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of the Retirement Decision:
United States

**Joseph Quinn,
Richard Burkhauser,
Kevin Cahill,
Robert Weathers**

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**MICROECONOMETRIC ANALYSIS OF THE RETIREMENT DECISION:
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**by
Joseph Quinn, Richard Burkhauser, Kevin Cahill and Robert Weathers**

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ABSTRACT/RESUMÉ

Using three waves of the ongoing Health and Retirement Survey, we document the labour force withdrawal patterns of a sample of older Americans aged 55-61 and working in 1992. We note the importance of Social Security and employer pension benefits for both the retired and the working populations aged 62 and over. Many of the demographic and economic variables turned out to be important correlates of the labour supply decisions of older Americans, including health status (measured in several ways), age, gender, self-employed status, home ownership, pension eligibility (especially in a defined-benefit plan) and post-retirement health insurance coverage.

* * * * *

En utilisant trois vagues de l'enquête "Santé et Retraite" en cours, nous documentons les modes de retrait du marché du travail sur un échantillon d'Américains d'âge variant entre 55 et 62 ans et qui travaillaient en 1992. Nous remarquons l'importance des allocations de Sécurité Sociale et de retraite patronales, aussi bien pour les retraités que pour les actifs de 62 ans et au-delà. Nombreuses sont les variables démographiques et économiques à s'être avérées largement corrélées avec les décisions d'offre de travail des Américains plus âgés, parmi lesquelles l'état de santé (mesuré de différentes manières), l'âge, le sexe, la situation de travailleur indépendant ou non, l'accession à la propriété, le droit à prestations (particulièrement dans le cas d'un plan à prestations définies) et la couverture de l'assurance maladie pendant la retraite.

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MICROECONOMETRIC ANALYSIS OF THE RETIREMENT DECISION: UNITED STATES

Joseph Quinn*, **Richard Burhauser****, **Kevin Cahill*** and **Robert Weathers****¹

1. Introduction

1. One of the most remarkable demographic changes in the post-war period has been the dramatic decline in the labour force participation rates of older men in the industrialised world (OECD 1996: Chart 4.1). As countries and their citizens became richer, this additional wealth was spent in a number of ways, one of which was the "purchase" of additional leisure late in life -- earlier retirement. The combination of longer and healthier life spans and earlier labour force departure has meant that individuals have enjoyed more retirement years than did earlier cohorts.

2. Increasing life expectancies and levels of wealth are both very good news. They can, however, create challenges for nations and for individuals. There are concerns about the ability of these ageing economies to support a larger number and a larger proportion of older, non-working citizens. Some analysts, extrapolating from recent demographic and retirement trends, have forecast aggregate labour shortages in the future, as the large number of baby-boomers leaving the labour force outstrips the smaller number of new entrants.

3. There are also concerns at the individual level. Economic distress -- poverty -- is less common among older workers than it is among those who are no longer employed. In addition, for some, employment provides very important non-pecuniary benefits that can be lost in retirement, such as social contact, self-esteem, and the feeling of being a productive citizen.

4. Individual and societal concerns about recent early retirement trends, especially in the context of increasing life expectancies and changing demographics, have created an interest in the United States in encouraging, or at least not discouraging, continued employment among older workers. The more that older citizens remain employed, perhaps even while claiming retirement benefits, the larger will be the real output of the nation -- the output to be allocated among the working and non-working populations.

5. In the United States, a number of policy changes have already occurred, and others are in process or about to begin, that promise to increase work at older ages. Federal legislation delayed the earliest legal age of mandatory retirement from age 65 to age 70 in 1978, and then outlawed it completely in 1986 for the vast majority of American workers. This not only increased the options open to certain individuals, but also sent an important societal message about the appropriate age of retirement². Social

1. * - Boston College; ** - Syracuse University.

2. Prior to these changes, mandatory retirement rules covered about half of the American workforce. Many of those covered faced strong financial incentives to retire at the same time that the mandatory retirement provisions applied, because of the benefit calculation rules of their defined benefit employer pension plans. Because these incentives remained in effect after the mandatory retirement rules disappeared, we argued

Security rules and regulations are also being changed to encourage work late in life. (See below for an overview of the public and private retirement income systems in the United States.) The actuarial reward for delaying receipt beyond age 65 (the current age of eligibility for "normal retirement benefits") is being increased, and will soon be close to actuarially fair for the average worker³. In addition, the amount individuals can earn before losing Social Security benefits (the exempt amount) has increased, and is about to rise dramatically for workers aged 65 to 69 (from \$13,500 in 1997 to \$30,000 by 2002). Finally, the age of eligibility for normal retirement benefits is scheduled to move early next century from 65 to 66, and later to age 67. This is equivalent to an across-the-board benefit cut, which changes the trade-off between work and retirement, and also sends a message about appropriate retirement age.

6. In the private sector, although defined-benefit employer pension plans (which often contain strong incentives to retire at particular ages, often at the earliest age of eligibility -- see below) remain important, there is a shift underway from defined-benefit to defined-contribution plans. The latter, by their very nature, contain no age-specific retirement incentives (or equivalently, work disincentives). A final contributing factor, although not an explicit retirement-related policy initiative, has been a very strong domestic economy. While the United States suffered the greatest recession since the Great Depression of the 1930s in 1982-83, with unemployment rates of nearly 10 per cent, economic growth over the rest of the 1980s led to strong demand for labour and a decade-low unemployment rate of 5.3 per cent in 1989. Unemployment increased to 7.5 per cent during the business cycle trough of 1992, but economic growth has since reduced unemployment to a three-decade low of only 4.6 per cent in late 1997. Strong labour markets increase the options of older workers (and others) who want to remain employed.

