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Two Newly Authorized Investment Powers

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Homeowner's Equity: Providing Lifetime Annuities for the Elderly

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Demographic and economic statistics indicate that retirement planning and care for older Americans will be a major issue in the 1980s as evidenced by the following facts:
1. Currently, 23 million senior citizens, or a population about the size of California, are living in the United States;[1] 2. Within the next ten years, one out of every five Americans will be retired or close to retirement; 3. During the last decade medical advances coupled with improvements in home living conditions increased life expectancy approximately 3¾ percent;[2] 4. Similar improvements in the 1980s should produce an average life expectancy of 76 years for the U.S. population.

[1] U.S. Congress, House, Subcommittee on Human Services, *Report on the Select Committee on Aging: Senior Citizens in the 1980's*, 96th Congress, 2nd session, Comm. Pub. 96-221, pp. 83-84.

[2] U.S. Bureau of the Census, *Statistical Abstract of the United States: 1979*, (100th edition), Washington, D.C., 1979. The reported life expectancy for the total population was 70.9 years in 1970 versus 73.2 years in 1977, for a growth rate of (73.2/70.9)—1, or 3.2%.

An array of financial statistics indicate that many people are unprepared for retirement. About 8.7 million elderly or 36 percent of those over 65 are living below the poverty level. In other words, one out of every three older Americans is subsisting on less than $4,300 per year.[3]

The Federal government is moving to alleviate the problems of the elderly in retirement. Next year, one-fourth of the Federal fiscal budget will be spent on programs to help senior citizens. A large portion of this money will go to providing social security benefits. However, social security is an insurance plan designed to supplement a person's retirement program and cannot meet all of a retiree's financial needs. Unfortunately, 90 percent of those 65 and older depend mainly on social security as their total source of income. Retirement income, in addition to social security, will have to be found if our retiring population is to live comfortably in the next decade.[4]

The Federal Home Loan Bank Board and the S&L industry is committed to helping senior citizens plan for retirement. In 1978, the Bank Board issued a regulation which encourages S&Ls to develop reverse annuity mortgages (RAMs). RAMs are designed to allow retirees to use their home equity to generate retirement income.

Another recent indication of the Bank Board's desire to help retired persons is the approval of proposed regulations for trust departments within Federal S&Ls. The role of S&Ls in retirement planning is documented in the growth of IRA/Keogh deposits as both programs now represent $9 billion in assets at FSLIC-insured associations.[5] Currently, the Bank Board is examining ways in which homeowner equity can be used to provide retirement income for the elderly.

Characteristics of Housing's Retirement Population

Equity in owner-occupied housing may be the single most important real asset older citizens possess at retirement. Today, there are about 2½ million single-person homes with a median value of $21,900 where the householder is over 65. Another 4 million residences with a median value of $30,000 are occupied by 2 or more persons where the male head is 65 years or older[6]

Information obtained from a recent report on Wisconsin housing shows that these national figures may exist on a statewide basis.[7] Three

[3] U.S. Congress, House, Subcommittee on Human Services, *op.cit.*, p. 84.

[4] *Ibid.*, p. 4.

[5] Stephen T. Zabrenski, "Changes in S&L Account Structure: October 1979-March 1980," *Federal Home Loan Bank Board Journal*, Vol. 13, No. 8 (August 1980), p. 27.

[6] U.S. Department of Housing and Urban Development, *Annual Housing Survey: 1976*, Current Housing Reports, Series, no. H150-176, p. 26.

[7] U.S. Department of Health and Human Services, "Unlocking Home Equity through Property Tax Deferral," draft of a paper to the Home Equity Conversion Project, Madison, Wisconsin, June 1, 1980, pp. 4-5.

out of four elderly headed households in Wisconsin own their own home and it is estimated that this group alone holds approximately $10 billion in home equity. About 20 percent or 50,000 of these homeowners have incomes of less than $10,000, but a home worth more than $40,000. The average sales price of a Wisconsin home increased at a rate of approximately 12 percent per year during the 1970s. Based on mortality and migration statistics for this region, it is estimated that 57 percent of the 65 year olds who reach age 75 will be staying in the same home 10 years from now.[8]

In addition to the emotional attachment associated with the family residence, many retirees view their own dwelling as the least expensive housing alternative. Selling the family home and renting a new residence not only is viewed as an emotional strain, but it would also involve rent payments that increase with inflation. This choice is unappealing to those living on fixed incomes.

