RETIREMENT SAVINGS OF BABY BOOMERS AND AN EARLIER COHORT: 1960 AND 1983

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Data from the 1960 and 1983 *Survey of Consumer Finances* were used to test for differences in two measure of financial preparedness for retirement between members of two cohorts. The two measures of financial preparedness included a retirement assets to income ratio and a net worth to income ratio. Both ratios were smaller for sample members from 1983. However, the difference in mean ratios between the two age cohorts were not significant. Future research was discussed.

The current generation of retirees is fairly well off by U. S. income standards. Although on average they have less income than some younger population groups, their per capita income is greater. However, several social and demographic changes have occurred which require one to ponder the differences that may arise between the current generation of retirees and the next. These changes include an increased number of retirees, increased life expectancies, a higher divorce rate, changes in real wages, credit and savings rates and a decreasing employee pool. All of these factors may combine to adversely effect the sufficiency of retirement income to meet the income needs of the next generation of retirees.

During the post World War II era, from 1946 to 1964, approximately 75 million babies were born. This group is referred to as the Baby Boom generation. The Baby Boom generation can be easily divided into two groups: (1) the early boomers (those between ages 27 and 37 in 1983) and (2) the younger or late boomers (those aged 18 and 26 in 1983).

The Baby Boom cohort accounts for 36.9% of the U. S. population and 50% of the labor force. In 21 years (2011) the first of the Baby Boomers will begin retiring. Members born in the last year of the cohort will begin retiring in 39 years (2029). The size of the cohort has prompted many professionals to concern themselves with the future financial security of the cohort.

In addition to increasing numbers of retirees, Americans are living longer. A person born in 1920 was expected to live to age 54. Life expectancy for a person born in 1985 was 74.7 years (U. S. National Center for Health Statistics, 1987).

Several factors interacted to change the financial profile of the American household during the past three decades. The current generation of labor force participants was the first to have access to large amounts of short-term personal debt. Bank and retail credit cards became very popular in the late '60s and early '70s. Consumer installment credit rose by 132% in real terms between 1978 and 1987. Real personal debt reached its highest level (in dollars) during the summer of 1987 (U. S. Department of Commerce, 1988).

Although the savings rate is rebounding now, as a proportion of disposable income it dropped from 6.8% to 3.8% during the '80s (U. S. Department of Commerce, 1988). This figure does not include savings in the form of home ownership, the most popular form of retirement savings and the largest for many families (U. S. Bureau of the Census, 1985). Yet, the age at which individuals purchase their first home has risen from 28 years in 1976 to 31 years in 1986 (Chicago Title Insurance Company, 1987). While only 19% of families headed by a person over age 65 have mortgage debt (Avery et al., 1984), the increased age at first time home ownership may cause current workers to retire with an outstanding home mortgage balance.

In addition to decreasing savings rates and increasing consumer installment debt, the level of real wages has dropped since 1980 (U. S. Bureau of Labor Statistics, 1986). In 1980, a worker earned an average of $173 a week. The average weekly earnings in 1985 in real terms was only $170.

Researchers, economists, and policymakers, as well as those in applied fields such as financial planning and cooperative extension should be concerned with the financial security of future retirees because of the change in societal and financial environments since the early '60s. One way to analyze the financial security of future retirees is to compare the amount of funds set aside for retirement by a pre-retired group during a particular life cycle stage to that of an earlier cohort.

Because the Baby Boomer cohort is so much larger than previous groups, it is believed that they exhibit different economic behavior than earlier population groups. The purpose of this study was to study the financial preparedness for retirement of a specific sub-sample of the population: Baby Boomers and an equally defined, earlier cohort.

LITERATURE REVIEW

The domain of retirement planning studies is expanding. Earlier studies concerning retirement planning focused on either retirement timing decisions, retirement savings decisions (including life cycle savings patterns), or retirement planning behaviors. Recent studies appeared to be more applied in nature and concentrate on determining retirement savings needs of families using a retirement analysis or expert systems framework.