7. The net result of these changes has been an abrupt end of the post-war early retirement trend among older men in the United States. Figure 1 shows labour force participation rates over the past three decades for older American men by five-year age cohorts.⁴ The figure also shows the time trend for each group from 1964 through 1985 (from a simple linear regression) and an extrapolation of that pre-1985 trend from 1986 through 1996. One can clearly see "the end of an era" -- older male labour force participation rates are no longer declining, and may even be increasing. The annual differences between the extrapolated earlier trend and the actual labour supply behaviour of these men since 1985 is large and growing⁵.

8. The early retirement patterns of American women have been complicated by a second factor, the increases in the labour force participation of (primarily married) women during the post-war era. Among older women, these two trends have largely offset each other. As seen in Figure 2, there has been a modest increase in the participation rates of women aged 55 to 59 since 1964, and modest declines among the older groups. Since the mid-1980s, however, the change relative to the prior trend is the same as it is

that the aggregate impact of this policy change would be modest, and estimated that at least half of what looked like a mandatory retirement effect was actually due to the concurrent financial incentives (Burkhauser and Quinn, 1983). Our research, however, did not consider the longer run impacts of a societal message that working longer is acceptable or even encouraged.

3. Historically, those who delayed benefits past age 65 could expect to receive less in lifetime Social Security benefits than they would have received had they first claimed them at or before 65. Although future monthly benefits did increase because of the delay, they did not increase enough to compensate for the benefits initially foregone. See Quinn and Burkhauser (1994) or Quadagno and Quinn (1997) for more details.

4. These figures are taken from Quinn (1997).

5. See Burkhauser and Quinn (1997) for a more thorough discussion of these trends.

for men. Older Americans, both men and women, are working much more now than the pre-1985 retirement trends would have predicted. A combination of public policy initiatives regarding mandatory retirement and Social Security, a trend toward defined-contribution pensions and a strong domestic economy have halted the dramatic post-war early retirement trend and encouraged many older workers to remain employed.

9. The purpose of this project is to study the correlates of the individual retirement decision in the United States, in a framework similar to that adopted by researchers in a number of other OECD nations. Retirement is a multi-faceted concept in the United States, and can be defined along a number of dimensions. For some, retirement refers to complete labour force withdrawal late in life. This can be the stereotypical retirement, a one-time transition from a career job to labour market exit, or it can be the end of a transitional period of withdrawal, with bridge jobs between career employment and complete withdrawal. Others would define retirement as the receipt of retirement benefits (Social Security or employer pension benefits), regardless of the current employment status of the individual. Others look for a significant decline in hours or earnings or a job change late in life as indicators of retirement. Still others rely on how individuals themselves define their retirement status, and utilise subjective questions found in most retirement-related questionnaires.

10. In this research, following the OECD criterion, we define retirement as the cessation of employment, and we focus on this important life event, but allow for alternative routes into retirement based on the receipt of specific retirement income sources. An interesting complication in the United States -- and one that we will emphasise -- is that labour market withdrawal and the receipt of retirement income often do *not* occur at the same time. Many Americans combine earnings and retirement income by remaining employed, often on a new job, and often part time, after they have left their career employer and began collecting public and/or private retirement benefits. We consider this a natural and beneficial consequence of the retirement process in the United States, and believe that its importance will grow in the years ahead.

2. Retirement Income Sources in the United States

11. The United States has a two-tiered system of retirement benefits -- a public social insurance program that is mandatory and nearly universal (Old Age, Survivors and Disability Insurance (OASDI) -- commonly referred to as Social Security), and a vast array of employer-based pension programs that are not mandatory and far from universal. Social Security was designed in the 1930s to be one of three legs of the retirement stool -- not to provide an adequate retirement income on its own, but rather to supplement employer pension benefits and the income generated by the individual's prior saving. For many, however, the employer pension leg is missing (see below), and, as mentioned above, a fourth leg -- earnings -- is very important for many retirees.

12. In 1994, Social Security benefits provided over 40 per cent of the aggregate income of the elderly in the United States -- those aged 65 or older (Figure 3). Almost 20 per cent came from each of three other important sources: earnings, employer pension benefits and income from assets, with only 4 per cent coming from all other sources, including means-tested welfare (public assistance) payments. The relative importance of these four primary legs of the stool changes dramatically with the age and with the income level of the individuals. Social Security, for example rises from 31 per cent of aggregate income for those aged 65 to 69, to 56 per cent for those aged 80 and above, while earnings drops from 33 to less than 5 per cent over the same age span (Figure 4). Social Security is particularly important for those least well-off -- it provides over 80 per cent of the income of those in the bottom two quintiles, but less than a quarter of the income of those in the highest quintile (Figure 5). Earnings, employer pension

benefits and asset income are inconsequential in aggregate to those in the lowest quintile (they provide only 6 per cent of aggregate income), but are extremely important for the elderly in the richest quintile, for whom they provide three-quarters of aggregate income.