It appears that retired Americans own a sizeable amount of real wealth in their own home and this equity has the potential of providing retirement income to elderly householders. Some mechanism for converting homeowner equity into retirement income should be created to allow the retiree and possibly the surviving spouse to occupy the family home over their entire lifetimes. Other types of mechanisms have been proposed that yield an annuity for a fixed time period, at which time either new financial arrangements may be possible, or the house must be sold.

This article focuses on the goal of lifetime annuities that avoid the potential problem of the elderly losing their homes. Given this goal, researchers have proposed the development of retirement annuities based on the value of the retiree's home.[9] These reverse annuities use homeowner equity to purchase retirement income for the benefit of the householder. The homeowner receives a lifetime retirement income while living in the family residence. Reverse annuity plans differ on how household equity can be converted to retirement income.

Reverse Annuities in Retirement Planning

Reverse annuities can be classified into three categories: (1) reverse annuity mortgages, (2) split-equity mortgages, and (3) sale-leaseback agreements. Reverse annuity mortgages (RAMs) require that retirees obtain home loans and use mortgage funds to purchase a retirement annuity. Interest on this loan is deducted from annuity income and the residual amount goes to the retired householder.[10]

Split-equity mortgages (SEMs) involve the sharing of household equity between the homeowner and mortgagee.[11] Household equity is released to the mortgagee to service mortgage debt and lower the retiree's annual borrowing costs. One such contract would provide for a portion of the annual mortgage interest to be applied against the equity on a retiree's home. A loan is written on the retiree's home at standard mortgage rates. Mortgage funds are invested in a high yield S&L money market account and the interest on this account is shared between the mortgagee and homeowner. The annual mortgage payment is reduced by the interest received from the S&L account with the residual amount being applied against the equity of the home. Upon the homeowner's death, the house is sold with the mortgagee acquiring a return of the outstanding loan payments that have accumulated against the property.

A distinguishing feature of this loan arrangement is that the mortgagee agrees to obtain home equity, in lieu of receiving the full annual mortgage payment. The mortgagee obtains an equity share of the property, in addition to receiving a series of annual loan payments. The retired homeowners give up a portion or all of their home equity in order to obtain a loan with lower annual mortgage payments and consequently higher retirement income.

The sale-leaseback (SLB) agreement begins with the sale of the retiree's home to an outside investor.[12] This investor agrees to lease the property back to the homeowner under a long-term lease arrangement. The retired householder uses the proceeds from the home sale to purchase a retirement annuity. The retiree receives the difference between the annuity and the lease payments. The investor owns the property with few restrictions. The only exception is that the first lease is with the homeowner and must be long enough to cover the retiree's expected life span in order to achieve the goal of guaranteed tenure on one's house.

To illustrate how these plans operate, consider a male retiree age 65, with a wife age 62, who owns a home worth $100,000. The house appreciates at 9 percent annually with current mortgage rates at 12½ percent. Under a simple RAM, the retiree could borrow $50,000 on his home to purchase a retirement annuity. A life annuity on the retiree generates a monthly income of $462.96 and a joint life-and-survivor annuity on husband and wife produces about

[8] *Ibid.*, p. 50. These figures are based on mortality statistics for a person age 65 living to 75, and migration data from the 1960 and 1970 Census.

[9] Federal Home Loan Bank Board, *Alternative Mortgage Instruments Research Study*, directed by Donald M. Kaplan (Vol. III), November 1977.

[10] John Guttentag, "Reverse Annuity Mortgages: How S&Ls Can Write Them," *Federal Home Loan Bank Board Journal*, Vol. 10. No. 7 (July 1977), pp. 18–23.

[11] U.S. Department of Health and Human Services, "Unlocking Home Equity Through Property Tax Deferral," pp. 1–4.

[12] U.S. Department of Health and Human Services, "Pilot Projects on Home Equity Conversion," Home Equity Conversion Project, Madison, Wisconsin, June 1980.

Table 1.—A Split-Equity Mortgage Amortization Schedule

	1	2	3	4	5	6	7=3+6	8=4+5
Year	Retiree's income	Annual loan payment	Outstanding loan balance	Home value (9%)	Savings account	Mortgagee's deferred interest	Mortgagee's claim on equity	Homeowner's equity
1	$2,525	$3,125	$50,000	$109,000	$50,000	$3,125	$53,125	$159,000
5	2,525	3,125	50,000	153,862	50,000	19,578	69,578	203,862
10	2,525	3,125	50,000	236,736	50,000	53,017	103,017	286,736
15	2,525	3,125	50,000	364,248	50,000	110,129	160,129	414,248
20	2,525	3,125	50,000	560,441	50,000	207,674	257,674	610,441
25	2,525	3,125	50,000	862,308	50,000	374,275	424,275	912,308
30	2,525	3,125	50,000	1,326,768	50,000	658,823	708,823	1,376,768
35	2,525	3,125	50,000	2,041,397	50,000	1,144,817	1,194,817	2,091,397
40	2,525	3,125	50,000	3,140,942	50,000	1,974,871	2,024,871	3,190,942