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The relationship between several sociodemographic variables and retirement timing decisions has been the focus of many studies. These variables included age, education, occupation, health, marital status, retirement income, and asset levels (Barfield and Morgan 1969; Feldstein 1974; Schwab 1974; Parnes, Adams, Kohen and Nestel 1975; Schultz 1976; Boskin and Hurd 1978; Hogarth 1981).

The life cycle hypothesis, developed in the '50s, is a method of calculating appropriate consumption and savings rates functions over the lifespan (Modigliani and Brumberg 1954; Friedman 1956; Ando and Modigliani 1963). In attempts to estimate savings rates needed to meet retirement goals, the life cycle hypothesis has been used to develop a retirement analysis framework by Duncan, Mitchell and Morgan (1984) and applied to consumer finance data by Burns and Widdows (1988) and Burns (1988).

Much of the aforementioned research assumed that given constant income, consistent utility patterns, and a zero percent rate of growth on assets, consumers will even out their consumption rates over the life cycle. In other words, the rate of consumption is constant over the lifespan, and consumers only spend more money if real income rises. Hanna (1989) took a different approach to studying optimal consumption and savings patterns. He suggested that consumers would not try to optimize consumption but to maximize utility over the lifespan. Utility is a function of the risk aversion of the individual, interest rates, and the probability of death.

The effect of the availability of Social Security and corporate pension funds on retirement savings behavior was the core concern in another direction retirement research has taken (Katona 1965; Munnell 1974a, 1974b; Feldstein 1974; Darby 1979; Koskela and Viren 1983; Lesnoy and Leimer 1981, 1985). The results of these studies are mixed. Some researchers concluded that savings rates were affected by the availability of other retirement income plans and the others reported finding no effect.

ECONOMIC STATUS OF RETIREES

The economic status of retirees can be measured in several ways. Economic status measurements are often based on some minimum standard of living and the price of living at this standard is determined. The result is a poverty line measure that can be adjusted for household size and urban/rural residence (Orshansky, 1965).

One can also determine economic status in retirement by comparing post-retirement level of living with pre-retirement level of living. A measure of this comparison is the replacement rate or ratio of annual post-retirement income to annual pre-retirement income. This measure is typically used for evaluating the importance of Social Security or employer pension benefits to total retirement income. Defining appropriate replacement rates is the subject of several papers (Ross, 1976; Meier, Dittmar, & Torrey, 1980; Wertheimer, 1980). It is suggested that retirees do not need the same income after retirement to enjoy pre-retirement level of living and that the replacement rate decreases as pre-retirement income increases.

The assessment of economic status of retirees is often made relative to those still in the labor force. On average, retirees currently enjoy a per capita income greater than labor force participants.

FINANCIAL PREPAREDNESS FOR RETIREMENT

Retirees traditionally rely on four sources of income during their retirement years: Social Security, corporate or employer pension plans, personal savings and investments (both principal and earnings), and employment outside the home. Retirees age 65-71 currently obtain 34% of their retirement income from Social Security, 17% from other pensions, 20% from asset income and 25% from earnings. After age seventy-two, retirees rely more heavily on Social Security and asset income to provide income (Schick, 1986). In addition, many retirees depend to some extent on money or non-money resources of family, friends, and community provided services.

While some studies measure the economic status of retirees, retirement planning requires evaluating the position of pre-retirees relative to retirement needs. Many methods can be used; most use the life cycle hypothesis as a theoretical base.

Several methods can be used to evaluate one's financial preparedness for retirement. All methods generally focus on some definition of savings rates and patterns of savings rates over the working life. One method includes determining savings rates that would allow one to even out consumption over a lifetime. The theoretical base for these methods is the life cycle hypothesis and its variations (Modigliani & Brumberg, 1954; Friedman, 1956; Ando & Modigliani, 1963). The life cycle hypothesis assumes that constant consumption is desirable, real interest rates are zero and that one does not have a bequest motive.

An applied framework using the life cycle hypothesis as a theoretical base was developed by Duncan, Mitchell and Morgan (1984). Tests of varying the inputs in the framework were completed by Burns and Widdows (1990).

Hanna (1989) suggests that retirement savings behavior is based on risk preferences and that consumers will use consumer credit early in the lifespan to offset future real income increases. His basic premise is not one of constant consumption over the lifespan, but maximizing utility over the lifespan. Under his method, a high debt, low asset financial position in early life cycle stages need not preclude a sufficiently funded retirement.

