%	20.98%
Sale Leaseback	79.70%	79.08%	69.16%	64.30%

Status Quo

For all profiles, maintaining the status quo was not a favorable option, ranking third for profile 4 and fourth for all other profiles. The low value of this transaction results from the assumption that the discount rate is higher than the rate of home appreciation. Therefore, when the home is sold it is worth substantially less in real dollars. The value also depends on term: this option has a lower value for profiles 3 and 4 because of their longer life expectancies.

Early Sale

A sale in year 1 also had a relatively low value for each profile, ranking third for profiles 1 through 3 and fourth for profile 4.

The major factors limiting the value of an early sale are the costs of alternative housing and the taxable income from investment. Consequently, this plan is less favorable for the two profiles which incur high alternative housing costs and whose higher incomes result in greater tax liability.

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Net Present Value
(as a percentage of home value)

Legend: Prof 1, Prof 2, Prof 3, Prof 4

Net Present Value
(as a percentage of home value)

Legend: SQ, ES, RM, SARM, SL

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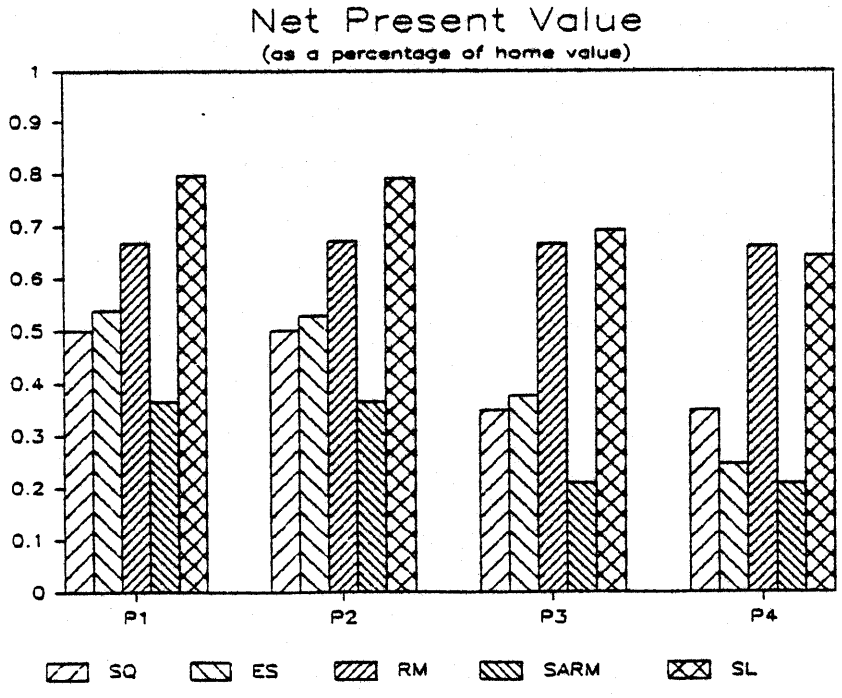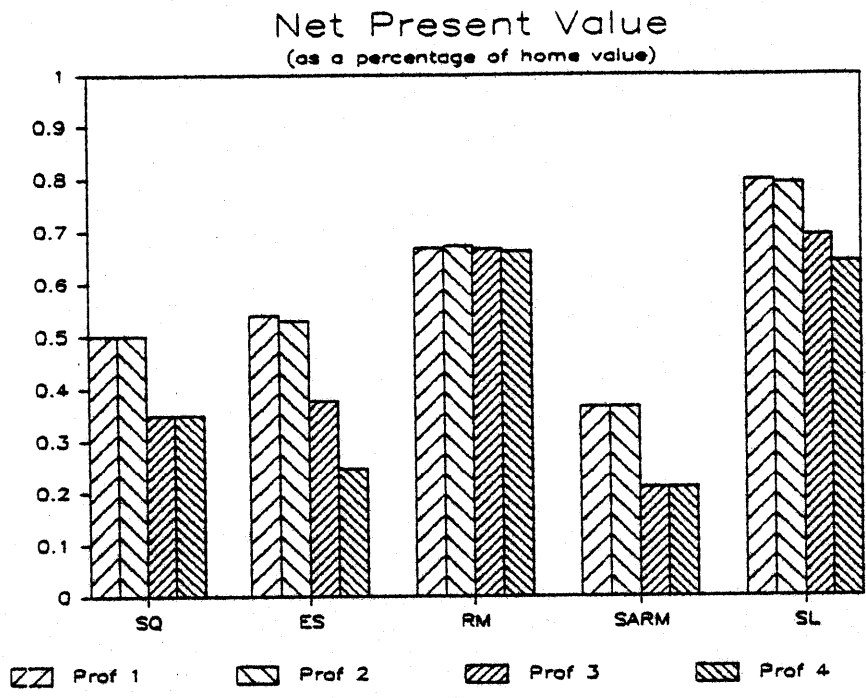
Reverse Mortgage

The reverse mortgage option ranks second for profiles 1, 2 and 3, and first for profile 4. There are three reasons for the relatively high value of this plan: it allows owners to increase income near the beginning of the term (when it is discounted less), the model assumes an earlier sale of the property (which is more advantageous in most cases as home appreciation does not keep pace with the discount rate), and it provides a small tax benefit in the form of interest deductability in the terminal year of the reverse mortgage.

The value of this transaction nearly equal (ranging from 60 to 61% of home value) for all profiles, suggesting that income and household composition have little impact on the present value of this option.

Shared Appreciation Reverse Mortgage

For all households, this transaction type had the lowest value. This is a result of the fact that the mortgage term was set to life expectancy. In all cases when term and life expectancy are equal (except very low or negative inflation in houme value), it would be more advantageous for a homeowner to take out a standard reverse mortgage for life as she would not lose the value of appreciation. Because payments are calculated like those of a standard reverse mortgage, the value of this transaction is lower for longer terms. The impact of an owner living beyond her life expectancy is considered in section 3.53.

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Sale Leaseback Transactions

For the first three profiles, this transaction type ranked highest. Two factors make this plan more valuable: it provides an immediate stream of benefits (which are discounted less) and it shelters households from increasing costs of alternative housing. This transaction type was relatively more favorable for the two lower income profiles because of shorter life expectancies and lower tax liability. The importance of tax treatment is highlighted by profile 4, where the tax liability of interest income on seller-financing made this transaction less valuable than a reverse mortgage.

Overall, the present value of alternate transactions is most sensitive to three variables: tax liability, life expectancy and the timing of the stream of benefits. The last two variables are related for some transactions.

The impact of these variables differ among transactions. Those with terminal benefits from sale (status quo) and a return of investment capital (early sale, and to a lesser extent reverse mortgages) have a higher sensitivity to both life expectancy (lengthening the term lowers the value of the investment) and consequently, to the discount of benefits. Those transactions where benefits incur tax liability (early sale, invested net proceeds after the termination of a reverse mortgage and sale leaseback) are sensitive to tax treatment. Transactions where the benefits occur late in the term (status quo, early sale and reverse mortgage/investment) are more likely to suffer from

higher discount rates. The impact of changes in these variables is considered in section 3.5.

Table 3.3 Sensitivity to Key Variables

	Life Expectancy	Tax Liability	Discount of Benefits
Status Quo	medium	no impact	high
Early Sale	meduim	high	medium
Reverse Mtg.	low	low	medium
SARM	high	no impact	low
Sale Leaseback	low	medium	low

3.42 Contribution to Income Stream

The major benefit of equity conversion transactions is their potential to increase the income stream of elderly households. As discussed in Chapter 1, this is important for two reasons: many elderly-headed households have inadeqate incomes and these can be eroded by inflation. An analysis of income streams differs from a comparison of present values in two ways. First, it excludes the value of benefits which accrue to the estate in the terminal year. These are assumed to occur after death and thus do not contribute to income. Second, the income received over time is not discounted.

The net income streams (existing income plus transaction income and less additional tax liability and the net costs of alternative accommodation where applicable) were modelled for each household profile. New income levels were compared with three measures for evaluating income streams -- the poverty line, the median income of all elderly households and the median income of households of all ages. These medians were projected to

Existing and New Income Streams
Household Profile # 1

Existing and New Income Streams
Household Profile # 2

Existing and New Income Streams
Household Profile # 3

Existing and New Income Streams
Household Profile # 4
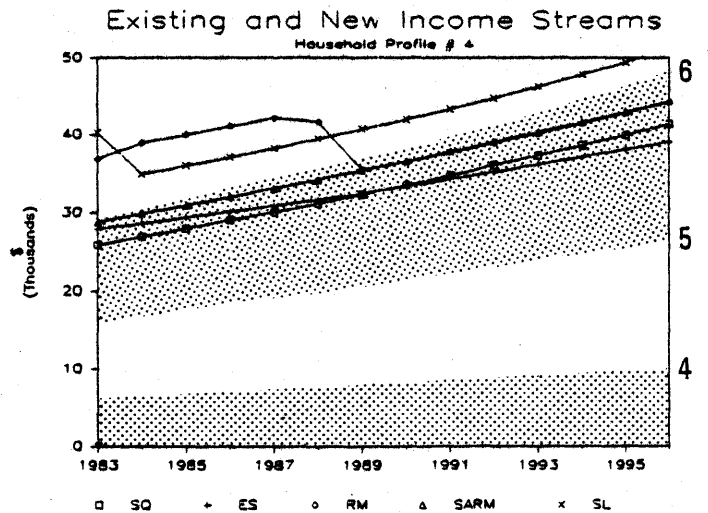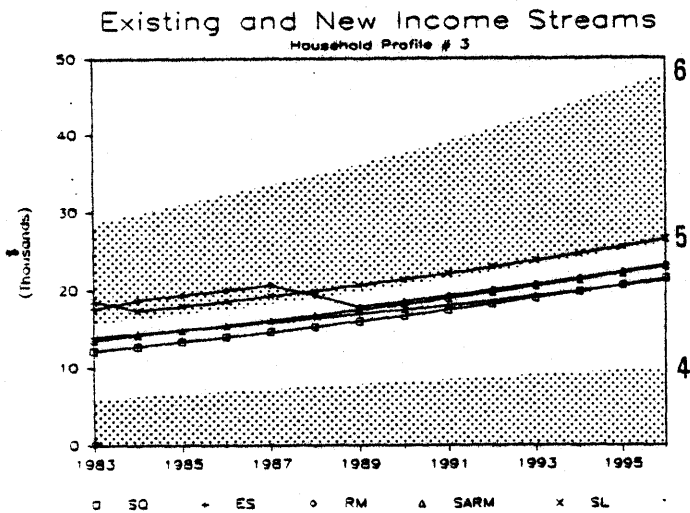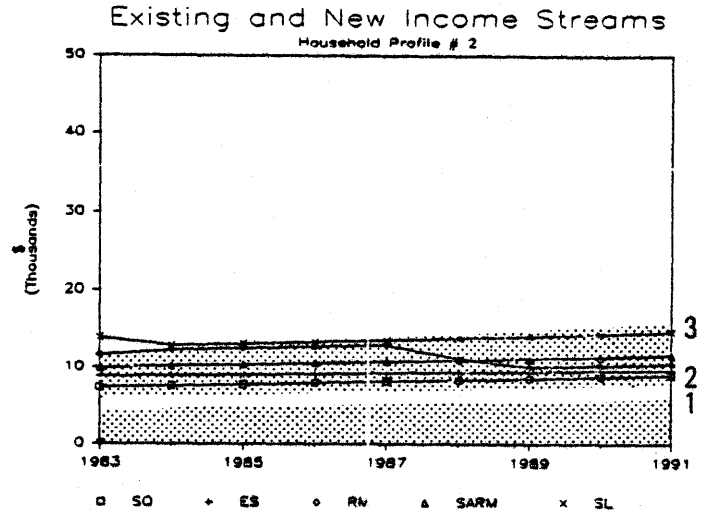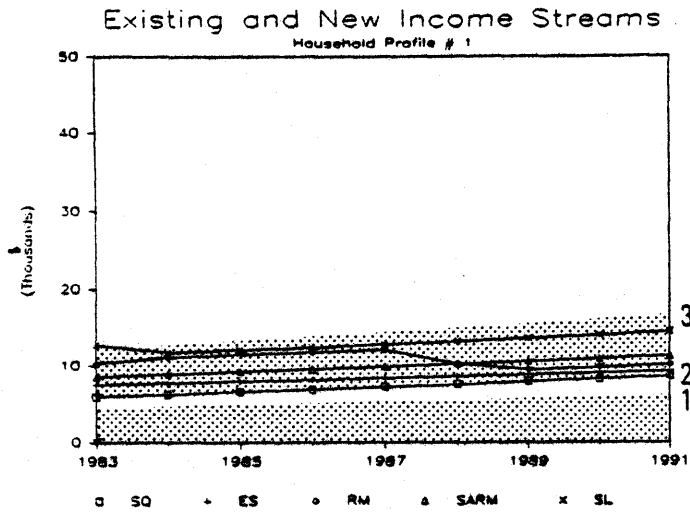
Single Households

1.   Poverty Line
2.   Median Income 65+
3.   Median Income <65

Family Households

4.   Poverty Line
5.   Median Income 65+
6.   Median Income <65

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inflate over time at the model's 4% inflation rate. A cash flow
spreadsheet for each houshold prototype is included in Appendix 1.
Figure 3.2 shows the status quo income and the new income
streams which would result from each transaction.

Overall, there was little difference between the income
stream patterns for profiles 1 and 2. For both, the sale
leaseback provides the highest income, and this tends to keep
pace with inflation. A reverse mortgage gives the second highest
income initially, but this declines below the return of a shared
appreciation plan after the 6th year. A shared appreciation
reverse mortgage is more favorable than an early sale, and the
status quo is the least favorable option. Year one is the only
year in which the income from any option exceeds the median
income for all single households, when a 10% down payment for a
sale leaseback increases income substantially.