$350 monthly.[13] If the male retiree purchases the single life annuity on himself and dies before his wife, the mortgage ends—the house is sold, and the surviving spouse is left with nothing from the annuity. Since there is an even chance of this occurring, RAMs for couples in retirement should be written on a joint-survivor basis. However, one drawback is that annuity payments determined on survivorship of two lives rather than one produces much lower returns to the retiree.

RAMs face the problem of negative arbitrage where the return on the annuity is less than the mortgage rate. In the aforementioned example, the return on the survivor annuity is 8.4 percent or 4.1 percent less than the loan rate, so the annuity payment falls $2,050 short of amortizing loan interest. Since this loan arrangement generates no retirement income, the retiree has little to gain from entering the mortgage. Life annuities, whether single or joint, are calculated on the basis of interest and survivorship. The older the retirees are at the time of purchase, or the higher the interest assumed by the insurer in offering the annuity, the greater the rate of return. Although insurers may someday sell retirement contracts with interest linked to money market instruments, current annuity products carry a fixed interest assumption generally lower than existing mortgage rates.[14] Therefore, the only alternative to negative arbitrage may be to defer a retiree's annuity purchase to an older age.

However, in our example, even if the couple purchases a joint-survivor annuity 15 years later when the male retiree is 80, the return is only $464.76 monthly or about 11.15 percent a year which is 1.35 percent below the mortgage rate. This result indicates that RAMs for retired couples, even with annuity deferment, may not be viable in retirement planning unless mortgage rates fall below 11 percent. In addition, in the absence of negative arbitrage, the male retiree age 65 has a 40 percent chance of dying before reaching age 80. A 65-year-old male retiree may not have too much enthusiasm for a retirement program which requires him to delay receiving income to some future time when he could be dead.

A split-equity mortgage (SEM) may reduce negative arbitrage by allowing the homeowner to use potential appreciation in his home to reduce annual loan payments. (See table 1.)

Suppose the retiree at age 65 secures a 40-year $50,000 loan on his home at 12½ percent and places the loan proceeds in a high yield S&L money market account earning 11.3 percent over the mortgage period. The S&L account earns $5,650 a year and is divided between the retiree and mortgagee. Half the annual loan payment or $3,125 goes to the mortgagee and the rest, $2,525 a year or about $210 per month, is paid as retirement income. The remaining $3,125 of the annual loan payment represents deferred interest and is applied against the homeowner's equity. At the end of 40 years, the mortgagee's deferred interest accumulates to $1,974,871. The loan to value ratio increases from 50 to 63 percent at the end of 40 years, assuming homeowner's equity appreciates at an annual 9 percent rate.

The SEM is sensitive to the appreciation assumption on the retiree's home. If house values increase at a 7.87 percent rate, homeowner equity is $2,120,271 at the end of 40 years for a 95.5 percent loan to value ratio. In addition, the retiree's income depends on a narrow spread between mortgage and money market rates. If

[13] A.M. Best, Best's Retirement Income Guide 1980, (Oldwick, New Jersey: A.M. Best Company, 1980), pp. 74-75. This calculation uses data from the Equitable Life and Prudential Insurance Companies.

[14] For a discussion on variable annuities linked to money market funds, see William G. Flanagan, "Creative Brokers Make Annuities a New Means of Using Your Mutual Fund as a Tax Shelter," *The Wall Street Journal*, July 14, 1980.

Table 2.—A SEM Amortization Schedule with Conversion to a Single Life Annuity at Age 80

			1	2	3	4	5	6=2+5	7=3+4
Year	Age	Retiree's income	Loan payment	Loan balance	Home value (9%)	Savings account	Mortgagee's deferred interest	Mortgagee's claim on equity	Homeowner's equity
1	66	$2,525	$3,125	$50,000	$109,000	$50,000	$3,125	$53,125	$159,000
5	70	2,525	3,125	50,000	153,862	50,000	19,578	69,578	203,862
10	75	2,525	3,125	50,000	236,736	50,000	53,017	103,017	286,736
15	80*	2,525	3,125	50,000	364,248	50,000	110,129	160,129	414,248
20	85	5,737	3,125	50,000	560,441	0	207,674	257,674	560,441
25	90	5,737	3,125	50,000	862,308	0	374,275	424,275	862,308
30	95	5,737	3,125	50,000	1,326,768	0	658,823	708,823	1,326,768
35	100	5,737	3,125	50,000	2,041,397	0	1,144,817	1,194,817	2,041,397
40	105	5,737	3,125	50,000	3,140,942	0	1,974,871	2,024,871	3,140,942