A third framework would be to simply compare the value of annual income available during retirement to either pre-retirement income, or some predetermined need level. Of course, this method

includes studying asset levels because some retirement income must be generated from the investment of funds saved at an earlier point in time. This has been done by Burns (1988) and Burns and Widdows (1989).

A fourth measure of financial preparedness for retirement consists of valuing a person's private asset holdings and dividing the value by annual income. This ratio suggests that a person with constant consumption, zero inflation, and a zero real growth rate on assets, and no other source of funds would deplete his/her portfolio in equal installments over a number of years equal to the ratio.

Fifth, a more accurate measure of the value of funds available for retirement is based on net worth, or the value of assets minus the value of related debt. For example, to evaluate someone's financial preparedness for retirement based on the value of his/her home and not the equity in the home would overestimate financial preparedness if there was an outstanding mortgage balance. Thus, it is more realistic to subtract debt because it either reduces one's future disposable income or must be paid off by liquidating assets. Using either a personal asset/income ratio or a net worth/income ratio ignores the availability of other income sources during retirement.

METHODOLOGY

Data from the 1983 and 1960 *Survey of Consumer Finances* were used to compare the financial preparedness for retirement of the Baby Boom cohort and an earlier cohort. It was expected that financial preparedness for retirement would be significantly different for members of the two groups.

Sample

Data from the 1983 *Survey of Consumer Finances* were used to assess the financial preparedness for retirement of the Baby Boom cohort and data from the 1960 *Survey of Consumer Finances* for the earlier cohort. The *Survey of Consumer Finances* is an ongoing study of U. S. consumers, their financial status at a point in time, their use of credit, and their attitude toward the use of specific debt instruments as well as attitude toward the economic environment.

The samples used in the *Survey of Consumer Finances* research were representative of the U. S. population. The 1960 study used a multi-stage, stratified probability sampling technique and resulted in a sample size of 2,972 (Economic Behavior Program, 1961). The nationally representative, area probability sample in the 1983 study resulted in a sample size of 3,824 (Avery & Elliehausen, 1988). The supplemental, high income sample was not used in this study.[2]

The purpose of this study was to study the financial preparedness for retirement of a specific sub-sample of the population: Baby Boomers and an equally defined, earlier cohort. Therefore, households which contained a head of household between the ages of 27 and 37 in 1960 and 1983 were chosen for study. The final sample sizes were 295 and 971, respectively.

Financial Preparedness

Due to data constraints, this study measures financial preparedness for retirement using the private asset to income and net worth to income ratios. The value of Social Security benefits was ignored and will result in an underestimation of preparedness for retirement. While approximately 97% of the population is covered by Social Security or a qualified alternative plan (State Teachers' Retirement Systems, for example), Social Security replacement rates have decreased over time and universality of benefits cannot be assumed.

Participation rates in employer sponsored pension plans are not universal. In 1960 only 30% of employees were covered by an employer provided pension plan (Andrews, 1985). In 1983, the participation rate was 56% (Employee Benefit Research Institute, 1984). This study underestimates retirement assets because the participation rate in employer provided pension plans and Social Security is not universal and cannot be ignored yet the 1960 *Survey of Consumer Finances* does not contain pension coverage information.

Variables

This study focuses on the value of non-government, non-employer provided assets. The analysis of privately provided retirement assets was conducted separately for members of the 1960 and 1983 samples. Thus, privately provided retirement assets was defined as the sum of liquid assets (checking and savings accounts, Certificates of Deposit, money market funds, U. S. Savings Bonds, IRAs and Keogh accounts), financial assets (stocks, bonds, mutual funds and trust accounts), and home equity. The 1960 *Survey of Consumer Finances* did not contain information on the value of bonds or trust accounts. The source of error resulting from the inclusion of these two assets in the 1983 analysis was assumed to be negligible.

Net worth was defined as the sum of liquid assets, financial assets, and home equity minus the total non-mortgage debt load. Data for this variable was available in both data sets.