Income patterns between profiles 3 and 4 are also similar.
Reverse mortgages rank highest in terms of increasing income in
the early years, but decline to just exceed the shared
appreciation income level after the reverse mortgage term ends.
A sale leaseback continues to give the most consistent
contribution to the income stream. However, as the term for this
instrument is set to life expectancy, income would drop
substantially if the owner outlived the term. An early sale
transaction showed suprising results for both profiles: the net
cash flow from the transaction became negative in the later years
(year 13 for profile 3 and year 8 for profile 4), owing to the

combination of tax liability on investment proceeds and inflating costs of alternate housing.

There are two reasons for the difference between the lower and higher income profiles: differences in tax liability and differences in term. As the term for profiles 1 and 2 is shorter, these households tend to have higher benefit streams. A shorter term for profiles 3 and 4 would increase benefits for the sale leaseback and shared appreciation transactions.

3.5 SENSITIVITY ANALYSIS

3.51 Sensitivity to Inflation

It was expected that the relative value of plans would vary with inflation. This was tested for three scenarios in addition to the base case: low inflation (reflecting the experience during the early 60's), moderate inflation (the early 70's) and high inflation (late 70').

In this analysis, the impact of altering three variables is tested -- the inflation rate (affecting incomes and transaction costs), the investment rate (affecting return on invested capital) and the interest rate (affecting the cost of reverse mortgage and shared appreciation reverse mortgages and the return on sale leasebacks.) It was assumed that the discount rate is equal to the investment rate. The impact of different rates of inflation for each household profile is presented graphically in Figure 3.3 and detailed in Appendix 3.

Table 3.4 Inflation Assumptions

	Base Case	Low Inflation	Moderate Inflation	High Inflation
Reflects Period	current	1965-70	1970-75	1979-81
Inflation Rate	4%	2%	6.78%	11.73%
Alt. Investment	11.07%	4%	7.38%	11.74%
Discount Rate	11.07%	4%	7.38%	11.74%
Interest Rate	13.0 %	6%	8.0 %	13.0 %

When inflation excluded home appreciation, all household profiles suffered from high inflation. For three transaction types: status quo, reverse mortgage and shared appreciation reverse mortgage, present value was highest under low inflation and declined with higher inflation. This held true for all household profiles, although there was a greater impact on profiles 3 and 4. The greatest percentage impact was on the status quo for all four profiles.

The rankings of plans differed between inflation scenarios. Low levels of inflation tended to favor those plans where equity was retained for longer (status quo, reverse mortgage), while high levels of inflation benefited those which depend on the interest or investment rate for their value. These values would shift in favor of plans where equity is retained if the rate of home appreciation was allowed to increase with inflation.

Of particular interest are those plans which benefit from low inflation and suffer from high rates. For all profiles, the early sale follows this pattern, owing to its dependence on a return on investment, a rate which is highest under conditions of high inflation.

FIGURE 3.3 NET PRESENT VALUE UNDER INFLATION SCENARIOS

NPV Under Different Inflation Scenarios
As a % of Home Value -- Profile 1
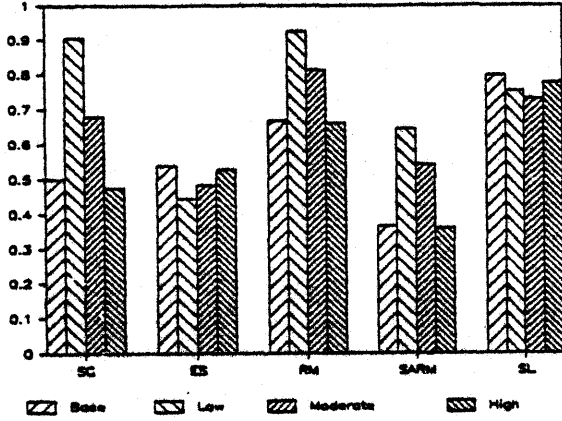
NPV Under Different Inflation Scenarios
As a % of Home Value -- Profile 2
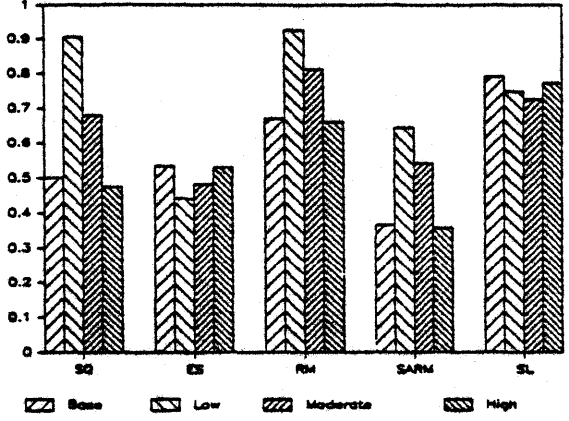
NPV Under Different Inflation Scenarios
As a % of Home Value -- Profile 3
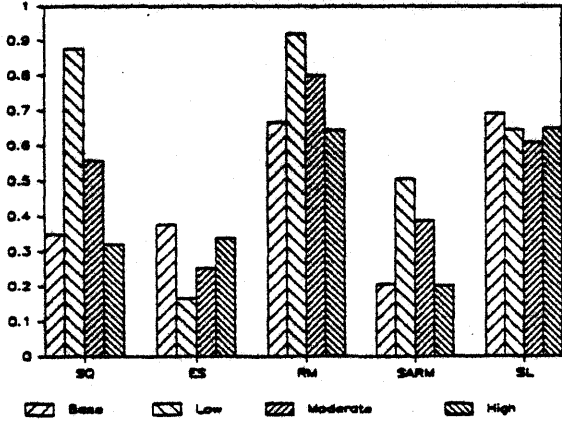
NPV Under Different Inflation Scenarios
As a % of Home Value -- Profile 4
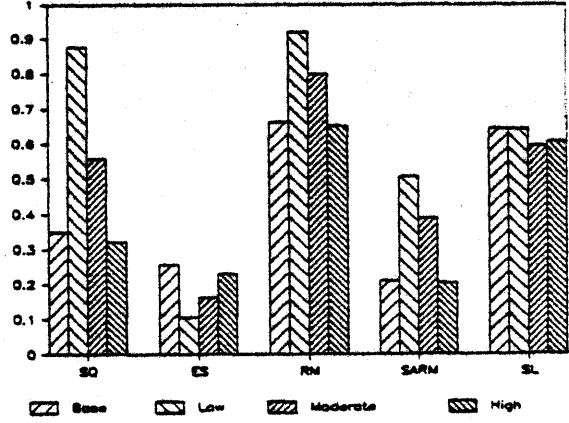
The status quo income levels of all profiles except profile
2 (the downwardly mobile elderly) is assumed to increase with
inflation. However, increases owing to equity conversion income
do not necessarily keep pace. Three factors are involved: the
household's current income, tax liability and alternate housing
costs.

While base income increases with inflation, for three of the
profiles, the income from two transactions (early sale and
reverse mortgages) increased at the alternate investment rate.
As this rate is slightly higher than inflation, payments under
these options increased in real terms over time. Conversely,
payments under the shared appreciation and sale lealseback plans
remained fixed, and so declined in real terms.

Tax treatment is the second significant factor. Because the
model held the tax rate constant, inflating base incomes made
tax liability increase for all households over time. This is
also true for transactions where additional income is tax liable
(early sale, sale leasebacks and investment return following the
termination of a reverse mortgaged), while tax-free plans
(reverse mortgage, shared appreciation plans and the status quo)
do not incur addtional tax liability.

The third factor is the cost of alternative housing. For those
transactions which involve a change of tenure (early sale and
reverse mortgages at the end of the term), increasing housing
costs limit the ability of fixed benefits to remain constant
over time. Sale leaseback transactions are affected, but to a

smaller extent, as their rents are set to a lower percentage of home value.

These three factors interact to determine the potential of benefits to keep pace with inflation. Their impact is summarized below. For all transactions except the status quo and shared appreciation plans, higher income profiles suffer more from inflation for two reasons: they incur a higher tax liability on benefits and higher home values lead to higher costs for alternate accommodation.

Table 3.5 Inflation Resistance of New Income Streams

	Additional Income	Tax Liability	Alternate Housing Costs
Status Quo	O	O	O
Early Sale	+	–	–
Reverse Mtg*	O/+	+	+/–
S.A.R.M.	O	O	O
Sale Leaseback	O	–	–

* For reverse mortgages, the first figure refers to the early part of the term, while the second refers to the later part.

The relationship between the variables adjusted to model inflation under the three scenarios is not consistent. During different periods of inflation, different spreads have existed between variables. Under low inflation, for example, the investment rate (4%) is double the inflation rate while under high inflation there is a difference of only 9%. Changes in the spread between rates is important as a greater difference between two terms can add value to some plans and make others less attractive. The impact of these differences under the three

inflation scenarios highlights the difficulties elders face when making investment decisions based on uncertain future conditions.

3.52 Sensitivity to Home Appreciation

The model proved extremely sensitive to changes in the rate of housing inflation. Two elements are involved: appreciation in the value of homes and inflation in the costs of securing alternate acommodation. Higher levels of home appreciation tended to benefit those households which draw value from their homes later in the term (status quo), harm those households which change tenure (early sale and sale leaseback), have a mixed impact on reverse mortgages (as both conditions apply), and have no impact on shared appreciation plans. For all profiles, the greatest positive impact from increases in the rate of appreciation was on the status quo, while the largest decrease in value was for an early sale.

In addition, the impact differed between household types. Lower income households were less affected by changes in inflation due to their lower home values and housing costs. Changes in the value of transactions as a consequence of home appreciation are presented in Appendix 3.

The appreciation rates at which transaction options became the most favorable option were calculated for each houshold. Early sale transactions were not considered as their ranking outpaced other transactions only at very high levels of home depreciation. Shared appreciation plans were also excluded because their net present value remains constant at all levels of inflation, and

FIGURE 3.4   NET PRESENT VALUE UNDER HOME APPRECIATION SCENARIOS

NPV Under Housing Inflation
As a % of Home Value -- Profile # 1

NPV Under Housing Inflation
As a % of Home Value -- Profile # 2

NPV Under Housing Inflation
As a % of Home Value -- Profile # 3

NPV Under Housing Inflation
As a % of Home Value -- Profile # 4

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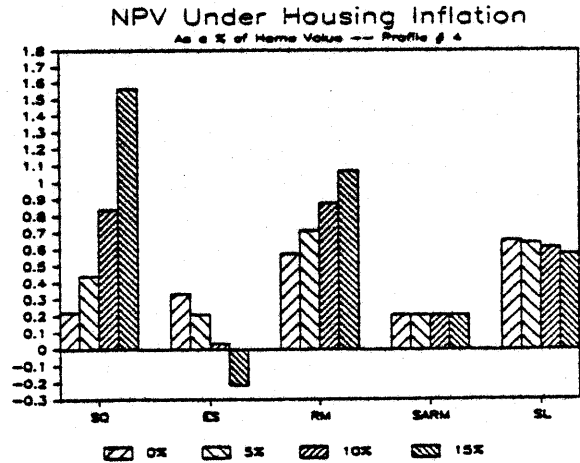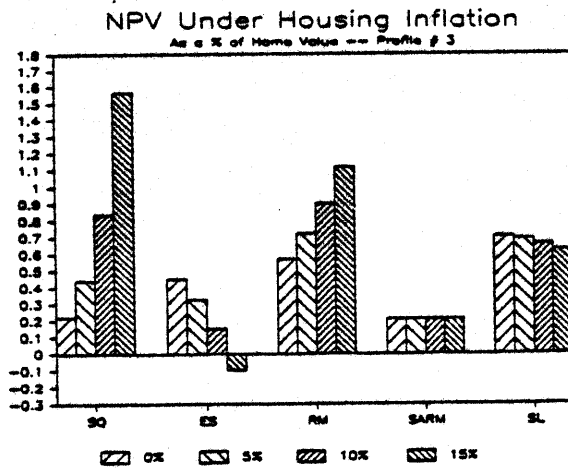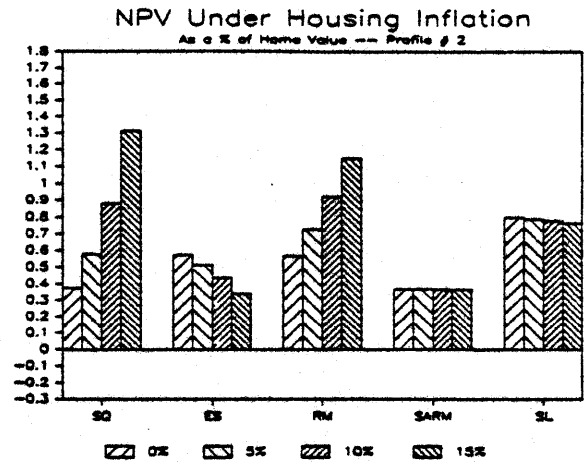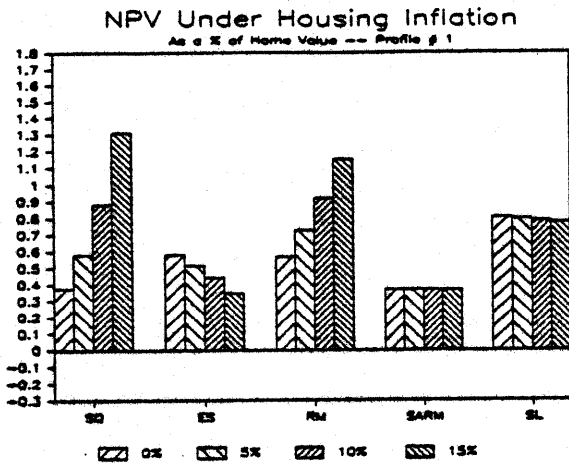
with a term set to life expectancy, their value cannot rank
first.