13. Social security retirement benefits: Social Security retirement benefits are earned through prior contributions to the social insurance system. Covered employees and their employers each contribute 6.2 per cent of earnings, up to the taxable limit --\$68,400 in 1998, a cap which is indexed annually to changes in average wages⁶. (Self-employed workers pay both halves -- 12.4 per cent of taxable earnings, with the same cap.) At age 65, the statutory "normal age of retirement", workers with more quarters of coverage are eligible to receive monthly retirement benefits based on the (indexed) average of their best 35 years of earnings⁷. Eligible workers can receive reduced retirement benefits as early as age 62 (since 1956 for women, and since 1961 for men). The monthly benefits are reduced by 5/9 of 1 per cent for each month of receipt prior to age 65, or by 20 per cent for those who claim benefits as soon as they are eligible, at age 62. For those who delay first receipt until after the "normal age" of 65, there is a delayed retirement credit (in addition to the recalculation of average lifetime earnings) for each month of delay. This increases the monthly benefit over the amount of the (obviously mislabelled) "full" benefit.

14. These complicated benefit calculation rules (and similar ones in many defined-benefit employer pension schemes -- see below) can create large financial incentives to continue working or to retire, and considerable econometric evidence suggests that these incentives do affect individuals' retirement behaviour⁸. Depending on the details of the benefit calculation rules, expected lifetime Social Security (or employer pension) benefits can rise or fall with continued work on the job. Those who defer benefits after the age of initial eligibility forego benefits initially, but are generally rewarded later with higher monthly benefits. The question is whether the increments in the future are sufficient to offset the benefits initially declined.

15. If they are not, then the present value of future benefits (the wealth or asset equivalent of the expected retirement income stream) *declines* with additional years of work. This is equivalent to a pay cut, since one's true compensation for the year equals one's earnings plus or minus any change in the present discounted value of future retirement benefits. If the change is a minus, then true compensation is less than earnings by the amount of the wealth loss, and one is encouraged to stop working. If, on the other hand, the future increments are just sufficient to offset the benefits initially foregone, then the program is called actuarially fair or age-neutral, and there is no age-specific financial incentive to leave or to stay. Finally, it is also possible for a pension program to encourage additional work (to discourage retirement), by over-compensating those who delay their initial receipt, and thereby increasing the asset value of pension rights with additional years on the job. Such individuals would gain twice by continuing to work.

6. Since 1965, Social Security (Old Age, Survivors, Disability and Health Insurance) has included Medicare -- a highly subsidized health insurance programme for those aged 65 and over. This is financed by an additional tax of 2.9 per cent (split between the employee and employer) on all earnings, with no cap.

7. The formula that determines the Primary Insurance Amount (the retirement benefit received by a worker who first claims benefits at age 65) imparts considerable progressivity into the system. Once a worker's average indexed monthly earnings (AIME) has been calculated, the PIA equals 90 per cent of the first \$437 of AIME, plus 32 per cent of the AIME between \$437 and \$2,635, plus 15 per cent of any AIME over \$2,635. The replacement rate, therefore, is higher for workers with lower earnings histories. These are the rules for 1996. The "bend points" (\$437 and \$2,635) change each year. For more detail, see *Social Security Administration* (1996), pp. 56-59.

8. For more detail on this literature, see Quinn and Burkhauser (1994) or Quadagno and Quinn (1997).

16. Traditionally, the Social Security rules for those between ages 62 and 65 were close to actuarially fair for the average retiree. The 20 per cent early retirement penalty for receipt at age 62 (80 per cent of a "full benefit"), or, from the age 62 perspective, the 25 per cent reward (on the 0.80 base) for continuing to work from age 62 to 65, was about right for someone with average life expectancy. From a lifetime perspective, the smaller monthly benefits begun at age 62 are about the same as the larger benefits begun at age 65. In other words, Social Security is close to age-neutral prior to age 65. At age 65, however, the rules changed, and the reward for continued delay declined significantly. Prior to 1977, the delayed retirement credit was only 1 per cent for each year of delay beyond age 65 -- far from actuarially fair. In 1977, the reward was increased to 3 per cent per year, still far too low for the average worker. As a result, Social Security penalised most workers who continued to work beyond age 65.

17. One of the major policy initiatives currently underway is the increase in the delayed retirement credit after age 65 from 3 per cent to 8 per cent per year of delay. In 1998, it will be 5.5 per cent, and will reach 8 per cent for those who turn age 62 in 2005 or later⁹. For the average worker, this will be close to actuarially fair, and therefore Social Security will no longer contain the strong work disincentives that it once did.

18. Social Security also has an earnings test. For those aged 62 to 64, benefits are decreased by \$0.50 for each \$1 earned over \$8,640 (in 1997)¹⁰. For those 65 to 69, the rules are more lenient in two ways. The "tax" rate is only \$0.33 for each \$1 earned over the exempt amount, and the exempt amount is higher (\$13,500 in 1997). There is no earnings test at all for those aged 70 or older. They can earn unlimited amounts and still collect a full Social Security benefit.

19. These exempt amounts increase each year, indexed to national changes in average earnings. For the older group (aged 65 to 69), however, legislation has been passed to increase the exempt amount dramatically, to \$14,500 in 1998, \$17,000 in 2000, and finally to \$30,000 in 2002. This is an obvious societal encouragement for older workers to remain employed, at least part time.

20. A final important change that was legislated in 1983 but has not yet been implemented is the increase in the normal retirement age, which is currently age 65. Beginning in 2003, this will increase by two months per year until it reaches age 66 six years later. After a twelve-year hiatus (which many analysts believe will eventually be eliminated), the normal retirement age will increase again over six years to age 67. Although eligibility for early benefits will continue at age 62, those who take them will receive only 70 per cent (rather than the current 80 per cent) of the normal-age benefits.