Once the value of private assets and net worth were ascertained, the ratios were created. The private assets/income ratio was equal to the value of private assets divided by gross current income. The net worth/income ratio was calculated in a similar way. A t-test for differences between means was conducted to determine if the mean asset/income ratio and net worth/income rate were significantly different for the 1960 and 1983 cohorts.

[2] An additional sampling of high-income households was undertaken by the Federal Reserve Board. Approximately 438 complete interviews were obtained. The data from the additional sample was omitted from this study.

RESULTS

Table 1 describes the distribution of households across demographic variables. The samples had significantly different distributions within all demographic variable categories except occupation. Generally, the 1983 sample was more educated, had more female head of households, and was more likely to be a divorced or separated head of household. The 1963 sample members had larger households and fewer earners in the spending unit. Most of these differences in demographic factors reflect changes in societal make-up.

The mean value of financial variables are outlined in Table 2. Comparisons of financial data in nominal dollars across samples cannot be made because of inflationary effects. However, comparisons can be made if ratios are used. 73% of the 1963 sample's retirement assets were held in the form of home equity. Only 43.5% of the 1983 sample's retirement asset consisted of home equity. Debt as a percentage of assets was 8% for the 1960 sample and 9.1% for the 1983 sample. The retirement assets/income ratio was 1.24 for the 1963 sample, and 1.013 for the 1983 sample. The net worth/income ratio was less than 1 (.854) for the 1983 sample and more than 1 (1.137) for the earlier cohort.

A t-test was used to answer the question, "Is the difference between mean retirement assets/income ratio and net worth/income ratio of the two cohorts significant?" Table 3 outlines the result of the t-test. The mean values of both ratios were not significantly different between samples at the $p < .05$ level. The net worth/income ratio had a larger mean difference than the retirement asset/income ratio.

CONCLUSIONS

Unlike many popular news articles, this study suggests that the Baby Boomers are not different in their financial preparedness for retirement from an early cohort. This conclusion adds to and supports the work of Russell (1983) who suggests that the Baby Boomers and their parents' generation are not different. Like most studies, its limitations, while allowing a snapshot of a small portion of the puzzle, constrain the use of the results in making broad generalizations.

The t-tests used in this study did not result in significant differences between the mean retirement asset to income ratio or the mean net worth to income ratio for the two samples. There are several methods of gaining financial security at retirement. One is to provide completely for oneself and the other is to participate in programs which provide retirement income and then to reduce private saving accordingly. It is likely that members of the 1963 sample did not have the pension coverage rates that members of the 1983 sample had. Therefore, the 1983 sample's ratios might have been underestimated. Had the data been available, pension plan coverage rates could have been accounted for.

Table 1. Description of the Households.

Variable	1960 Sample n = 295		1983 Sample n = 971	
Age of Head:				
27 - 32	134	45.4	566	58.3
33 - 37	161	54.5	405	41.7
$X^2 = 14.95^*$ (1 df)				
Sex of Head:				
Male	288	97.6	539	55.5
Female	7	2.4	432	44.5
$X^2 = 179^*$ (1 df)				
Race of Head:				
Caucasian	280	94.9	789	81.3
Black	10	3.4	129	13.3
Other	5	1.7	53	5.4
$X^2 = 25.84^*$ (2 df)				
Educ. of Head:				
Grade School	31	10.5	24	2.5
Some High Sch.	53	18.0	88	9.1
High Sch. Dipl	100	33.9	334	34.4
Some College	46	15.6	202	20.8
College Dipl.	63	21.4	323	33.3
$X^2 = 68.7^*$ (4 df)				
Marital Status:				
Married	282	95.6	655	67.5
Single	3	1.0	147	15.1
Widowed	3	1.0	0	0.0
Div./Separ.	7	2.4	169	17.4
$X^2 = 74.43^*$ (3 df)				
Occupation:				
Prof./Technical	54	18.3	184	18.9
Mgrs./Business	64	21.7	165	16.9
Clerical/Sales	44	14.9	128	13.2
Labor/Farm/Srv.	127	43.1	476	49.0
Other	7	2.4	18	1.9
$X^2 = 5.75$ (4 df)				
# of Earners:				
Zero	6	2.0	86	8.9
One	230	78.0	499	51.3
Two or More	59	20.0	386	39.8
$X^2 = 68.13^*$ (2 df)				
# in Household:				
One or Two	23	7.8	348	35.8
Three to Five	215	72.9	570	58.7
Six or More	57	19.4	53	5.4
$X^2 = 81.16^*$ (2 df)				

* Significant at $p < .05$.