Table 3.6 Appreciation Rates at which Transactions Rank First

	Profile 1	Profile 2	Profile 3	Profile 4
Status Quo	over 11.4%	over 11.4%	over 10.9%	over 10.5%
Reverse Mtg	6.8-11.3%	6.6-11.3%	4.1-10.8%	2.8-10.5%
Sale Leaseback	0- 6.7%	0- 6.5%	0- 4.0%	0- 2.7%

This analysis demontrates two things: that different
transactions work best under different economic conditions and
that the suitability of different transactions under a given set
of economic conditions depends on household type.

3.53 Sensitivity to Household and Transaction Variables
In order to evaluate differences resulting from the
selection of household characteristics sensitivity to two
household variables -- persons per household and life expectancy
-- was tested. The impact of changing the term of reverse
mortgages and shared appreciation reverse mortgages was also
considered.

Household Size
Household composition affects tax liability -- two person
households filing joint returns have higher deductions and a
lower tax rate. Consequently, changes in household size
(modelling the single person household profiles 1 and 2 as two
persons and profiles 3 and 4 as one person households) had no
impact on either status quo or shared appreciation transactions,

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as neither changes a household's tax status.

For low income households, the model proved to be relatively insensitive to household size. The impact was greatest for an early sale transaction, where invested sale proceeds bear the largest tax liability. For profiles 1 and 2, increasing the houshold size increased the present value of reverse mortgage and sale leaseback transactions by less than 2% and the value of an early sale by between 4.17 and 4.53%

The two higher income households were more sensitive to a change from a two to a one person household. While the value of an early sale decreased by 5%, and the value of a reverse mortgage changed by less than 1%, the impact on an early sale was more substantial: it decreased the value of the transaction by 19% for profile 3 and 22% for profile 4. This kind of change in value highlights the importance of tax planning when evaluating equity conversion options.

Life Expectancy

Changes in the year of death (with life expectancy held constant for calculating sale leaseback and shared appreciation terms and with the reverse mortgage term reduced to new life expectancy where applicable) were also tested to determine the impact on each profile. The patterns were similar for all four profiles. The present value for both the status quo and early sale were highest for shorter life expectancies. For the status quo, the percentage change in was consistent among profiles: a life expectancy five years shorter increased the value of this

option by 44% while a death five years later decreased it by 31%. The results for an early sale were similar, except that they were more pronounced for profile 4 owing to this household's high tax liability. A table showing the impact of altering the year of death is included in Appendix 3.

Changes in life expectancy had the smallest effect on reverse mortgage and sale leaseback transactions -- for all profiles, a longer life expectancy decreased the value of both options by less than 2%, while a death five years earlier than expected increased their value by less than 8%.

The shared appreciation reverse mortgage proved very sensitive to year of death. Surprisingly, the value of this transaction is higher both for an earlier death (77% higher for profiles 1 and 2 and 80% higher for profiles 3 and 4) and a later death (26 and 12% higher respectively). This is because the payments from the reverse mortgage are based on the life expectancy of the owner. If she dies earlier, she still holds some equity in her home. If she lives longer, payments continue. Values are higher for profiles 1 and 2 because payments are higher due to shorter life expectancies. This sensitivity to term is greater for earlier death than later death.

These changes do not have a great impact on the low ranking of the shared appreciation reverse mortgage plan relative to other options. To test this, the term for this transaction was set to life expectancy, but it was assumed that the owner actually lived to age 100. Under these assumptions, this

transaction ranked fourth (just above the status quo) for profile
1, third for profile 2 and continued to be the least attractive
option for profiles 3 and 4.

Reverse Mortgage Term

Sensitivity to term was also tested for reverse mortgages.
A variety of terms were considered for all profiles. In every
case, a shorter term had a higher present value. This results
from the high costs which accure to reverse mortgages with long
terms and the consequent reduction in immediate benefits. If
home appreceiation rates were higher, longer terms would be more
favorable.

Table 3.7   Net Present Value as a Percentage of Home Value
            for Different Reverse Mortgage Terms

	Profile 1	Profile 2
3 years	78.09%	78.32%
5 years	66.82%	67.00%
9 years (life)	47.97%	47.96%

	Profile 3	Profile 4
3 years	77.61%	76.68%
5 years	66.56%	66.09%
10 years	45.65%	46.33%
14 years (life)	32.43%	32.57%

3.54   Risk

The elderly face two kinds of risk. The first is that
inflation will erode income. Because their incomes are tied to
measures which may not reflect their consumption patterns, even
indexed income sources may not keep pace with an elderly
household's needs. A related risk is the fact that households may

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outlive fixed sources of income. These risks are reflected in
the discount rate, where income received today has a greater
value than income expected in the future. Sensitivity to this
"inflation related" risk was tested by altering the discount rate
and examining the impact on the relative value of alternate
transactions.

The second kind of risk is less quantifiable: it relates to
the specific attributes of alternate transactions. Two elements
exist: risk regarding the long term viability of the transaction
(for example, risk of buyer or lender default) and risk relating
to changing economic conditions. These risks are addressed in
Chapter 4.

To test the impact of inflation-related risk, present values
of investment alternatives were modelled with discount rates
ranging from 0 to 15% The first case is not realistic: it
implies that the household has no aversion to risk and expects no
return on investments. However, a household with no savings and
an income based on an indexed lifetime annuity may have a very
low discount rate. The high discount rate (15%) is also
unrealistic given current economic conditions, but would be a
reasonable figure for a household with a fixed income which
expects high levels of inflation in the future. A debate also
exists as to whether households with different income levels
value future benefits in different ways. It has been argued that
lower income households should have higher discount rates because
the marginal value they place on additional income is greater.
This issue should be considered when assessing conversion options

for elders who place different values on future income.

In all cases, the present value of plans suffered from higher discount rates. High rates had the greatest impact on the value of plans with terminal benefits (status quo, early sale and reverse mortgage), and relatively little impact on those plans where equity was depleted over time (shared appreciation plans and sale leasebacks.) In most cases, a very low discount rate made the status quo the most attractive option, while a high rate favored sale leaseback transactions. The exception was profile 4, where high tax liability continued to make a reverse mortgage the option with the highest present value.

Results were different for high and low income households: profiles 3 and 4 suffered more from high discount rates, primarily because these households had longer terms and thus a higher discount on benefits received in later years.

FIGURE 3.5 NET PRESENT VALUE AT DIFFERENT DISCOUNT RATES

Present Value as a % of Home Value
Profile # 1

Present Value as a % of Home Value
Profile # 2

Present Value as a % of Home Value
Profile # 3

Present Value as a % of Home Value
Profile # 4
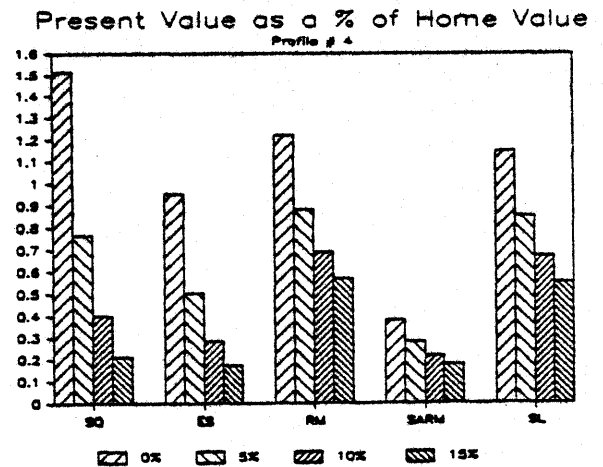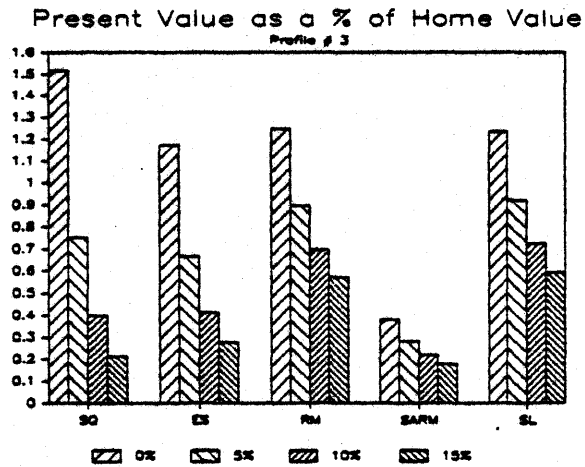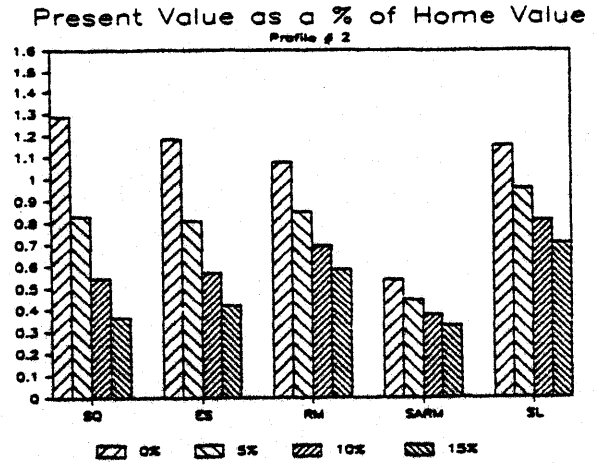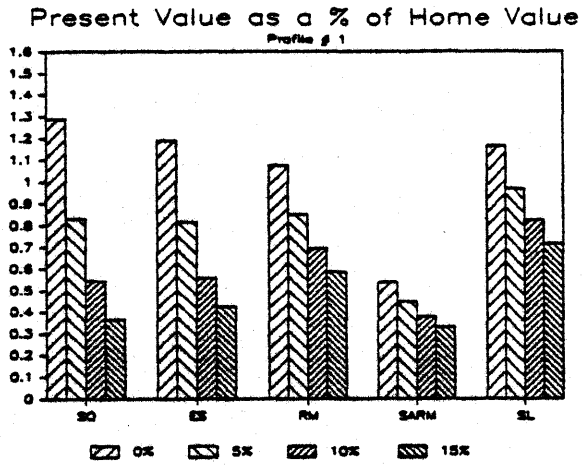
Chapter IV

CONSTRAINTS

4.1 INTRODUCTION

Despite the high potential of equity conversion to assist some elderly homeowners, a relatively small number of transactions have been arranged. This chapter examines some of the factors which limit the use of these transactions.

The market penetration of any financial instrument is a function of two factors -- demand and supply. In the equity conversion market, demand is created by home owners who wish to tap into their home equity. Suppliers of reverse mortgages could include a number of institutions, for example banks, finance companies, mortgage bankers, investment groups and public agencies. For sale-leaseback transactions, the supplier is more often an individual investor (typically a family member) or a public agency.

4.2 FACTORS CONSTRAINING DEMAND

4.21 Imperfect Information

For many elderly homeowners, equity conversion is inappropriate. They may have sufficient income or may prefer to get by with a low income because of other objectives (for example, leaving an estate.) In a 1980 survey of 549 elderly Wisconsin homeowners, 75% indicated that they were familiar with at least one form of equity conversion. However, a much smaller percentage of respondents (16% for reverse mortgages, 27% for

sale-leasebacks and 26% for property tax postponement) said that they would be interested in converting the equity in their homes. (Scholen, 1980)

For others, however, equity conversion presents an ideal solution to the problem of high asset wealth but low current income. Factors constraining these potential demanders can be evaluated by considering three groups: elders who know nothing about equity conversion; those who know conversion opportunities exist but lack sufficient information; and those who understand the potential for conversion, but have chosen not to participate because of the costs or risks involved.

The first group includes potential consumers who do not consider equity conversion because they have no information about this option. Ken Scholen, director of the National Center for home equity conversion, suggests "the most fundamental and pervasive barrier to development is simple lack of awareness and understanding." (1983) As equity conversion becomes more common, consumer awareness will increase. Growing public awareness is now being supported by media attention, active marketing of equity conversion products by private firms, and financial counselling offered by state and local agencies.

The second group is made up of elders who know of equity conversion, but lack adequate information. This is a particular problem in areas where counselling and referrals are not offered. Banks are unlikely to offer reverse mortgages unless clients request them and sale leaseback arrangements involve a complex

transaction with varying legal requirements. In the absence of good technical information and legal and tax advice, owners will be unlikely to consider conversion options.

4.22 Costs

The third group includes households who have adequate information on equity conversion options, but prefer not to participate because they feel that the costs or risks are too high. Reverse mortgages can be costly, especially at high interest rates or long terms, and the cost of accumulating debt may discourage homeowners. Elders considering sale leaseback transactions may have to take a substantial discount on the fair market value of their homes to make the transaction attractive to an investor.

Owners can be expected to consider the net benefit from transaction options. For some, there are also costs associated with losing eligibility for means-tested programs. Both Medicaid and Supplemental Security Income (SSI) make use of income and asset tests. While home value and loan payments (including reverse mortgage loans) are not assessed, income from sale, annuity income and "countable" resources (assets at the end of each quarter) are. As equity conversion benefits may jeoparodize these benefits, owners who receive income from these programs can be expected to factor risk of loss of benefits into their decision to participate.

4.23 Risks

Risks are important, especially for the elderly, a group usually characterized as extremely risk averse. A home is the principal asset of most older homeowners and is viewed as a form of retirement security. There are risks involved in any transaction alternative. For reverse mortgages, elderly owners may be particularly sensitive to the risk that they will need sell their homes to pay off a mortgage at the end of its term if the home has not appreciated sufficiently to allow refinancing. A related risk is that the home will lose value and the owner may owe more than its market value at the end of the mortgage term.