21. This delay in the normal retirement age is almost identical to an across-the-board benefit cut. Waiting longer to receive a given amount means that one will receive less at any given age¹¹. This will send an important signal about appropriate retirement age, and also reduce the financial attractiveness of retiring at any given age.

9. These and other Social Security rules are detailed in the Social Security Administration's Annual Statistical Supplement.

10. Note that Social Security is not means-tested. Social Security benefits are unaffected by non-wage income. Since it is designed as a retirement program, the rules require that one be 'retired,' which here means earning less than some specific amount.

11. Although these two changes are almost identical, the political spin is very different. In the case of an explicit benefit cut, it appears that the benefit amount was thought to be "too high." With a delay in the normal retirement age, however, the benefit amount appears correct, while the appropriate age of receipt is wrong. For many, this is a more palatable message, especially when life expectancies are increasing.

22. *Social Security disability benefits:* The Social Security disability insurance program is similar to old-age retirement program in many respects. Revenues are generated by the same payroll tax, and all those covered for old-age benefits also enjoy disability insurance¹². As are retirement benefits, disability benefits are based on average indexed monthly earnings, which in turn determines a worker's primary insurance amount (PIA). The disability benefit equals 100 per cent of the PIA, regardless of the disabled worker's age¹³. There is no actuarial reduction for receipt prior to age 65; therefore, for workers aged 62 to 64, disability benefits are higher than retirement benefits would be for the same earnings record. Unlike retirement benefits, which are available as soon as one turns 62, disability benefits are not available until the sixth month after the onset of disability. After 24 months of receipt of disability benefits, one also becomes eligible for Medicare, a subsidised federal health insurance program. At age 65 (the normal age of eligibility for Medicare and for Social Security retirement benefits), disabled workers are transferred to the retiree rolls, and their benefits are then called old-age benefits.

23. For the purposes of Social Security eligibility, disability is defined as "an inability to engage in substantial gainful activity by reason of a physical or mental impairment" (U.S. House of Representatives, 1994, p. 49). The impairment must be expected to last for at least 12 months or to result in death. To be eligible for benefits, workers must be "unable to engage in any kind of substantial gainful work, considering their age, education, and work experience, which exists in the national economy." (*ibid.*) In other words, eligibility does not stem from an inability to find a job (e.g. if there are no jobs in the area), but rather from the inability to do any substantial work regardless of whether or not the jobs exist. Actual eligibility determinations are made by State agencies under regulations promulgated by the federal government. To encourage return to the labour force, disabled beneficiaries are permitted to experiment with work during a limited trial period while maintaining their disability benefits and Medicare eligibility.

24. It is impossible to summarise succinctly the complex regulations, administrative decrees and appeals procedures surrounding the Social Security disability programme. The bottom line is that the requirements for eligibility are more stringent -- no partial disability benefits or explicit linkage to unemployment or chronological age -- than in countries such as the Netherlands, Sweden and Germany¹⁴. Therefore, in the United States, Social Security disability benefits are not a common alternative to early retirement benefits under another name.

25. *Employer pension benefits:* In addition to the nearly universal coverage offered by Social Security, slightly less than half of American workers at any one time are also covered by a employer-sponsored pension plan where they work. According to the Employee Benefit Research Institute (EBRI, 1994, Table 1), 47 per cent of non-agricultural wage-and-salary workers participated in a pension plan on their current jobs in 1993, down slightly from the 50 per cent participating in 1979¹⁵. The percentage of

12. Rather than requiring a full 40 quarters of coverage, disability coverage requires a number of quarters determined by one's current age, with at least 20 of those quarters of coverage earned during the 10 years prior to the onset of disability. For those disabled prior to age 31, eligibility requires only half as many quarters of coverage as have elapsed since age 21 (and a minimum of six.) See U.S. House of Representatives (1994), section 2, for more detail on the Social Security disability insurance program.

13. Here is a case where the two policies described in footnote 9 are different. An explicit across-the-board benefit cut would lower everyone's PIA, and therefore the benefits received by the disabled. A two-year delay in the age of normal retirement leaves the PIA (and therefore the benefits of the disabled) unchanged.

14. For a fuller discussion of Social Security disability policy in the U.S., in the context of European disability policies, see Aarts, Burkhauser and deJong (1996).

15. When all civilian workers are included, the pension participation rate was 44 per cent in 1993, down from 46 per cent in 1979 (EBRI, 1994, Table 1.)

workers who will ever draw pension benefits is higher than this, however, since some (older) workers who are not participating in a pension plan where they work will be eligible for pension benefits from a prior job, and other (younger) non-participating workers might become eligible on a later job. Among the civilian non-agricultural wage-and-salary population, for example about 60†per cent of those aged 41 to 60 were participating in a pension plan in 1993. This may be a better predictor of eventual receipt than the proportion currently participating where they work¹⁶. The percentage participating drops to 33 per cent among those aged 21 to 30, and to 29 per cent among those aged 65 or older (EBRI, 1994, Table 2.)

26. There are two major types of employer pension plans in the United States: defined-benefit (DB) and defined-contribution (DC). In the former, the traditional type of pension plan, the retirement benefit is defined by a formula, usually based on years of service with the firm and some measure of earnings level, often the average over the last or the highest three or five years. Depending on how the benefits change with additional years on the job, defined-benefit plans can encourage or discourage retirement, in the same manner as Social Security, as discussed above. Considerable research has shown that in most cases, the present discounted value of expected benefits from DB plans begins to decline at some age, often the earliest age of eligibility (Kotlikoff and Wise, 1989). In these cases, employer pensions penalise those who stay on the job too long, and thereby encourage departure from the firm. Once the individual leaves the firm, however, most pensions impose no requirement that the person leave the labour force as well.