Table 2. Description of Financial Variables.

Variable	1960 Sample	1983 Sample
Retirement Assets	$ 8,163 (n=260)	$ 47,256 (n=971)
Home Equity	5,965 (n=295)	20,574 (n=971)
Debts	678 (n=295)	4,332 (n=971)
Net Worth	7,480 (n=260)	42,925 (n=971)
Income	7,530 (n=295)	30,518 (n=971)
Ret Assets/Income Ratio	1.24 (n=260)	1.013 (n=971)
Net Worth/Income Ratio	1.137 (n=260)	.854 (n=971)

Table 3. T-Test for Difference Between Mean Private Asset/Income and Net Worth/Income Ratios.

Ratio	Difference Between Means	t
Retirement Assets/Income	.226	1.00
Net Worth/Income	.283	.183

Not significant at $p < .05$.

The allocation of the retirement asset portfolio was also different for members of the different samples. Home equity constituted a major portion of the 1963 sample's retirement assets and net worth. Less than 50% of retirement assets and net worth was accounted for by home equity for the 1983 sample. If both samples "saved" an equal percentage of their salary and one sample purchased homes later (as the 1983 sample members did on average), then members of the younger cohort are likely to have a greater proportion of their assets in investments other than real estate.

Limitations

This study used a simple measure of financial preparedness for retirement. The cohorts were studied relatively early in their life cycle (age 27 to 37). Many assets are accrued and debts repaid during the late '30s and early '40s. Previous analyses with the non-retired members of the 1983 sample suggests that individuals' required retirement savings rates decreased to a manageable level by age 55 (Burns and Widdows 1990).

The operational definition of the two measures may also impact the results. For example, members of the 1983 sample had much greater access to credit, both unsecured and secured. A large portion of unsecured credit is used to purchase either non-durable or depreciable assets such as vacations, furniture or clothing. Non-durable and depreciable assets are not reflected in the value of assets. Because earlier cohorts had less access to unsecured credit in the form of bank credit cards one would expect the net worth to income ratio to be significantly higher for members of the 1963 sample. However, the percentage of debt relative to non-mortgage assets was less for members of the 1983 cohort than the 1960 cohort. If credit is used to purchase an income generating or appreciable asset then it will be offset by the value of that asset on a balance sheet. The purpose of credit use will impact the results of a financial statement, and consequently, the ratios.

This study was not a comparison of post-retirement income to pre-retirement income. Therefore, it was not a study of the adequacy of retirement income so much as a measure of how adequate assets would be in the absence of other retirement income. And, the duration income might last is dependent upon the owner's ability to generate income from the asset instead of using the asset as income.

Last, while cross-sectional data is useful in studying financial data at a point in time, it provides no clues as to the process of financial preparedness over time. Thus, it is difficult to determine if Baby Boomers are different from the previous cohort at a given age or life cycle stage or if the process of preparing for retirement will not only be different but end with different results. For example, if Baby Boomers have a higher rate of employer pension coverage, their lower asset/income and net worth/income ratios may be rational and produce a retirement as financially sound as the previous cohort's.

Future Research

Researchers who have studied the effect of the availability of Social Security and private pension funds on private savings (Katona, 1965; Munnell, 1974a, 1974b; Lesnoy and Leimer, 1981). used aggregate data and not individual data. Studies using individual data would be enlightening as to the effect of the availability of these programs on individual patterns of savings. In addition, using individual data

allows one to study the effect of socio-economic variables on savings rates. It would also allow for a study of the risks individuals will assume under various retirement plan coverage conditions.

In addition, the retirement analysis framework employed in financial planning requires more in-depth study. The definitions of inputs as well as the use of various assets such as home equity in retirement analysis frameworks will impact the results.

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