While shared appreciation plans (which guarantee payment and limit liability) resolve some of these problems, payments are only guaranteed for as long as the owner remains in her home. Consequently, these plans carry a different kind of risk: that for health or other reasons the owner will have to move and will lose her monthly payments.

For sale leaseback transactions, the loss of ownership also presents a risk. In the absence of tested legal contracts (which would vary between states), tenure may be at risk. If the contract stipulates a "fair market rent", the owner have to pay an unexpectedly high rent if market rents increase rapidly. There is also the risk that the investor will not maintain the home to the elder's satisfaction.

The fact that equity conversion techniques are a relatively new concept may also introduce risk: there is an understandable

reluctance to participate in a untried program. This is especially significant when one considers the long term nature of some contracts: there is a lack of experience with problems which may emerge in later years.

One such problem may be default. While reverse mortgage lenders are unlikely to stop payments, there is no guarantee against default under shared appreciation or sale leaseback transactions. This is a particular risk if home value declines.

For all transactions, there is the additional risk that the value of payments will be eroded by inflation. Over the past decade, home values have increased more rapidly than inflation. Consequently, those elders who participate in shared appreciation or sale leaseback transactions risk giving up an asset with an increasing value for fixed payments.

4.3 FACTORS CONSTRAINING SUPPLY

4.31 Reverse ·Mortgages

A primary reason for the slow acceptance of reverse mortgages is limited supply. To date, financial institutions have been reluctant to offer reverse mortgage financing except in special cases. Among those who do participate, reverse mortgages are regarded more as a community relations activity than a for-profit lending activity. Three major supply-side barriers to the market penetration of reverse mortgages have been identified: institutional barriers, market barriers, and barriers relating to the costs and risks incurred by financial institutions.

Until recently, a major institutional barrier was regulation. Prior to 1982, federally chartered banks were prohibited from writing reverse mortgages. Those banks which did offer them (Deering Savings and Loan and Broadview Savings and Loan) could do so only through special payment arrangements and because of their status as state-chartered institutions. (Scholen and Chen, ed., 1980)

Most legal barriers were removed by the 1982 Garn-St. Germain Depository Institiutions Act. This act deregulated the banking system generally, and removed constraints which prevented financial institutions from offering a range of alternative mortgage products. It also extended Federal Home Loan Bank Board regulations (which expressly authorize Savings and Loans to write reverse mortgages) to all housing creditors. (Barnet et al, 1984) These regulations "place few limitations on reverse mortgages by federal associations. Reverse mortgages are subject to the maximum term of forty years for loans secured by residential real estate. Deferral and capitalization of all interest is permitted on loans structured as periodic advances to natural persons secured by borrow-occupied, one to four-family homes." (Barnet et al, 1984 p.8.11) It is possible, however, for States to override the provisions of the Garn-St. Germain Act through specific legisation. Four states, including New York, have done this.

Two major market-related barriers to widespread use of reverse mortgages exist: the lack of mortgage insurance and the

absence of a secondary market. Both differ significantly from similar programs for forward mortgages.

Public and private insurance programs which guarantee payment on conventional forward mortgages and help to limit the amount of risk taken by banks are not available for reverse mortgages. Weinrobe, (no date) identified several possible insurance programs, and concluded that the most important kind would be insurance against the borrower not repaying at loan maturity. If it was available, this type of insurance would also minimize "end of term problems", as it would pass potential problems with foreclosure on to the insurer. Insurance which protects lenders from the home value falling below the mortgage balance would also help reduce risk. In addition to making reverse mortgages more attractive to lenders, the existence of insurance programs would enhance their viability in secondary markets.

The lack of a secondary market for reverse mortgages is also a constraint. Typically, banks do not hold mortgages in their portfolios: a large percentage are sold on either a public or a private secondary market. This allows lenders to free funds for other uses. Because of their unique nature (as a contract to pay out funds over a fixed period in return for a benefit at the end of the mortgage term), reverse mortgages cannot be sold in existing secondary markets. Until institutions begin to write a sufficient number of reverse mortgages to allow them to be pooled to produce a determinable yield, a new market is unlikely to emerge. (Barnet et al, 1984)

The third group of constraints involves the costs and risks facing financial institutions which offer reverse mortgages. The primary risk is the potential problem of having to foreclose on an elderly tenant at the end of the loan term to secure repayment. This can be costly and is likely to lead to adverse publicity. Banks are very sensitive to this possiblity, and maintain a strong interest in ensuring that seniors receive adequate counselling before deciding to participate.

An additional cost is the "active" nature of reverse mortgages. The disbursment of regular payments on a mortgage loan involves a different kind of bookkeeping. Because they look to the value of the home for repayment, banks must also be concerned about property maintenance. "The important concern is the relation of a growing loan balance to property value at some point in the distant future. It is most important to ensure that the property does not depreciate and cause the loan to become less than fully secured."(Barnet et al, 1984) Consequently, the lending institution may bear the additional cost of periodic property inspection.

4.32 Shared Appreciation Reverse Mortgages

Shared appreciation reverse mortgages were designed to eliminate many of the risks assumed by both parties. They are subject to the same legal constraints as standard reverse mortgages.

A shared appreciation plan which pools mortality,
appreciation and prepayment reduces many of the risks faced by
lenders. Because risks are pooled, the existence of mortgage
insurance and a secondary market are less important. In addition,
setting the term to the owner moving or reaching the age of 100
virtually eliminates the "end of term problem" of foreclosing on
an elderly owner.

However, the risks faced by firms offering shared
appreciation reverse mortgages remain significant. Because the
interest rate is below the market rate and the payments are
guaranteed, the lender must make up its share in appreciation.
If homes in the pool fail to appreciate as expected, the plan may
suffer substantial losses. In addition, because a new concept
must be sold to elderly homeowners, marketing and counselling
costs are high.

4.33 Sale Leaseback Transactions

Two factors -- the lack of a formal market, and uncertain
tax treatment -- are the major barriers to sale leaseback buyers.
In addition, like demanders, sellers are constrained by a lack of
information.

A market which matches owners and investors for sale
leaseback transactions does not exist. Consequently, most involve
informal arrangements between family members. For individual
investors, sale leaseback arrangements are risky ventures: costs
can be very high if an owner lives beyond her life expectancy. A
sale leaseback is also an inflexible investment: buyers (unless

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they can find a market in which to sell their interest) are locked into paying taxes and maintenance costs while receiving a contracted rent until the seller moves or dies. While this may be acceptable for a family member or public agency, it is unlikely to appeal to a private investor. One solution is the pooling of transactions to reduce risk and enhance cash flow. However, a market for such pooled investments has not emerged.

The second major risk is the uncertain tax treatment of sale leaseback transactions. "The economic viability of a sale leaseback is dependent on the buyer receiving the depreciation and expense deductions that normally accrue to rental property, and upon the seller receiving the capital gains exclusion that normally is permitted sellers of a personal residence on a one-time only basis after the age of 55. It also depends, to a lesser degree, on neither party receiving a taxable gain or income from any discount on the purchase price."(Scholen, in Federal Council on the Aging, 1983)

The Internal Revenue Service has not released an explicit ruling on the tax treatment of sale-leasebacks (although they do favor transactions at "fair market value" and "fair market rent") Both the buyer and seller take a risk that their transaction will not receive favorable tax treatment, especially if the sale is at a discounted price or if the lease agreement carries a fixed rent. An additional risk is that tax legislation will change. The current "flat tax" proposal, for example, would eliminate the accelerated depreciation deductions which favor sale leasebacks.

Lack of information and technical expertise is a further constraint. In the absence of standard forms, proven legal treatment and sound tax advice, both buyer and seller risk major losses.

4.4 NEW DEVELOPMENTS

It is anticipated that many of the problems associated with equity conversion schemes will be reduced as the instruments develop. A primary barrier -- lack of information -- can be expected to dissolve as both institutions and consumers gain additional experience.

One set of constraints could be resolved through public policy initiatives. Firm rulings on the tax treatment and status of income as it relates to means-tested programs would significantly reduce risks, especially for sale leaseback arrangements. Other public policy initiatives, for example, establishing networks of counselling agencies, would also reduce risks for both consumers and suppliers.

Market related barriers are also expected to dissolve as more institutions enter the reverse mortgage market. The Department of Housing and Urban Development is currently studying the feasibility of providing mortgage insurance for reverse mortgages. While it seems unlikely that a formal secondary market will develop, some institutions may start to trade in reverse mortgages. In a small way this has already happened: a California credit union is offering to buy reverse mortgages written for members.

New programs, like Prudential Bache's shared appreciation plan, can also be expected to do reduce many of the risks associated with reverse mortgages. It is anticipated that if this plan is successful, other institutions will market their own programs, leading to the development of more diverse and competitive products.

Chapter V
CONCLUSIONS

5.1   ANALYSIS

This paper has evaluated the feasibility of alternative equity conversion mechanisms for different elderly household types and examined the factors supporting and constraining the development of these instruments.

The most surprising general conclusion from this research is that variables such as household income, composition and home value had a relatively small impact on the ranking of different options. The most important household variable was life expectancy (shorter terms carried higher benefits), suggesting that equity conversion may become a better option for some households as they age.

The most significant variables affecting the relative value of options were those which related to the nature of the transaction: to what extent they liquidated equity, the timing of the stream of benefits and the costs and level of return associated with various plans.

It is possible to develop a continuum describing the extent to which plans liquidate equity. At one end of the spectrum are those plans which turn all of a home's value into income -- sale leaseback transactions and shared appreciation plans where the owner lives to the end of the term. A reverse mortgage, which

patially liquidates equity, lies in the middle. Next is the early sale, which releases equity, but ties gains from sale into an investment. At the other extreme, a sale at death (the status quo scenario) does not convert equity at all.

A set of decision criteria emerge which households may use in evaluating various options. These are summarized below:

Table 5.1 Decision Criteria

	Present Value	Additional Income	Retain Tenure	Availability
Status Quo	moderate	none	high	high
Early Sale	moderate	low	none	high
Reverse Mtg	high	high	moderate	limited
S.A.R.M.	low	moderate	high	limited
Sale Leasebk	high	high	high	depends*

* If a family member is willing to participate, availability is
  high; otherwise it is very low.

The owner will balance the potential to liquidate equity to supplement income against the overall value of a transaction as an investment. In this evaluation, the real value of a transaction may not be the most important decision criterion. Income needs, risk aversion and availability of transaction alternatives may also come into play. For example, an elder who has no interest in leaving an estate may favor an option that liquidates equity more completely even though its investment value is lower. An elder who is concerned primarily with receiving lifetime payments or remaining in her home may select an option with a lower ranking simply because it is more suited to her needs.

An elderly household, then, will evaluate equity conversion options based on the value that it places on a number of factors. Because households have different characteristics, objectives, views of risk and economic expectations, no one equity conversion alternative is superior for all households. However, general observations about the suitability of some plans for households with specific attributes (for example, high tax liability or long life expectancy) can help to narrow the field.

Factors constraining equity conversion are also important. Most are barriers which one would expect in any emerging financial market: risk, lack of information and technical knowledge and delays in the development of supportive market instruments. However, some constraints can be reduced by public initiatives including clarifying of the status of conversion benefits for tax treatment and benefits programs, encouraging conditions which support the development of instruments (for example, helping to establish secondary markets), and developing counselling networks.

5.2 RECOMMENDATIONS

Recommendations for public intiatives draw from the analysis of constraints. A number of areas have been discussed in which the public sector could act to encourage the development of equity conversion alternatives. However, public support for these financial innovations may be inappropriate. While in economic terms the development of financial instruments which

maximize choice are efficient, the question of equity must be considered.

This paper has not addressed a number of issues which underlie the concept of equity conversion, including the degree to which society should support its elderly population, whether public nurturing of new financial markets is appropriate and, at the most basic level, to what extent housing is a good that should be considered a basic need rather than a convertible commodity. Positions on these issue must be addressed before unreservedly advocating public support for equity conversion.

Given the policies emerging from the current federal administration, debate on these issues may be superfluous. Federal withdrawal from income support programs may, for many elderly households, make the liquidation of home equity a necessity rather than an option.

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APPENDIX 1:   CASH FLOWS FOR HOUSEHOLD PROFILES

CASHFLOW MODEL   PROFILE 1

Equity Conversion Alternatives Cashflow Model

1. Assumptions

Note: assumes all events take place on the first day of the year
       all interest rates are annual, compounded annually
       assumes tax rates remain constant and householders use cash basis accounting

1A Householder Information

				SUMMARY NET PRESENT VALUE	
Name/Profile:	Profile 1				
Persons in Household:	1				
Current Year:	1983	Year of Death:	1992	Status Quo - Sale at Death	$22,030
Age (current year):	80	Age at Death:	89	Early Sale and Investment	$23,734
Life Expectancy (years):	9			Reverse Mortgage	$29,397
Current Annual Income:	$8,556			Shared Apppreciation RM	$16,102
% Increasing with Inflation:	100.00%			Sale-Leaseback	$35,070

1B House Data

Home Value:	$44,000	Net Home Value: $44,000	
Amount Existing Mtg:	$0		
Amount Outstanding Repairs:	$0		
Cost of Alternative Housing:	9.00%	(as a % of home value)	
Sale Leaseback Rent Level:	4.30%	(as a % of home value)	
Savings on Ownership Costs:	3.50%	(as a % of home value)	
(real estate taxes, major maint.)			