27. Defined-contribution plans, on the other hand, are basically savings accounts with significant tax advantages. In these plans, the employer promises only to make a certain contribution to the individual's retirement account each pay period, sometimes only if the employee also makes a contribution, and that is the extent of the employer's obligation. (Administrative costs are much lower on DC plans, making them popular with employers.) These funds are then invested, usually with some input from the worker, and the eventual retirement benefit depends on the amounts deposited over the years and the investment performance of the individual's portfolio. An important point from our perspective is that DC plans contain none of the age-specific retirement incentives or work disincentives that DB plans can and usually do have.

28. Although the overall pension participation statistics have been stagnant (or even declining slightly) over the past few decades, there has been an important change in the distribution by type of plan. Defined-contribution plans are becoming much more important. Just between 1988 and 1993, for example, the proportion of civilian non-agricultural wage-and-salary workers whose primary coverage was defined-benefit in nature dropped from 57 to 38 per cent, while defined-contribution plans increased from 25 to 50 per cent (EBRI, 1994, Table 12.) (The rest of the sample was covered by other types of plans or did not know which type they had.) This transformation is important because it means a decline in the extent of work disincentives late in life, and therefore increased freedom for workers to remain employed on their career jobs. These changes are perfectly consistent with the demise of the post-war male early retirement trend noted above, although the causal contribution of the various factors has not been determined.

16. For example, Burkhauser, Couch and Phillips (1996) found that almost two-thirds of men who claimed early Social Security retirement benefits at age in 1992 and 1994 also received employer pension income.

3. Dataset and Sample for Analysis

29. This research is based on the Health and Retirement Study (HRS), an ongoing longitudinal dataset which is focusing on the retirement patterns and circumstances of older Americans in the 1990s.¹⁷ In the initial wave of the HRS in 1992, over 12,000 men and women in nearly 8,000 households were interviewed. The respondents comprise a nationally representative sample of non-institutionalised Americans aged 51-61 in 1992 and their spouses, who can be older or younger. The HRS contains detailed information on each individual's demographic background, current health and disability status, family structure, current, past and prior employment (retrospective questions), retirement plans (for those still working), health and life insurance coverage, housing status, income and wealth. There is also an additional, highly restricted dataset that includes, for those respondents who have given permission, their Social Security earnings history. Unfortunately, we do not have permission to use this dataset for this project. Eventually, the HRS will also contain the actual details of the individuals employer pension plans, obtained directly from the employer. Work on this valuable information is still in progress.

30. The HRS respondents are being re-interviewed every two years. The first three waves of data (1992, 1994 and 1996) are currently available, and these will be the basis of this report.

31. The derivation of our sample is described in Table 1. Of a total of 12,652 respondents in 1992, nearly half (6,018) were in the relevant age range of 55 to 61 (Table 1, next to last column). We eliminated those younger than 55, since they are not the focus of the OECD project. We also eliminated those aged 62 and older, because they are outside the initial age-eligible range of the HRS, and therefore are not a representative sample of Americans that age -- rather, they are a sample of people married to respondents aged 51 to 61. Of those aged 55 to 61 in 1992, 5,485 reappeared in the second wave of interviews in 1994¹⁸. Of these, 3,563 were working in 1992 (Table 1, row 5). This is our first sample.

32. As expected, the individuals who were not working in 1992 are not evenly distributed by age. For example, about 70 per cent of the men and women aged 55 to 57 were working (Table 1, row 6). This drops to about 65 per cent for those 58 or 59, and then below 60 per cent for those 60 or 61. Similar patterns exist when the sample is disaggregated by gender (not shown), with the employment percentages always higher for men than for women. (Those outside our age range follow this declining age-employment pattern as well. Three quarters of those less than 55 were working in 1992, compared to only 40 per cent of those aged 62 or older.)

33. This subsample of those aged 55 to 61 and working in 1992, and interviewed in both waves 1 and 2, includes 1,900 men (53 per cent of the subsample) and 1,663 women (47 per cent) (Table 1, rows 7 and 8). The sample sizes decline with age, from about 600 (men and women combined) aged 55 to about 400 aged 61.

34. When we include wave 3 of the HRS (1996), the sample size declines slightly, but we gain more labour market transitions because we have another two years of observations. The sample aged 55 to 61 in 1992 drops to 4,922 (about 10 per cent attrition from the wave 1 and 2 sample) when we require

17. For extensive detail on the Retirement History Survey, see Burkhauser and Gertler (1995). This special issue of the *Journal of Human Resources* contains an introduction and 10 articles on the major topics addressed by the HRS, data quality, and some preliminary applications and research results.

18. The attritions are because of death, refusal to be reinterviewed, or an inability to contact an individual. In addition, there were about 100 individuals who did not participate in the first wave but did appear in the second wave. The HRS did not add to the initial core sample between the 1992 and 1994 period; rather, these individuals entered as spouses or partners of respondents in the core sample.

participation in all three waves, and 3,242 of these were working in 1992 (Table 1, rows 3 and 10). This is the second (and primary) sample we use. (Because of changes in the questionnaire, we also lose some detail about the nature of the Social Security benefits being received -- see below.) In this second sample, the individual-age sample sizes decline from 544 (men and women combined) at age 55 to 371 at age 61 (Table 1, row 10).