*The retiree age 80, as the last survivor, purchases a single premium annuity for $677 per $10 of monthly income. The annual payment from such an annuity produces $8,862 a year less $3,125 in loan interest or $5,737 in retirement income.

the money market rate were 9.5 percent, or 300 basis points less than the 12½ percent mortgage rate, then the retiree's income would drop to $1,625 a year or about $135 per month.

A possible advantage for SEMs may be their flexibility in altering retirement income after the death of a spouse. Given the advanced ages of both husband and wife upon entering the loan agreement, it is unlikely either will survive the contract period. A husband and wife, 65 and 62 respectively, face a 99 percent probability that at least one will die within the next 40 years. If one dies in the middle of the mortgage, it may be possible to reinvest the S&L account in a single life annuity on the surviving spouse. Table 2 provides an example of a split-equity mortgage where the wife dies before the husband reaches age 80.

With the husband as sole survivor at age 80, the $50,000 S&L account is used to purchase a single premium life annuity which generates $8,862 of yearly income. After the annual loan interest deduction of $3,125, the retiree receives $5,737 per year or $478 monthly. In converting to the life annuity, the homeowner gives up $50,000 worth of equity in the S&L account which slightly increases the loan to value ratio. Comparing tables 1 and 2 at the 20th year duration reveals that the loan to value ratio is 45.97 percent with conversion versus 42.2 percent without. The difference narrows at the 40th year where the ratio is 64.4 percent with conversion and 63 percent without. It appears that the income advantage to the retiree from conversion may outweigh any additional risk the mortgagee bears in accepting a somewhat higher loan to value ratio.

The sale-leaseback (SLB) agreement involves the sale of the retiree's home to an investor—possibly an S&L, who leases the property back under a 40-year contract. The investor owns the home, but the retired couple has use of it until they leave. The owner-investor can take full advantage of property appreciation, tax depreciation, and any interest deduction resulting from borrowing for the home purchase. The retiree over 65 may be eligible for a $100,000 exclusion on taxable gain from the sale and can use the sale proceeds to invest in a money market S&L account. Interest on this account goes to pay the investor's leasing charge and to provide retirement income to the homeowner. The retiree's heirs receive the sale proceeds from the S&L account upon the death of the retired couple. Table 3 gives an example of an SLB contract for a husband and wife, ages 65 and 62, with a $100,000 home.

The home is sold to an investor for $100,000 net of taxes and closing costs. The retiree takes a $100,000 once-in-a-lifetime tax exemption

Table 3.—A Sale-Leaseback Agreement For a $100,000 Home

Year	†Retiree's income	Annual lease payment (5.1%)	*Depreciation allowance	Home value (9%)	**Interest deduction	***Investor's rate of return (percent)
1	$6,200	$5,100	$2,500	$109,000	$6,250	17.75
5	6,200	5,100	2,500	153,862	6,250	16.51
10	6,200	5,100	2,500	236,736	6,250	15.38
15	6,200	5,100	2,500	364,248	6,250	14.54
20	6,200	5,100	2,500	560,441	6,250	13.89
25	6,200	5,100	2,500	862,308	6,250	13.40
30	6,200	5,100	2,500	1,326,768	6,250	12.97
35	6,200	5,100	2,500	2,041,397	6,250	12.66
40	6,200	5,100	2,500	3,140,942	6,250	12.27

†The S&L account earns 11.3 percent interest of $11,300 a year. The retiree receives $6200 in annual income or $11,300 less the $5,100 lease payment.

*For annual depreciation, it is assumed that the house has a 40-year useful life. Using straight line depreciation the investor may write-off $2,500 per year.