1C Market Assumptions

Inflation Rate:	4.00%	
Discount Rate:	11.07%	
Alt. Investment:	11.07%	1.93 (pt spread)
Housing Inflation:	3.32%	

1D Transaction Costs

	Early Sale	Reverse Mtg	Shared Apprec	Sale Leasebk
Interest Rate:		13.08%	12.13%	11.57%
(compounded annually; use effective rate)				
Loan Transaction costs % (points):		1.00%		
Loan Transaction costs $ (other):		$150	$100	
Sale Transaction costs % (points):	4.00%	4.00%	4.00%	
Sale Transaction costs $ (other):	_____	_____	_____	$2,500
Property Discount Rate:				13.33%
Year of Sale:	1983			

1E Inflated Values

Year#:	1	2	3	4	5	6	7	8	9	10
Year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Age:	80	81	82	83	84	85	86	87	88	89
Home Value:	44000	45461	46970	48530	50141	51805	53525	55302	57138	59035
Inflation Rate:	1.00	1.04	1.08	1.12	1.17	1.22	1.27	1.32	1.37	1.42
Discount Rate:	1.00	0.90	0.81	0.73	0.66	0.59	0.53	0.48	0.43	0.39

CASHFLOW MODEL   PROFILE 1

CASH FLOW MODELS
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1. EARLY SALE AND INVESTMENT

    Year of Sale: 1983   (proceeds reinvested in same year, sold on death)
    Year of Death: 1992
    Net Sale Value: $42,240

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Sale Value	$44,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transaction Costs	($1,760)	$0	$0	$0	$0	$0	$0	$0	$0	$0
Investment Principal	($42,240)	$0	$0	$0	$0	$0	$0	$0	$0	$42,240
Return on Investment	$4,676	$4,676	$4,676	$4,676	$4,676	$4,676	$4,676	$4,676	$4,676	$0
Net Cost of Housing Alternative	($2,420)	($2,500)	($2,583)	($2,669)	($2,758)	($2,849)	($2,944)	($3,042)	($3,143)	$0
Net Cash Flow	$2,256	$2,176	$2,093	$2,007	$1,918	$1,827	$1,732	$1,634	$1,533	$42,240
Change in Tax Liability	($737)	($748)	($758)	($769)	($781)	($797)	($814)	($832)	($850)	$0
NET AFTER TAX CASH FLOW	$1,519	$1,428	$1,334	$1,237	$1,137	$1,030	$918	$803	$684	$42,240
Discounted Value	$1,519	$1,286	$1,082	$903	$747	$609	$489	$385	$295	$16,419
Net Present Value	$23,734									

CASHFLOW MODEL   PROFILE 1

2. REVERSE MORTGAGE

Reverse Mortgage Starts:‡   1983
Reverse Mtg Ends/Sale Year:‡   1988   (net proceeds reinvested in same year, sold on death)
Loan to Value Ratio:‡   80.00%
Year of Death: 1992
Loan Amount: $35,200
Net Investment Funds: $16,605

Principal/Balance Ratio: 68.12%
                                 29397.497

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
RM Loan Payments	$4,796	$4,796	$4,796	$4,796	$4,796	$0	$0	$0	$0	$0
RM Transaction Costs	($502)	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sale Value	$0	$0	$0	$0	$0	$51,805	$0	$0	$0	$0
Transaction Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
RM Repayment - Principal	$0	$0	$0	$0	$0	($23,978)	$0	$0	$0	$0
RM Repayment - Interest	$0	$0	$0	$0	$0	($11,222)	$0	$0	$0	$0
Investment Principal	$0	$0	$0	$0	$0	($16,605)	$0	$0	$0	$16,605
Return on Investment	$0	$0	$0	$0	$0	$1,838	$1,838	$1,838	$1,838	$0
Cost of Housing Alternative	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net Cash Flow	$4,294	$4,796	$4,796	$4,796	$4,796	$1,838	$1,838	$1,838	$1,838	$16,605
Change in Tax Liability	$0	$0	$0	$0	$0	$821	($294)	($300)	($309)	$0
NET AFTER TAX CASH FLOW	$4,294	$4,796	$4,796	$4,796	$4,796	$2,660	$1,544	$1,538	$1,529	$16,605
Discounted Value	$4,294	$4,318	$3,887	$3,500	$3,151	$1,573	$822	$738	$660	$6,455
Net Present Value	$29,397									

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3. SHARED APPRECIATION RM

Reverse Mortgage Starts:	1983
Assumed Life Expectancy Year:	1992
Actual Year of Move:	1992
Loan Basis:	$44,000
Actual Loan Amount:	$44,000
Net Sale Value:	$56,674

Principal/Balance Ratio:	54.03%	(for calculating payments)
Principal/Balance Ratio:	54.03%	(for early repayment)
Monthly Payment Amount:		

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
RM Loan Payments	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	$0
RM Transaction Costs	($100)	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sale Value	$0	$0	$0	$0	$0	$0	$0	$0	$0	$59,035
Transaction Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	($2,361)
RM Repayment - Principal	$0	$0	$0	$0	$0	$0	$0	$0	$0	($23,775)
RM Repayment - Interest	$0	$0	$0	$0	$0	$0	$0	$0	$0	($20,225)
RM Repayment - Contingent Int.	$0	$0	$0	$0	$0	$0	$0	$0	$0	($12,674)
Net Cash Flow	$2,542	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	($0)
Change in Tax Liability	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET AFTER TAX CASH FLOW	$2,542	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	($0)
Discounted Value	$2,542	$2,378	$2,141	$1,928	$1,736	$1,563	$1,407	$1,267	$1,141	($0)
Net Present Value	$16,102									

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4. SALE LEASEBACK -- SELLER FINANCED

Year of Sale:	1983
Term:	9
Down Payment:	10.00%
Year of Death:	1992
Discounted Sale Price:	38134.8
Mortgage Amount:	34321.32

	year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Down Payment		$3,813	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transaction Costs		($2,500)	$0	$0	$0	$0	$0	$0	$0	$0	$0
Mortgage Payments Rec'd		$6,337	$6,337	$6,337	$6,337	$6,337	$6,337	$6,337	$6,337	$6,337	$0
Rent - Expense Savings		($352)	($364)	($376)	($388)	($401)	($414)	($428)	($442)	($457)	$0
Net Cash Flow		$7,298	$5,973	$5,961	$5,949	$5,936	$5,922	$5,909	$5,895	$5,880	$0
Change in Tax Liability		($616)	($576)	($530)	($480)	($423)	($359)	($284)	($199)	($105)	$0
NET AFTER TAX CASH FLOW		$6,682	$5,398	$5,431	$5,469	$5,513	$5,564	$5,625	$5,695	$5,775	$0
Discounted Value		$6,682	$4,860	$4,402	$3,991	$3,623	$3,291	$2,996	$2,731	$2,493	$0
Net Present Value		$35,070									

CASHFLOW MODEL   PROFILE 1

ADDITION TO CURRENT INCOME	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Status Quo - Sale at Death	$0	$0	$0	$0	$0	$0	$0	$0	$0	$56,674
Early Sale and Investment	$1,519	$1,428	$1,334	$1,237	$1,137	$1,030	$918	$803	$684	$42,240
Reverse Mortgage	$4,294	$4,796	$4,796	$4,796	$4,796	$2,660	$1,544	$1,538	$1,529	$16,605
Shared Apppreciation RM	$2,542	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	$2,642	($0)
Sale-Leaseback	$6,682	$5,398	$5,431	$5,469	$5,513	$5,564	$5,625	$5,695	$5,775	$0

NEW INCOME STREAM

	0									
Current Income Stream	$6,013	$6,304	$6,606	$6,921	$7,248	$7,588	$7,939	$8,303	$8,681	$0
Early Sale and Investment	$7,531	$7,732	$7,940	$8,158	$8,385	$8,618	$8,857	$9,105	$9,365	$42,240
Reverse Mortgage	$10,306	$11,099	$11,402	$11,716	$12,043	$10,248	$9,483	$9,841	$10,210	$16,605
Shared Apppreciation RM	$8,554	$8,945	$9,248	$9,562	$9,890	$10,230	$10,581	$10,944	$11,323	($0)
Sale-Leaseback	$12,695	$11,701	$12,037	$12,390	$12,761	$13,152	$13,564	$13,998	$14,456	$0

NET PRESENT VALUE

Status Quo - Sale at Death	$22,030	SQ
Early Sale and Investment	$23,734	ES
Reverse Mortgage	$29,397	RM
Shared Apppreciation RM	$16,102	SARM
Sale-Leaseback	$35,070	SL

CASHFLOW MODEL   PROFILE 2

Equity Conversion Alternatives Cashflow Model

1. Assumptions

Note: assumes all events take place on the first day of the year
        all interest rates are annual, compounded annually
        assumes tax rates remain constant and householders use cash basis accounting

1A Householder Information
                    Name/Profile: Profile 2   SUMMARY NET PRESENT VALUE
              Persons in Household: 1
                      Current Year: 1983   Year of Death: 1992   Status Quo - Sale at Death $21,529
                 Age (current year):   75   Age at Death: 89   Early Sale and Investment $22,967
            Life Expectancy (years):   9   Reverse Mortgage $28,807
             Current Annual Income: $10,200   Shared Apppreciation RM $15,734
        % Increasing with Inflation: 50.00%   Sale-Leaseback $34,059

1B House Data
                        Home Value: $43,000   Net Home Value: $43,000
                Amount Existing Mtg: $0
          Amount Outstanding Repairs: $0
         Cost of Alternative Housing: 9.00% (as a % of home value)
            Sale Leaseback Rent Level: 4.30% (as a % of home value)
          Savings on Ownership Costs: 3.50% (as a % of home value)
        (real estate taxes, major maint.)

1C Market Assumptions
                   Inflation Rate: 4.00%
                   Discount Rate: 11.07%
                  Alt. Investment: 11.07%   1.93 (pt spread)
                 Housing Inflation: 3.32%

1D Transaction Costs

                                    Early   Reverse Shared   Sale
                                    Sale   Mtg   Apprec   Leasebk

                   Interest Rate: 13.08%   12.13%   11.57%
        (compounded annually; use effective rate)
Loan Transaction costs % (points):   1.00%
Loan Transaction costs $ (other): $150 $100

Sale Transaction costs % (points):   4.00%   4.00%   4.00%
Sale Transaction costs $ (other):   _____   _____   _____ $2,500

            Property Discount Rate: 13.33%
                    Year of Sale: 1983

1E Inflated Values
               Year#:   1   2   3   4   5   6   7   8   9   10
                Year: 1983   1984   1985   1986   1987   1988   1989   1990   1991   1992
                 Age: 80   81   82   83   84   85   86   87   88   89
          Home Value: 43000   44428   45903   47427   49001   50628   52309   54045   55840   57694
       Inflation Rate: 1.00   1.04   1.08   1.12   1.17   1.22   1.27   1.32   1.37   1.42
        Discount Rate: 1.00   0.90   0.81   0.73   0.66   0.59   0.53   0.48   0.43   0.39

CASH FLOW MODELS

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1. EARLY SALE AND INVESTMENT

    Year of Sale: 1983   (proceeds reinvested in same year, sold on death)
    Year of Death: 1992
    Net Sale Value: $41,280

	year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Sale Value		$43,000	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transaction Costs		($1,720)	$0	$0	$0	$0	$0	$0	$0	$0	$0
Investment Principal		($41,280)	$0	$0	$0	$0	$0	$0	$0	$0	$41,280
Return on Investment		$4,570	$4,570	$4,570	$4,570	$4,570	$4,570	$4,570	$4,570	$4,570	$0
Net Cost of Housing Alternative		($2,365)	($2,444)	($2,525)	($2,608)	($2,695)	($2,785)	($2,877)	($2,973)	($3,071)	$0
Net Cash Flow		$2,205	$2,126	$2,045	$1,961	$1,875	$1,785	$1,693	$1,597	$1,499	$41,280
Change in Tax Liability		($768)	($775)	($785)	($793)	($803)	($812)	($822)	($832)	($843)	$0
NET AFTER TAX CASH FLOW		$1,437	$1,351	$1,260	$1,168	$1,072	$973	$871	$765	$655	$41,280
Discounted Value		$1,437	$1,216	$1,022	$852	$704	$576	$464	$367	$283	$16,046
Net Present Value		$22,967									

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2. REVERSE MORTGAGE

Reverse Mortgage Starts:‡	1983
Reverse Mtg Ends/Sale Year:‡	1988 (net proceeds reinvested in same year, sold on death)
Loan to Value Ratio:‡	80.00%
Year of Death:	1992
Loan Amount:	$34,400
Net Investment Funds:	$16,228
Principal/Balance Ratio:	68.12%
	28807.415

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
RM Loan Payments	$4,687	$4,687	$4,687	$4,687	$4,687	$0	$0	$0	$0	$0
RM Transaction Costs	($494)	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sale Value	$0	$0	$0	$0	$0	$50,628	$0	$0	$0	$0
Transaction Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
RM Repayment - Principal	$0	$0	$0	$0	$0	($23,433)	$0	$0	$0	$0
RM Repayment - Interest	$0	$0	$0	$0	$0	($10,967)	$0	$0	$0	$0
Investment Principal	$0	$0	$0	$0	$0	($16,228)	$0	$0	$0	$16,228
Return on Investment	$0	$0	$0	$0	$0	$1,796	$1,796	$1,796	$1,796	$0
Cost of Housing Alternative	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net Cash Flow	$4,193	$4,687	$4,687	$4,687	$4,687	$1,796	$1,796	$1,796	$1,796	$16,228
Change in Tax Liability	$0	$0	$0	$0	$0	$964	($298)	($304)	($309)	$0
NET AFTER TAX CASH FLOW	$4,193	$4,687	$4,687	$4,687	$4,687	$2,760	$1,498	$1,493	$1,487	$16,228
Discounted Value	$4,193	$4,219	$3,799	$3,420	$3,079	$1,633	$798	$716	$642	$6,308
Net Present Value	$28,807									