4. Types of Retirement Income

35. This project is focused on the microeconomic determinants of the individual retirement decision, and on the receipt of various income sources that permit individuals to retire. Retirement here means that one is no longer working. Concerning types of income, the OECD "plan of work" lists:

- old-age pensions -- both public, such as Social Security old-age insurance benefits and Supplemental Security Income (SSI -- a means-tested public welfare program), and private, such as employer or union-based pension plans;
- long-term sickness or invalidity benefits (such as Social Security disability insurance benefits); and
- unemployment insurance benefits (a state-run system of short-term benefits (usually, only 26 weeks) for the unemployed).

We have also looked at:

- workers' compensation (state run programs that provide cash and medical benefits to those with job-related disabilities resulting from a work related accident or illness)¹⁹,
- veterans' benefits²⁰, and
- Social Security survivors' insurance benefits²¹.

5. Labour Force Transitions

36. In this section, we describe the labour market transitions that occurred between 1992 and 1994 and between 1992 and 1996, and we document the receipt of various retirement income sources. We are most interested in the four-year transitions, and these receive primary emphasis in the multivariate work below. The shorter transitions are also of interest, however, because the 1994 (Wave 2) questionnaire contains more detail about the type of Social Security benefits received than does the 1996 (Wave 3) questionnaire.

19. For more detail on these 51 individual state programs (including the District of Columbia), see Committee on Ways and Means 1994, pp. 847-850.

20. Veterans' benefits include veterans' compensation (disability benefits to those who were injured while serving in the armed services) and veteran's pensions (means-tested cash benefits paid to war veterans who became permanently and totally disabled from non-service related causes. See Committee on Ways and Means, 1994, pp. 844-845.

21. Social Security survivors' benefits are paid to certain survivors of insured workers, including children age 18 (if in school) or younger, a spouse caring for a child under 16, or a spouse aged 60 or older. See Committee on Ways and Means, 1994, pp. 5-7.

37. Of those 3,563 individuals working in 1992 and appearing in waves 1 and 2, 18 per cent had stopped working by 1994, and the other 82 per cent were still employed, either on their 1992 job or on another job (Table 2, row 1). By 1996, nearly one-third (31 per cent) of the Wave 1-3 subsample had stopped work. The percentage who left work was slightly higher for women (20 per cent by 1994; 35 per cent by 1996) than it was for men (17 and 28 per cent) (Tables 3 and 4, column 1).

38. In contrast to the modest gender differences, the departure rates differed significantly by age. In Tables 5, 6 and 7, we disaggregate at important ages: 60 (a common age for employer pension eligibility, 62 (the earliest age of eligibility for Social Security retirement benefits), and 65 (the age of eligibility for normal Social Security retirement benefits.)

39. Of those who were still less than age 60 in 1994, only 13 per cent had stopped working, compared to 21 per cent of those who had crossed the age-60 threshold, but were still younger than 62, and nearly a third (31 per cent) of those who were older than age 62 by the time of the 1994 interview (Tables 5, 6 and 7, column 1)²².

40. By 1996, the respondents are two years older, so there are different proportions of the sample in our various age categories. Only one age cohort remains younger than 60 in 1996 (and they are 59), and 18 per cent of these 59 year olds had stopped working by the time of the 1996 survey (Table 5, column 1). Of those aged 60 or 61, 22 per cent had left employment by 1996, almost identical to the 21 per cent of the 60 and 61 years olds in 1994 (Table 6, column 1). Finally, by 1996, 38 per cent of those aged 62 to 64 and over half (51 per cent) of the age-65 cohort was no longer employed.

6. Income Sources

41. Few respondents, regardless of their work status, was found to be receiving either workers' compensation benefits, unemployment insurance benefits or Supplemental Security Income (SSI) in at the time of the survey 1994.²³ Unlike in some European countries, unemployment benefits do not appear to be an important alternative route to early retirement in the United States. The requirements for receiving unemployment insurance do not become less stringent with age, and the receipt of benefits is limited in time, usually to only 26 weeks.²⁴ Supplemental Security Income has no such time limit, but it is available only to those who meet strict income and asset tests, and who are blind, disabled or aged, defined here as 65 or older -- too old for most of our group. In addition, with Social Security coverage nearly universal, the population with incomes below the SSI thresholds has been dramatically reduced over time. Receipt

22. The number of respondents in these three age categories (57-59, 60-61 and 62-63) are not exactly the same as the numbers two years younger in 1992 (see Table 1). The reason is that people are not reinterviewed on the same day of the year, so that one's chronological age could be 1 or 3 years more on the interview day in 1994 than it was in 1992. The ages in Tables 5, 6 and 7 are the ages at the time of the 1994 interview, not the 1992 age plus 2.

23. In particular, there were only 3, 5 and 7 individuals reporting receipt of workers' compensation benefits, unemployment insurance benefits and Supplemental Security Income at the time of the survey in 1994, respectively. The retirement income source information is based on questions that ask whether the respondent currently receives income from a given source.

24. Unemployment compensation in the United States is a joint Federal-state program. The rules and regulations concerning eligibility and benefit levels vary by state. Regular state programs provide benefits for only 26 weeks, although they can be extended for another 13 weeks in states with sufficiently high unemployment rates. On occasion, temporary programs have extended benefits even further (Committee on Ways and Means, 1994:274-275).

of state workers' compensation payments (for temporary or permanent disability) was also found to be rare.