**It is assumed that the investor deducts one-half of the interest on a 12.5 percent loan used in purchasing the home.

***This return is based on the assumption that annual lease payments are used to pay taxes and maintain the home.

under the 1978 Revenue Act and places the funds in an S&L money market account earning 11.3 percent. From the $11,300 annually earned in the account, $5,100 is paid to the investor in lease payments and $6,200 goes to the retired couple as income. In addition to the annual lease payments, the investor is allowed $8,750 per year in depreciation and interest deductions. When the retirees leave the home as a result of death or personal decision, the investor may sell the home to recover principal plus appreciation on the property. Assuming the home increases in value at an annual 9 percent growth rate, the investor's rate of return may be anywhere from 17.75 to 12.27 percent depending on when the house is sold. In this regard, the investor's return will depend mainly on the mortality of the retirees. It is possible to compute the investor's expected rate of return based on the probability of death for a husband and wife who enter the agreement at ages 65 and 62. For our example, the estimated expected rate of return is 13 percent or about 50 basis points above the mortgage rate.

One can also calculate an estimate for the average length of the contract using mortality statistics. In this instance, the average contract duration is about 25 years. Contract duration is inversely related to the age the retirees enter the SLB. An older couple will have a higher mortality rate, thereby lowering the average duration of the agreement. Similarly, the investor's expected rate of return is directly related to the age of the retirees. Since returns are a decreasing function of contract duration, elderly couples who withdraw early from this agreement serve to increase the investor's overall expected rate of return.

As in the case of SEMs, the return on SLB agreements depend somewhat on home appreciation. However, under an SLB contract the investor may have greater flexibility in reducing the risk of a lower return caused by poorer than expected appreciation. A higher fixed leasing charge could protect the investor against such a risk, though this solution would reduce a retired couple's income throughout the contract period. Another solution might be to allow the investor to increase the lease charge within defined limits every ten years. Such a policy would allow lease payment increases to protect the investor's return and permit the extra charge at time when there may be only one retiree left to receive income. To the extent an investor may be able to write-off appreciation losses on some properties against gains on others, there may not even be a need to alter lease charges. In addition, a more liberal deduction of interest would increase an investor's return from the SLB and offset appreciation risk.

Potential Uses of Reverse Annuities

Projected increases in the elderly population, coupled with the financial burden of retirement over the next decade indicate a potential demand for retirement planning in the 1980s. The Bank Board and the S&L industry may be in the unique position of being able to help homeowner's prepare for retirement. Since many retirees have accumulated sizeable amounts of equity in their homes, reverse annuities appear to be a means for unlocking this equity to provide retirement income.

The homeowner may have several alternatives from which to choose an annuity arrangement. If the mortgage rate drops below 11 percent and the homeowners desire to retain full interest in their home, they might prefer a reverse annuity mortgage (RAM). On the other hand, householders who wish to retain partial interest in their home and receive retirement income when mortgage rates exceed 11 percent may select a split-equity mortgage (SEM). In addition, the RAM and SEM arrangements both permit the homeowner an interest deduction on Federal income tax returns.

The sale-leaseback (SLB) agreement takes advantage of a current tax law that accords homeowners a $100,000 one-time exemption on the sale of their home. Under an SLB agreement, the homeowner avoids the financial burden of interest costs associated with RAMs and SEMs. However, the SLB requires homeowners to sell their home and pay a lease charge to live in it. The lease payment is likely to be less than the interest on a RAM or SEM because the investor, as owner of the home, can take advantage of depreciation and interest tax deductions. The SLB contract allows the retiree to invest home equity in an S&L account that moves up with inflation. In addition, this fund represents an estate for the homeowner's heirs.

It may be possible to use the monies generated from a home sale to create an Individual Retirement Account (IRA) for the householders. The proceeds from the sale, when the male retiree is 55, could be placed in a savings account. During each of the 10 years before the homeowner's retirement at 65, $10,000 could be transferred from savings to a separate IRA. The IRA would then shelter interest income from the sale proceeds prior to retirement. Such a program would depend on whether the homeowner was eligible for IRA/Keogh treatment.

S&L Advantages

What are some of the advantages to S&Ls from this sort of retirement planning? A RAM allows S&Ls to write mortgages that are solidly backed by home equity with interest payments guaranteed by the retiree's annuity. The SEM affords the S&Ls the opportunity to share in the appreciation of a homeowner's propert and to receive guaranteed loan interest from the retiree's annuity. The SLB agreement could allow S&Ls to lengthen their asset maturity structure. By creating a retirement accou to benefit the retired homeowner, th S&L develops a new funding source. With the S&L acting as intermediar between the householder who wants retirement income and the investor desiring leaseable property, a savin account is generated which could b used to finance other homes.

Another advantage to this type o retirement planning may be the public's awareness that S&Ls are helping to solve a problem faced b many homeowners. A large numb of retirees who have acquired hom lack sufficient income to make ret ment a pleasurable experience. Re verse annuities may provide additional retirement income so that retirees can live comfortably in th home they've built. J