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3. SHARED APPRECIATION RM

Reverse Mortgage Starts:	1983
Assumed Life Expectancy Year:	1992
Actual Year of Move:	1992
Loan Basis:	$43,000
Actual Loan Amount:	$43,000
Net Sale Value:	$55,386

Principal/Balance Ratio:	54.03%	(for calculating payments)
Principal/Balance Ratio:	54.03%	(for early repayment)
Monthly Payment Amount:		

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
RM Loan Payments	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$0
RM Transaction Costs	($100)	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sale Value	$0	$0	$0	$0	$0	$0	$0	$0	$0	$57,694
Transaction Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	($2,308)
RM Repayment - Principal	$0	$0	$0	$0	$0	$0	$0	$0	$0	($23,235)
RM Repayment - Interest	$0	$0	$0	$0	$0	$0	$0	$0	$0	($19,765)
RM Repayment - Contingent Int.	$0	$0	$0	$0	$0	$0	$0	$0	$0	($12,386)
Net Cash Flow	$2,482	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$0
Change in Tax Liability	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET AFTER TAX CASH FLOW	$2,482	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$0
Discounted Value	$2,482	$2,324	$2,093	$1,884	$1,696	$1,527	$1,375	$1,238	$1,115	$0
Net Present Value	$15,734									

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4. SALE LEASEBACK -- SELLER FINANCED

Year of Sale:	1983
Term:	9
Down Payment:	10.00%
Year of Death:	1992
Discounted Sale Price:	37268.1
Mortgage Amount:	33541.29

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Down Payment	$3,727	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transaction Costs	($2,500)	$0	$0	$0	$0	$0	$0	$0	$0	$0
Mortgage Payments Rec'd	$6,193	$6,193	$6,193	$6,193	$6,193	$6,193	$6,193	$6,193	$6,193	$0
Rent - Expense Savings	($344)	($355)	($367)	($379)	($392)	($405)	($418)	($432)	($447)	$0
Net Cash Flow	$7,076	$5,837	$5,826	$5,813	$5,801	$5,788	$5,774	$5,761	$5,746	$0
Change in Tax Liability	($644)	($602)	($553)	($498)	($435)	($365)	($287)	($199)	($103)	$0
NET AFTER TAX CASH FLOW	$6,432	$5,236	$5,273	$5,316	$5,366	$5,422	$5,487	$5,561	$5,643	$0
Discounted Value	$6,432	$4,714	$4,274	$3,880	$3,526	$3,208	$2,923	$2,667	$2,437	$0
Net Present Value	$34,059									

CASHFLOW MODEL   PROFILE 2

ADDITION TO CURRENT INCOME	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Status Quo - Sale at Death	$0	$0	$0	$0	$0	$0	$0	$0	$0	$55,386
Early Sale and Investment	$1,437	$1,351	$1,260	$1,168	$1,072	$973	$871	$765	$655	$41,280
Reverse Mortgage	$4,193	$4,687	$4,687	$4,687	$4,687	$2,760	$1,498	$1,493	$1,487	$16,228
Shared Apppreciation RM	$2,482	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$2,582	$0
Sale-Leaseback	$6,432	$5,236	$5,273	$5,316	$5,366	$5,422	$5,487	$5,561	$5,643	$0

NEW INCOME STREAM	0									
Current Income Stream	$7,410	$7,583	$7,763	$7,948	$8,141	$8,341	$8,550	$8,766	$8,992	$0
Early Sale and Investment	$8,847	$8,934	$9,023	$9,116	$9,213	$9,314	$9,420	$9,531	$9,647	$41,280
Reverse Mortgage	$11,603	$12,270	$12,449	$12,634	$12,827	$11,101	$10,048	$10,259	$10,479	$16,228
Shared Apppreciation RM	$9,892	$10,165	$10,344	$10,530	$10,722	$10,923	$11,131	$11,348	$11,574	$0
Sale-Leaseback	$13,842	$12,819	$13,035	$13,264	$13,506	$13,764	$14,037	$14,328	$14,635	$0

NET PRESENT VALUE

Status Quo - Sale at Death	$21,529	SB
Early Sale and Investment	$22,967	ES
Reverse Mortgage	$28,807	RM
Shared Apppreciation RM	$15,734	SARM
Sale-Leaseback	$34,059	SL

Equity Conversion Alternatives Cashflow Model

1. Assumptions

Note: assumes all events take place on the first day of the year
        all interest rates are annual, compounded annually
        assumes tax rates remain constant and householders use cash basis accounting

1A Householder Information

			SUMMARY NET PRESENT VALUE	
Name/Profile:	Profile 3			
Persons in Household:	2			
Current Year:	1983	Year of Death: 1997	Status Quo - Sale at Death	$19,181
Age (current year):	70	Age at Death: 84	Early Sale and Investment	$20,635
Life Expectancy (years):	14		Reverse Mortgage	$36,608
Current Annual Income:	$17,500		Shared Apppreciation RM	$11,491
% Increasing with Inflation:	100.00%		Sale-Leaseback	$38,040

1B House Data

Home Value:	$55,000	Net Home Value: $55,000
Amount Existing Mtg:	$0	
Amount Outstanding Repairs:	$0	
Cost of Alternative Housing:	9.00%	(as a % of home value)
Sale Leaseback Rent Level:	4.30%	(as a % of home value)
Savings on Ownership Costs:	3.50%	(as a % of home value)
(real estate taxes, major maint.)		

1C Market Assumptions

Inflation Rate:	4.00%	
Discount Rate:	11.07%	
Alt. Investment:	11.07%	1.93 (pt spread)
Housing Inflation:	3.32%	

1D Transaction Costs

	Early Sale	Reverse Mtg	Shared Apprec	Sale Leasebk
Interest Rate:		13.08%	12.13%	11.57%
(compounded annually; use effective rate)				
Loan Transaction costs % (points):		1.00%		
Loan Transaction costs $ (other):		$150	$100	
Sale Transaction costs % (points):	4.00%	4.00%	4.00%	
Sale Transaction costs $ (other):	-----	-----	-----	$2,500
Property Discount Rate:				20.00%
Year of Sale:	1983			

1E Inflated Values

Year#:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Age:	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Home Value:	55000	56826	58713	60662	62676	64757	66907	69128	71423	73794	76244	78775	81391	84093	86885
Inflation Rate:	1.00	1.04	1.08	1.12	1.17	1.22	1.27	1.32	1.37	1.42	1.48	1.54	1.60	1.67	1.73
Discount Rate:	1.00	0.90	0.81	0.73	0.66	0.59	0.53	0.48	0.43	0.39	0.35	0.32	0.28	0.26	0.23

Equity Conversion Alternatives Cashflow Model

1. Assumptions

Note: assumes all events take place on the first day of the year
       all interest rates are annual, compounded annually   .
       assumes tax rates remain constant and householders use cash basis accounting

1A Householder Information

				SUMMARY NET PRESENT VALUE	
Name/Profile:	Profile 3				
Persons in Household:	2				
Current Year:	1983	Year of Death:	1997	Status Quo - Sale at Death	$19,181
Age (current year):	70	Age at Death:	84	Early Sale and Investment	$20,635
Life Expectancy (years):	14			Reverse Mortgage	$36,608
Current Annual Income:	$17,500			Shared Apppreciation RM	$11,491
% Increasing with Inflation:	100.00%			Sale-Leaseback	$38,040

1B House Data

Home Value:	$55,000	Net Home Value:	$55,000
Amount Existing Mtg:	$0		
Amount Outstanding Repairs:	$0		
Cost of Alternative Housing:	9.00%	(as a % of home value)	
Sale Leaseback Rent Level:	4.30%	(as a % of home value)	
Savings on Ownership Costs:	3.50%	(as a % of home value)	
(real estate taxes, major maint.)			

1C Market Assumptions

Inflation Rate:	4.00%		
Discount Rate:	11.07%		
Alt. Investment:	11.07%		1.93 (pt spread)
Housing Inflation:	3.32%		

1D Transaction Costs

	Early Sale	Reverse Mtg	Shared Apprec	Sale Leasebk
Interest Rate:		13.08%	12.13%	11.57%
(compounded annually; use effective rate)				
Loan Transaction costs % (points):		1.00%		
Loan Transaction costs $ (other):		$150	$100	
Sale Transaction costs % (points):	4.00%	4.00%	4.00%	
Sale Transaction costs $ (other):	-----	-----	-----	$2,500
Property Discount Rate:				20.00%
Year of Sale:	1983			

1E Inflated Values

Year#:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Age:	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Home Value:	55000	56826	58713	60662	62676	64757	66907	69128	71423	73794	76244	78775	81391	84093	86885
Inflation Rate:	1.00	1.04	1.08	1.12	1.17	1.22	1.27	1.32	1.37	1.42	1.48	1.54	1.60	1.67	1.73
Discount Rate:	1.00	0.90	0.81	0.73	0.66	0.59	0.53	0.48	0.43	0.39	0.35	0.32	0.28	0.26	0.23

CASH FLOW MODELS
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1. EARLY SALE AND INVESTMENT

Year of Sale: 1983   (proceeds reinvested in same year, sold on death)
Year of Death: 1997
Net Sale Value: $52,800

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Sale Value	$55,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transaction Costs	($2,200)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Investment Principal	($52,800)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$52,800
Return on Investment	$5,845	$5,845	$5,845	$5,845	$5,845	$5,845	$5,845	$5,845	$5,845	$5,845	$5,845	$5,845	$5,845	$5,845	$0
Net Cost of Housing Alternative	($3,025)	($3,125)	($3,229)	($3,336)	($3,447)	($3,562)	($3,680)	($3,802)	($3,928)	($4,059)	($4,193)	($4,333)	($4,476)	($4,625)	$0
Net Cash Flow	$2,820	$2,720	$2,616	$2,509	$2,398	$2,283	$2,165	$2,043	$1,917	$1,786	$1,652	$1,512	$1,368	$1,220	$52,800
Change in Tax Liability	($1,002)	($1,016)	($1,054)	($1,099)	($1,137)	($1,170)	($1,204)	($1,247)	($1,312)	($1,350)	($1,380)	($1,411)	($1,444)	($1,494)	$0
NET AFTER TAX CASH FLOW	$1,818	$1,703	$1,562	$1,410	$1,261	$1,114	$961	$796	$605	$436	$271	$101	($75)	($274)	$52,800
Discounted Value	$1,818	$1,534	$1,266	$1,029	$829	$659	$512	$382	$261	$169	$95	$32	($21)	($70)	$12,142
Net Present Value	$20,635														

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2. REVERSE MORTGAGE

Reverse Mortgage Starts:1	1983
Reverse Mtg Ends/Sale Year:1	1988 (net proceeds reinvested in same year, sold on death)
Loan to Value Ratio:1	80.00%
Year of Death:	1997
Loan Amount:	$44,000
Net Investment Funds:	$20,757
Principal/Balance Ratio:	68.12%
	36607.89B

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
RM Loan Payments	$5,994	$5,994	$5,994	$5,994	$5,994	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
RM Transaction Costs	($590)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sale Value	$0	$0	$0	$0	$0	$64,757	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transaction Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
RM Repayment - Principal	$0	$0	$0	$0	$0	($29,972)	$0	$0	$0	$0	$0	$0	$0	$0	$0
RM Repayment - Interest	$0	$0	$0	$0	$0	($14,028)	$0	$0	$0	$0	$0	$0	$0	$0	$0
Investment Principal	$0	$0	$0	$0	$0	($20,757)	$0	$0	$0	$0	$0	$0	$0	$0	$20,757
Return on Investment	$0	$0	$0	$0	$0	$2,298	$2,298	$2,298	$2,298	$2,298	$2,298	$2,298	$2,298	$2,298	$0
Cost of Housing Alternative	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net Cash Flow	$5,404	$5,994	$5,994	$5,994	$5,994	$2,298	$2,298	$2,298	$2,298	$2,298	$2,298	$2,298	$2,298	$2,298	$20,757
Change in Tax Liability	$0	$0	$0	$0	$0	$1,735	($423)	($459)	($496)	($506)	($506)	($525)	($557)	($574)	$0
NET AFTER TAX CASH FLOW	$5,404	$5,994	$5,994	$5,994	$5,994	$4,033	$1,875	$1,839	$1,802	$1,792	$1,792	$1,773	$1,741	$1,723	$20,757
Discounted Value	$5,404	$5,397	$4,859	$4,375	$3,939	$2,386	$998	$882	$778	$697	$627	$559	$494	$440	$4,773
Net Present Value	$36,608														

3. SHARED APPRECIATION RM

Reverse Mortgage Starts:	1983
Assumed Life Expectancy Year:	1997
Actual Year of Move:	1997
Loan Basis:	$55,000
Actual Loan Amount:	$55,000
Net Sale Value:	$83,409

Principal/Balance Ratio:	38.19%	(for calculating payments)
Principal/Balance Ratio:	38.19%	(for early repayment)
Monthly Payment Amount:		

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
RM Loan Payments	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$0
RM Transaction Costs	($100)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sale Value	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$86,885
Transaction Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($3,475)
RM Repayment - Principal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($21,004)
RM Repayment - Interest	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($33,996)
RM Repayment - Contingent Int.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($28,409)
Net Cash Flow	$1,400	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	($0)
Change in Tax Liability	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET AFTER TAX CASH FLOW	$1,400	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	($0)
Discounted Value	$1,400	$1,351	$1,216	$1,095	$986	$888	$799	$719	$648	$583	$525	$473	$426	$383	($0)
Net Present Value	$11,491														