42. According to Grad (1996: Table I.1), only 2 per cent of American households with a member aged 55-61 received any workers' compensation benefits during 1994, and only 4 per cent and 6 per cent received SSI and unemployment compensation, respectively. The importance of these income sources as a percentage of total household income was much smaller still. In 1994, less than 1 per cent of the income of households with a member 55-61 came from public assistance (which includes SSI) and only 2.5 per cent came from "other income," which includes both workman's compensation and unemployment benefits (Grad 1996: Table VII.1). The low percentages of people receiving these income sources reported by Grad are higher than the even smaller numbers that we found, both because the benefits Grad reports for the household might have been received by another household member, and because, even when they were received by the individuals aged 55-61, these are not likely to be people who were working 2 or 4 years earlier, as were all members of our sample.

43. As a result of the infrequent receipt of unemployment compensation, SSI and workman's compensation, these income sources are dropped from the subsequent analysis. We focus on the receipt of Social Security benefits (retirement, disability and other), employer pension benefits and, to a lesser extent, veterans benefits. As expected, and as seen in Tables 2 through 7, the receipt of these more frequent income sources is highly correlated with employment status.

44. Of those in our sample who were still working in 1994, only 12 per cent were receiving one or more of these benefits (Table 2, last column). Nearly 8 per cent were receiving an employer pension (which can often be obtained before age 62), 2.4 per cent reported receiving Social Security retirement benefits, another 1.3 per cent other (survivors) Social Security benefits, and 2.3 per cent were receiving veterans' benefits. Given the strict requirements for eligibility, it is not surprising that almost none of those still working was receiving Social Security disability benefits.²⁵ (The individual components add up to more than the total because of the receipt of multiple benefits -- see below.) In contrast, among the 18 per cent who were no longer working in 1994, 38 per cent were receiving benefits -- over three times the percentage of those still employed. Given the ages of these individuals, the most common sources were employer pension benefits (26 per cent), followed by Social Security retirement benefits (14 per cent).

45. By 1996, when the age range is 59 to 65, many more of our sample have stopped work (31 per cent), and receipt of these retirement benefit is much higher, regardless of work status (Table 2). Over one-quarter of those still employed received Social Security (15 per cent), pension (14 per cent), or veteran's benefits (4 per cent), as did nearly three-quarters of those who had stopped working. Most common among the latter were Social Security benefits (received by nearly 60 per cent of those not working, but we no longer know which kind of Social Security benefits) and employer pension benefits (41 per cent).

46. As seen in Tables 3 and 4 (last column), men were much more likely to be receiving retirement benefits in 1994 and in 1996 than were women, regardless of employment status. One reason appears to be their superior employer pension coverage. Nearly twice the percentage of men than women reported pension benefits, both among those still working and among those no longer working. In 1994, men were

25. As noted above, under certain conditions, disabled beneficiaries can retain their benefits while working during a trial re-entry period. Unlike in many European countries, however, the U.S. disability program offers no partial benefits. State-run workers' compensation programs do provide partial benefits, but only to those whose disabilities arise from a work-place event.

also more likely to receive Social Security retirement and disability benefits, but less likely to be receiving "other" Social Security benefits.²⁶ Finally, the vast majority of veteran's benefits go to men.

47. In Tables 5 through 7, we observe how benefit receipt changes with the age of the individual. As we consider those 57-59, 60 or 61, and 62 or 63 in 1994, we notice a steady progression in the receipt of one or more of these benefits, from 11 to 20 to 33 per cent (bottom row, last column, working and not working combined). This occurs both because the proportions no longer working increases with age, and because receipt increases with age holding work status constant. For example, among those not working in 1994, receipt of Social Security retirement pensions increases from almost 0 to 13 per cent as we move from ages 57 to 59 to ages 62 and 63, and for those no longer working, from almost 0 to 40 per cent.²⁷ Receipt of employer pension benefits also increases with age (from 9 to 13 to 18 per cent) although much more smoothly, reflecting the wide variety of eligibility ages and rules in the private sector²⁸.

48. By 1996, we have one age cohort crossing the important age-65 threshold. As seen in the lower halves of Tables 5, 6 and 7, the age patterns continue. At age 59, only 14 per cent of the wave 1-3 sample was receiving one or more benefits (9 per cent of those still working, and 39 per cent of the minority no longer working; Table 5). By ages 60 and 61, nearly a quarter were receiving benefits (16 and 50 per cent; Table 6), and at ages 62 to 64, 57 per cent were, including 85 per cent of those no longer working (Table 7, middle). Finally, among those age 65 by 1996, 80 per cent were receiving one or more of these benefits, three-quarters of those still working, and well over 90 per cent of those no longer employed (Table 7, bottom).

49. It is interesting to note how frequently Americans in the process of leaving the labour market are able to combine earnings and the receipt of retirement benefits at the same time. By ages 62 to 64 in 1996, for example, 27 per cent of those still employed were simultaneously receiving Social Security benefits and 18 per cent (with some overlap) were receiving employer pension benefits (Table 7, middle). At age 65, when half of this sample was still employed and half was not, 58 per cent of the employed were receiving Social Security retirement benefits, and 27 per cent were recipients of employer pension benefits. Nearly three-quarters of those still working at age 65 were receiving one or more of these benefits (Table 7, bottom). This combination of retirement benefits and earnings appears to be more common in the United States than it is in many European countries (Smeeding and Quinn, 1997).