4. SALE LEASEBACK -- SELLER FINANCED

Year of Sale:	1983
Term:	14
Down Payment:	10.00%
Year of Death:	1997
Discounted Sale Price:	44000
Mortgage Amount:	39600

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Down Payment	$4,400	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transaction Costs	($2,500)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Mortgage Payments Rec'd	$5,844	$5,844	$5,844	$5,844	$5,844	$5,844	$5,844	$5,844	$5,844	$5,844	$5,844	$5,844	$5,844	$5,844	$0
Rent - Expense Savings	($440)	($455)	($470)	($485)	($501)	($518)	($535)	($553)	($571)	($590)	($610)	($630)	($651)	($673)	$0
Net Cash Flow	$7,304	$5,390	$5,374	$5,359	$5,343	$5,326	$5,309	$5,291	$5,273	$5,254	$5,234	$5,214	$5,193	$5,171	$0
Change in Tax Liability	($775)	($763)	($748)	($730)	($706)	($689)	($668)	($641)	($609)	($542)	($456)	($360)	($270)	($152)	$0
NET AFTER TAX CASH FLOW	$6,529	$4,627	$4,627	$4,629	$4,636	$4,637	$4,641	$4,650	$4,664	$4,712	$4,778	$4,854	$4,923	$5,020	$0
Discounted Value	$6,529	$4,166	$3,750	$3,378	$3,046	$2,743	$2,472	$2,230	$2,013	$1,832	$1,672	$1,529	$1,397	$1,282	$0
Net Present Value	$38,040														

ADDITION TO CURRENT INCOME	1983	1994	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Status Quo - Sale at Death	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$83,409
Early Sale and Investment	$1,818	$1,703	$1,562	$1,410	$1,261	$1,114	$961	$796	$605	$436	$271	$101	($75)	($274)	$52,800
Reverse Mortgage	$5,404	$5,994	$5,994	$5,994	$5,994	$4,033	$1,875	$1,839	$1,802	$1,792	$1,792	$1,773	$1,741	$1,723	$20,757
Shared Apppreciation RM	$1,400	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	($0
Sale-Leaseback	$6,529	$4,627	$4,627	$4,629	$4,636	$4,637	$4,641	$4,650	$4,664	$4,712	$4,778	$4,854	$4,923	$5,020	$0

NEW INCOME STREAM

0

Current Income Stream	$12,159	$12,747	$13,359	$13,995	$14,646	$15,318	$16,016	$16,743	$17,498	$18,255	$19,032	$19,841	$20,681	$21,539	$0
Early Sale and Investment	$13,977	$14,450	$14,921	$15,404	$15,907	$16,432	$16,978	$17,538	$18,103	$18,691	$19,303	$19,941	$20,606	$21,265	$52,800
Reverse Mortgage	$17,563	$18,741	$19,353	$19,989	$20,641	$19,351	$17,891	$18,582	$19,300	$20,047	$20,825	$21,614	$22,422	$23,262	$20,757
Shared Apppreciation RM	$13,559	$14,247	$14,859	$15,495	$16,147	$16,818	$17,517	$18,243	$18,998	$19,755	$20,533	$21,341	$22,181	$23,039	($0)
Sale-Leaseback	$18,688	$17,374	$17,985	$18,623	$19,283	$19,955	$20,657	$21,392	$22,162	$22,967	$23,811	$24,695	$25,604	$26,559	$0

NET PRESENT VALUE

Status Quo - Sale at Death	$19,181 SQ
Early Sale and Investment	$20,635 ES
Reverse Mortgage	$36,608 RM
Shared Apppreciation RM	$11,491 SARM
Sale-Leaseback	$38,040 SL

Equity Conversion Alternatives Cashflow Model

1. Assumptions

Note: assumes all events take place on the first day of the year
      all interest rates are annual, compounded annually
      assumes tax rates remain constant and householders use cash basis accounting

1A Householder Information

Name/Profile:	Profile 3			SUMMARY NET PRESENT VALUE	
Persons in Household:	4				
Current Year:	1983	Year of Death:	1997	Status Quo - Sale at Death	$38,361
Age (current year):	70	Age at Death:	84	Early Sale and Investment	$28,087
Life Expectancy (years):	14			Reverse Mortgage	$72,694
Current Annual Income:	$35,000			Shared Apppreciation RM	$23,083
% Increasing with Inflation:	100.00%			Sale-Leaseback	$70,725

1B House Data

Home Value:	$110,000	Net Home Value:$110,000
Amount Existing Mtg:	$0	
Amount Outstanding Repairs:	$0	
Cost of Alternative Housing:	9.00%	(as a % of home value)
Sale Leaseback Rent Level:	4.30%	(as a % of home value)
Savings on Ownership Costs:	3.50%	(as a % of home value)
(real estate taxes, major maint.)		

1C Market Assumptions

Inflation Rate:	4.00%	
Discount Rate:	11.07%	
Alt. Investment:	11.07%	1.93 (pt spread)
Housing Inflation:	3.32%	

1D Transaction Costs

	Early Sale	Reverse Mtg	Shared Apprec	Sale Leasebk
Interest Rate:		13.08%	12.13%	11.57%
(compounded annually; use effective rate)				
Loan Transaction costs % (points):		1.00%		
Loan Transaction costs $ (other):		$150	$100	
Sale Transaction costs % (points):	4.00%	4.00%	4.00%	
Sale Transaction costs $ (other):	_____	_____	_____	$2,500
Property Discount Rate:				20.00%
Year of Sale:	1983			

1E Inflated Values

Year#:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Age:	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84
Home Value:	110000	113652	117425	121324	125352	129513	133813	138256	142846	147588	152488	157551	162782	168186	173770
Inflation Rate:	1.00	1.04	1.08	1.12	1.17	1.22	1.27	1.32	1.37	1.42	1.48	1.54	1.60	1.67	1.73
Discount Rate:	1.00	0.90	0.81	0.73	0.66	0.59	0.53	0.48	0.43	0.39	0.35	0.32	0.28	0.26	0.23

CASH FLOW MODELS

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1. EARLY SALE AND INVESTMENT

Year of Sale:	1983	(proceeds reinvested in same year, sold on death)
Year of Death:	1997	
Net Sale Value:	$105,600	

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Sale Value	$110,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transaction Costs	($4,400)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Investment Principal	($105,600)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$105,600
Return on Investment	$11,690	$11,690	$11,690	$11,690	$11,690	$11,690	$11,690	$11,690	$11,690	$11,690	$11,690	$11,690	$11,690	$11,690	$0
Net Cost of Housing Alternative	($6,050)	($6,251)	($6,458)	($6,673)	($6,894)	($7,123)	($7,360)	($7,604)	($7,857)	($8,117)	($8,387)	($8,665)	($8,953)	($9,250)	$0
Net Cash Flow	$5,640	$5,439	$5,232	$5,017	$4,796	$4,567	$4,330	$4,086	$3,833	$3,573	$3,303	$3,025	$2,737	$2,440	$105,600
Change in Tax Liability	($3,648)	($3,718)	($3,790)	($3,921)	($3,999)	($4,081)	($4,166)	($4,255)	($4,347)	($4,442)	($4,442)	($4,505)	($4,591)	($4,681)	$0
NET AFTER TAX CASH FLOW	$1,992	$1,721	$1,441	$1,096	$796	$485	$164	($169)	($514)	($870)	($1,139)	($1,480)	($1,854)	($2,241)	$105,600
Discounted Value	$1,992	$1,550	$1,168	$800	$523	$287	$87	($81)	($222)	($338)	($399)	($466)	($526)	($572)	$24,283
Net Present Value	$28,087														

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1. REVERSE MORTGAGE

Reverse Mortgage Starts:¹	1983
Reverse Mtg Ends/Sale Year:¹	1988 (net proceeds reinvested in same year, sold on death)
Loan to Value Ratio:¹	80.00%
Year of Death:	1997
Loan Amount:	$88,000
Net Investment Funds:	$41,513
Principal/Balance Ratio:	68.12%
	72693.501

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
RM Loan Payments	$11,989	$11,989	$11,989	$11,989	$11,989	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
RM Transaction Costs	($1,030)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sale Value	$0	$0	$0	$0	$0	$129,513	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transaction Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
RM Repayment - Principal	$0	$0	$0	$0	$0	($59,944)	$0	$0	$0	$0	$0	$0	$0	$0	$0
RM Repayment - Interest	$0	$0	$0	$0	$0	($28,056)	$0	$0	$0	$0	$0	$0	$0	$0	$0
Investment Principal	$0	$0	$0	$0	$0	($41,513)	$0	$0	$0	$0	$0	$0	$0	$0	$41,513
Return on Investment	$0	$0	$0	$0	$0	$4,596	$4,596	$4,596	$4,596	$4,596	$4,596	$4,596	$4,596	$4,596	$0
Cost of Housing Alternative	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net Cash Flow	$10,959	$11,989	$11,989	$11,989	$11,989	$4,596	$4,596	$4,596	$4,596	$4,596	$4,596	$4,596	$4,596	$4,596	$41,513
Change in Tax Liability	$0	$0	$0	$0	$0	$5,790	($1,517)	($1,559)	($1,651)	($1,746)	($1,746)	($1,746)	($1,746)	($1,746)	$0
NET AFTER TAX CASH FLOW	$10,959	$11,989	$11,989	$11,989	$11,989	$10,385	$3,079	$3,036	$2,944	$2,849	$2,849	$2,849	$2,849	$2,849	$41,513
Discounted Value	$10,959	$10,794	$9,718	$8,750	$7,878	$6,144	$1,640	$1,456	$1,271	$1,108	$997	$898	$808	$728	$9,546
Net Present Value	$72,694														

3. SHARED APPRECIATION RM

Reverse Mortgage Starts:	1983
Assumed Life Expectancy Year:	1997
Actual Year of Move:	1997
Loan Basis:	$110,000
Actual Loan Amount:	$110,000
Net Sale Value:	$166,819

Principal/Balance Ratio:	38.19%	(for calculating payments)
Principal/Balance Ratio:	38.19%	(for early repayment)
Monthly Payment Amount:		

year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
RM Loan Payments	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$0
RM Transaction Costs	($100)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sale Value	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$173,770
Transaction Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($6,951)
RM Repayment - Principal	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($42,008)
RM Repayment - Interest	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($67,992)
RM Repayment - Contingent Int.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($56,819)
Net Cash Flow	$2,901	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	($0)
Change in Tax Liability	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
NET AFTER TAX CASH FLOW	$2,901	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	($0)
Discounted Value	$2,901	$2,701	$2,432	$2,190	$1,972	$1,775	$1,598	$1,439	$1,295	$1,166	$1,050	$945	$851	$766	($0)
Net Present Value	$23,083														

4. SALE LEASEBACK -- SELLER FINANCED

Year of Sale:	1983
Term:	14
Down Payment:	10.00%
Year of Death:	1997
Discounted Sale Price:	88000
Mortgage Amount:	79200

	year:	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Down Payment		$8,800	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Transaction Costs		($2,500)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Mortgage Payments Rec'd		$11,688	$11,688	$11,688	$11,688	$11,688	$11,688	$11,688	$11,688	$11,688	$11,688	$11,688	$11,688	$11,688	$11,688	$0
Rent - Expense Savings		($880)	($909)	($939)	($971)	($1,003)	($1,036)	($1,071)	($1,106)	($1,143)	($1,181)	($1,220)	($1,260)	($1,302)	($1,345)	$0
Net Cash Flow		$17,108	$10,779	$10,749	$10,718	$10,686	$10,652	$10,618	$10,582	$10,546	$10,508	$10,468	$10,428	$10,386	$10,343	$0
Change in Tax Liability		($2,814)	($2,788)	($2,753)	($2,701)	($2,567)	($2,423)	($2,316)	($2,191)	($2,044)	($1,873)	($1,575)	($1,244)	($874)	($461)	$0
NET AFTER TAX CASH FLOW		$14,294	$7,991	$7,996	$8,017	$8,119	$8,229	$8,302	$8,392	$8,502	$8,635	$8,893	$9,184	$9,513	$9,882	$0
Discounted Value		$14,294	$7,195	$6,481	$5,851	$5,335	$4,868	$4,422	$4,024	$3,670	$3,357	$3,112	$2,894	$2,699	$2,524	$0
Net Present Value		$70,725														

ADDITION TO CURRENT INCOME	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Status Quo - Sale at Death	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$166,819
Early Sale and Investment	$1,992	$1,721	$1,441	$1,096	$796	$485	$164	($169)	($514)	($870)	($1,139)	($1,480)	($1,854)	($2,241)	$105,600
Reverse Mortgage	$10,959	$11,989	$11,989	$11,989	$11,989	$10,385	$3,079	$3,036	$2,944	$2,849	$2,849	$2,849	$2,849	$2,849	$41,513
Shared Apppreciation RM	$2,901	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	$3,001	($0)
Sale-Leaseback	$14,294	$7,991	$7,996	$8,017	$8,119	$8,229	$8,302	$8,392	$8,502	$8,635	$8,893	$9,184	$9,513	$9,882	$0

NEW INCOME STREAM	0														
Current Income Stream	$25,902	$26,910	$27,958	$29,040	$30,095	$31,193	$32,334	$33,521	$34,755	$36,038	$37,273	$38,558	$39,894	$41,284	$0
Early Sale and Investment	$27,894	$28,631	$29,399	$30,136	$30,891	$31,678	$32,497	$33,351	$34,241	$35,168	$36,134	$37,078	$38,040	$39,043	$105,600
Reverse Mortgage	$36,861	$38,899	$39,947	$41,029	$42,084	$41,578	$35,413	$36,557	$37,699	$38,887	$40,123	$41,407	$42,744	$44,133	$41,513
Shared Apppreciation RM	$28,803	$29,911	$30,959	$32,041	$33,096	$34,193	$35,334	$36,521	$37,755	$39,038	$40,274	$41,559	$42,895	$44,285	($0)
Sale-Leaseback	$40,196	$34,901	$35,954	$37,057	$38,214	$39,422	$40,635	$41,912	$43,256	$44,673	$45,166	$47,742	$49,407	$51,166	$0

NET PRESENT VALUE	
Status Quo - Sale at Death	$38,361 SB
Early Sale and Investment	$28,097 ES
Reverse Mortgage	$72,694 RM
Shared Apppreciation RM	$23,083 SARM
Sale-Leaseback	$70,725 SL

APPENDIX 2:   COMPARISON OF ALTERNATE INVESTMENTS

2.1 Comparison of Payouts: Annuities and Invested Capital

Annual Return per $1000 Invested

	Profile 1	Profile 2	Profile 3	Profile 4
Annuity*	$158.76	$151.08	$104.28	$104.28
Model Assumption	$110.30	$110.30	$110.30	$110.30

* Standard lifetime annuity with monthly payments and no death
  benefit

2.2 Comparison of Payouts: Shared Appreciation Reverse Mortgage

Annual Payments

	Profile 1	Profile 2	Profile 3	Profile 4
Prudential Bache	$3576	$2482*	$1488	$3264
Model Assumption	$2642**	$2582	$1500	$3001

*   For home value of $55,000
** This value is much lower because Prudential Bache uses a
    unisex table which tends to benefit female homeowners

SENSITIVITY ANALYSIS

INFLATION SCENARIOS
HOUSING INFLATION EXCLUDED

Profile 1

	NET PRESENT VALUE				% DIFFERENCE FROM BASE			AS A % OF HOME VALUE			
	BASE	LOW	MOD	HIGH	LOW	MOD	HIGH	BASE	LOW	MOD	HIGH
SQ	22030	39818	29859	20869	80.74%	35.54%	-5.27%	50.07%	90.50%	67.86%	47.43%
ES	23734	19528	21307	23288	-17.72%	-10.23%	-1.88%	53.94%	44.38%	48.43%	52.93%
RM	29397	40694	35757	29053	38.43%	21.63%	-1.17%	66.81%	92.49%	81.27%	66.03%
SARM	16102	28345	23900	15784	76.03%	48.43%	-1.97%	36.60%	64.42%	54.32%	35.87%
SL	35068	33047	32079	34080	-5.76%	-8.52%	-2.82%	79.70%	75.11%	72.91%	77.45%

Profile 2

	NET PRESENT VALUE				% DIFFERENCE FROM BASE			AS A % OF HOME VALUE			
	BASE	LOW	MOD	HIGH	LOW	MOD	HIGH	BASE	LOW	MOD	HIGH
SQ	21529	38913	29180	20395	80.75%	35.54%	-5.27%	50.07%	90.50%	67.86%	47.43%
ES	22967	18997	20740	22803	-17.29%	-9.70%	-0.71%	53.41%	44.18%	48.23%	53.03%
RM	28809	39803	34961	28422	38.16%	21.35%	-1.34%	67.00%	92.57%	81.30%	66.10%
SARM	15722	27699	23355	15423	76.18%	48.55%	-1.90%	36.56%	64.42%	54.31%	35.87%
SL	34005	32180	31251	33217	-5.37%	-8.10%	-2.32%	79.08%	74.84%	72.68%	77.25%

Profile 3

	NET PRESENT VALUE				% DIFFERENCE FROM BASE			AS A % OF HOME VALUE			
	BASE	LOW	MOD	HIGH	LOW	MOD	HIGH	BASE	LOW	MOD	HIGH
SQ	19181	48167	30718	17632	151.12%	60.15%	-8.08%	34.87%	87.58%	55.85%	32.06%
ES	20635	9079	13870	18605	-56.00%	-32.78%	-9.84%	37.52%	16.51%	25.22%	33.83%
RM	36610	50584	43974	35461	38.17%	20.11%	-3.14%	66.56%	91.97%	79.95%	64.47%
SARM	11354	27807	21338	11160	144.91%	87.93%	-1.71%	20.64%	50.56%	38.80%	20.29%
SL	38036	35530	33535	35688	-6.59%	-11.83%	-6.17%	69.16%	64.60%	60.97%	64.89%

Profile 4

	NET PRESENT VALUE				% DIFFERENCE FROM BASE			AS A % OF HOME VALUE			
	BASE	LOW	MOD	HIGH	LOW	MOD	HIGH	BASE	LOW	MOD	HIGH
SQ	38361	96334	61363	35263	151.12%	59.96%	-8.08%	34.87%	87.58%	55.78%	32.06%
ES	28087	11557	17713	25301	-58.85%	-36.94%	-9.92%	25.55%	10.51%	16.10%	23.00%
RM	72694	101042	87843	71578	39.00%	20.84%	-1.54%	66.09%	91.86%	79.86%	65.07%
SARM	23083	55713	42776	22420	141.36%	85.31%	-2.87%	20.98%	50.65%	38.89%	20.38%
SL	70725	70549	65211	66668	-0.25%	-7.80%	-5.74%	64.30%	64.14%	59.28%	60.61%

APPENDIX 3:   SENSITIVITY ANALYSIS TABLES

SENSITIVITY ANALYSIS HOUSING INFLATION
NET PRESENT VALUE OF INVESTMENT

					Percent Change			As a Percent of Home Value			
Profile 1	0%	5%	10%	15%	5%	10%	15%	0%	5%	10%	15%
SB	16419	25472	38716	57761	55.14%	87.54%	106.78%	37.32%	57.89%	87.99%	131.28%
ES	25485	22479	19369	15197	-11.80%	-27.21%	-53.12%	57.92%	51.09%	44.02%	34.54%
RM	24815	31947	40545	50751	28.74%	49.24%	63.97%	56.40%	72.61%	92.15%	115.34%
SARM	16101	16101	16101	16101	0.00%	0.00%	0.00%	36.59%	36.59%	36.59%	36.59%
SL	35322	34924	34433	33826	-1.13%	-2.55%	-4.34%	80.28%	79.37%	78.26%	76.88%
Profile 2	0%	5%	10%	15%	5%	10%	15%	0%	5%	10%	15%
SB	16046	24893	37836	56488	55.14%	87.53%	106.89%	37.32%	57.89%	87.99%	131.37%
ES	24679	22005	18701	14624	-10.84%	-27.17%	-53.77%	57.39%	51.17%	43.49%	34.01%
RM	24341	31298	39687	49574	28.58%	49.03%	63.58%	56.61%	72.79%	92.30%	115.29%
SARM	15733	15733	15733	15733	0.00%	0.00%	0.00%	36.59%	36.59%	36.59%	36.59%
SL	34306	33917	33436	32843	-1.13%	-2.57%	-4.38%	79.78%	78.88%	77.76%	76.38%
Profile 3	0%	5%	10%	15%	5%	10%	15%	0%	5%	10%	15%
SB	12142	24040	46108	85911	97.99%	141.29%	159.99%	22.08%	43.71%	83.83%	156.20%
ES	24868	18089	8442	-5373	-27.26%	-90.81%	-358.22%	45.21%	32.89%	15.35%	-9.77%
RM	31245	39583	49589	61457	26.69%	46.34%	60.92%	56.81%	71.97%	90.16%	111.74%
SARM	11490	11490	11490	11490	0.00%	0.00%	0.00%	20.89%	20.89%	20.89%	20.89%
SL	38652	37666	36263	34253	-2.55%	-6.34%	-12.13%	70.28%	68.48%	65.93%	62.28%
Profile 4	0%	5%	10%	15%	5%	10%	15%	0%	5%	10%	15%
SB	24283	48079	92216	171822	97.99%	141.29%	159.99%	22.08%	43.71%	83.83%	156.20%
ES	36552	22995	3700	-23930	-37.09%	-142.87%	-1634.65%	33.23%	20.90%	3.36%	-21.75%
RM	62981	78084	96108	117496	23.98%	42.42%	56.72%	57.26%	70.99%	87.37%	106.81%
SARM	23081	23081	23081	23081	0.00%	0.00%	0.00%	20.98%	20.98%	20.98%	20.98%
SL	71951	69979	67173	63154	-2.74%	-6.83%	-13.10%	65.41%	63.62%	61.07%	57.41%

SENSITIVITY ANALYSIS LIVING BEYOND LIFE EXPECTANCY
NET PRESENT VALUE OF INVESTMENT

Profile 1	Net Present Value -5	=	+5	% Change -5	+5	As a % of home value -5	=	+5
SQ	31628	22030	15334	43.57%	-30.39%	71.88%	50.07%	34.85%
ES	32544	23734	17523	37.12%	-26.17%	73.96%	53.94%	39.83%
RM	31374	29397	29159	6.73%	-0.81%	71.30%	66.81%	66.27%
SARM	28581	16102	20309	77.50%	26.13%	64.96%	36.60%	46.16%
SL	36996	35070	35067	5.49%	-0.01%	84.08%	79.70%	79.70%

Profile 2	Net Present Value -5	=	+5	% Change -5	+5	As a % of home value -5	=	+5
SQ	30909	21529	14996	43.57%	-30.35%	71.88%	50.07%	34.87%
ES	31623	22967	16917	37.69%	-26.34%	73.54%	53.41%	39.34%
RM	30657	28807	28580	6.42%	-0.79%	71.30%	66.99%	66.47%
SARM	27929	15734	19845	77.51%	26.13%	64.95%	36.59%	46.15%
SL	35955	34059	34057	5.57%	-0.01%	83.62%	79.21%	79.20%

Profile 3	Net Present Value -5	=	+5	% Change -5	+5	As a % of home value -5	=	+5
SQ	27537	19181	13360	43.56%	-30.35%	50.07%	34.87%	24.29%
ES	28813	20635	14887	39.63%	-27.86%	52.39%	37.52%	27.07%
RM	37089	36608	36256	1.31%	-0.96%	67.43%	66.56%	65.92%
SARM	20767	11491	12904	80.72%	12.30%	37.76%	20.89%	23.46%
SL	39633	38040	37341	4.19%	-1.84%	72.06%	69.16%	67.89%

Profile 4	Net Present Value -5	=	+5	% Change -5	+5	As a % of home value -5	=	+5
SQ	55075	38361	26720	43.57%	-30.35%	50.07%	34.87%	24.29%
ES	47153	28087	15039	67.88%	-46.46%	42.87%	25.53%	13.67%
RM	75749	72694	71349	4.20%	-1.85%	68.86%	66.09%	64.86%
SARM	41634	23083	25908	80.37%	12.24%	37.85%	20.98%	23.55%
SL	74752	70725	69330	5.69%	-1.97%	67.96%	64.30%	63.03%

SENSITIVITY ANALYSIS   RISK
CHANGES IN THE DISCOUNT RATE
NET PRESENT VALUE

	Discount Rate				Percent Change from 0%			As a % of Home Value			
Profile 1	0%	5%	10%	15%	5%	10%	15%	0%	5%	10%	15%
SQ	56674	36533	24035	16110	-35.54%	-57.59%	-71.57%	128.80%	83.03%	54.63%	36.61%
ES	52330	35847	24528	18675	-31.50%	-53.13%	-64.31%	118.93%	81.47%	55.75%	42.44%
RM	47359	37368	30564	25775	-21.10%	-35.46%	-45.58%	107.63%	84.93%	69.46%	58.58%
SARM	23674	19614	16634	14395	-17.15%	-29.74%	-39.19%	53.80%	44.58%	37.80%	32.72%
SL	51148	42519	36196	31445	-16.87%	-29.23%	-38.52%	116.25%	96.63%	82.26%	71.47%
Profile 2											
SQ	55386	35702	23489	15744	-35.54%	-57.59%	-71.57%	128.80%	83.03%	54.63%	36.61%
ES	50832	34767	24617	18042	-31.60%	-51.57%	-64.51%	118.21%	80.85%	57.25%	41.96%
RM	46407	36622	29952	25255	-21.09%	-35.46%	-45.58%	107.92%	85.17%	69.66%	58.73%
SARM	23134	19166	16254	14066	-17.15%	-29.74%	-39.20%	53.80%	44.57%	37.80%	32.71%
SL	49733	41320	35157	30537	-16.92%	-29.31%	-38.60%	115.66%	96.09%	81.76%	71.02%
Profile 3											
SQ	83409	41272	21964	11788	-50.52%	-73.67%	-85.87%	151.65%	75.04%	39.93%	21.43%
ES	64489	36664	22628	15211	-43.15%	-64.91%	-76.41%	117.25%	66.66%	41.14%	27.66%
RM	68512	49407	38347	31489	-27.89%	-44.03%	-54.04%	124.57%	89.83%	69.72%	57.25%
SARM	20902	15492	12056	9776	-25.88%	-42.32%	-53.23%	38.00%	28.17%	21.92%	17.77%
SL	67919	50710	39825	32626	-25.34%	-41.36%	-51.96%	123.49%	92.20%	72.41%	59.32%
Profile 4											
SQ	166819	84225	43929	23567	-49.51%	-73.67%	-85.87%	151.65%	76.57%	39.94%	21.42%
ES	105029	55564	31424	19202	-47.10%	-70.08%	-81.72%	95.48%	50.51%	28.57%	17.46%
RM	134123	97376	76054	62778	-27.40%	-43.30%	-53.19%	121.93%	98.52%	69.14%	57.07%
SARM	41904	31084	24212	19651	-25.82%	-42.22%	-53.10%	38.09%	28.26%	22.01%	17.86%
SL	125937	94048	74001	60823	-25.32%	-41.24%	-51.70%	114.49%	85.50%	67.27%	55.29%