50. Tables 8 and 9 show that receipt of more than one retirement income source is also common among older Americans. Among those still employed in 1994, for example, one-third of those receiving Social Security retirement benefits were also receiving employer pension benefits (23 out of 70; Table 8, top), and among those not working, half of the Social Security retirement income recipients were also

26. These are survivors benefits, which nearly always go to widows; only 2 of the 54 recipients are men.

27. Given the Social Security eligibility rules, there should be no one reporting Social Security retirement benefits before age 62. There are almost no reports of retirement benefits at ages 57 through 59 (only 5 persons; Table 5), but 34 curious reports of Social Security retirement benefits at ages 60 and 61 (Table 6), which may reflect mislabeling of disability benefits on the part of the respondent or measurement error on age.

28. When we disaggregated by work status, gender and age (not shown), we found that the large difference in retirement income receipt by gender observed in Tables 3 and 4 was seen again at ages 58-59 and, to a lesser extent, at ages 60-61, but by age 62, the gender differences had nearly disappeared. Altogether, 34 per cent of the men aged 62 or 63 were receiving benefits in 1994 (26 per cent of those still working and 53 per cent of those not working) compared to 32 per cent of women (24 per cent of those still working and 49 per cent of those not working.)

receiving pension benefits (44 of 88; Table 8, bottom). In 1994, many respondents had pension benefits but not Social Security retirement benefits, since pension benefits are often available at an earlier age.

51. In 1996, the story is about the same -- one-third of the working Social Security recipients and almost one-half of the non-working recipients also receive employer pension benefits (Table 9). Because of the two-year increase in the age of the sample, a higher proportion (than in 1994) of those receiving employer pensions also receive Social Security benefits (*ibid.*).

7. Correlates of Work Status and Benefit Receipt

52. In this section, we present cross-tabulations on some explanatory variables that might help explain who stops work and who does not, and who receives various types of retirement income. We have already seen in the impact of gender (modest; Tables 3 and 4) and age (very important; Tables 5, 6 and 7). Since these other explanatory variables are likely to be correlated, we will then turn to multivariate analysis to discern which of these variables appear to remain important when the influence of the others is considered simultaneously.

i) Health status

53. In the literature, health status has always been an important determinant of the individual retirement decision. Here we measure health subjectively, using the answer to a question that asks respondents to rank their health on a five-point scale: excellent, very good, good, fair and poor.²⁹ We aggregated these answers into a three-point scale (excellent or very good; good; fair or poor). Since we have a sample of people who were all employed in 1992 when they gave these answers, this is a healthier than average subset of the older population. We suspect that those who answered "fair or poor" were probably healthier than those not working in 1992 who answered the same.

54. As expected, health appears to be important in the work decision (Table 10). 85 per cent of those who described their health as excellent or very good in 1992 were still working two years later, compared to 82 per cent of those in good health, and only 70 per cent of those in fair or (rarely) poor health. By 1996, 73 per cent of those originally in excellent or very good health were still working, compared to 66 and 55 per cent of those in the other two health categories.

55. Holding work status constant, there was very little difference observed in either 1994 or 1996 in the receipt of one or more retirement benefits by health status. Those few who were in fair or poor health were slightly less likely to receive employer pension benefits than were those with better health, but they were slightly more likely to receive Social Security benefits (Table 10). Remember that this is a non-representative sample of those who define their health as fair or poor, since all of them were working in 1992, and 63 per cent of them were still working in 1996.

ii) Self-employment status

56. Considerable research has shown that self-employed and wage-and-salary workers have different transition routes into retirement. The self-employed generally work more hours per year, and are slower

29. In the multivariate work below, we experiment with three different health measures, including this one.

to leave full-time work, career work and the labour force.³⁰ These differences are seen in Table 11. Only 15 per cent of those who were self-employed in 1992 had stopped working by 1994, compared to nearly 19 per cent of the wage and salary workers. By 1996, the difference had widened to 23 versus 33 per cent.

57. Among those who did stop working, the formerly self-employed were less likely to be receiving retirement benefits. The reason is that the self-employed are less likely to have pension coverage than are wage-and-salary workers. In 1996, only 18 per cent of the formerly self-employed were receiving employer pension benefits, compared to 44 per cent of former wage-and-salary workers. Not surprisingly, the receipt of Social Security benefits was almost exactly the same for the two groups (nearly 60 per cent). It is interesting to note that among those still working, the receipt of pension benefits is much less common than among those no longer employed (as expected), but about the same among self-employed and wage-and-salary workers. The explanation may be that, among the self-employed, these pension rights were earned on prior (perhaps wage-and-salary) jobs. The pension benefits described here are not necessarily linked to the 1992 job.

iii) Part-time status

58. The vast majority (78 per cent) of our sample worked full-time (more than 1600 hours per year) in 1992 (Table 12). The minority who were working part-time in 1992 were significantly more likely to stop working by 1994 (25 versus 16 per cent) and by 1996 (38 versus 29 per cent), suggesting that, for some, this part-time work may have been an intermediate stop on the way out of the labour market. Of the part-timers who did stop working, 31 per cent were receiving pension benefits (probably earned on an earlier full-time job), compared to 44 per cent of those who left a full-time job.

59. It is interesting to note that among those still working, part-timers are more likely to be receiving pension benefits while they work than are those still employed full-time. Many of these are workers who have left their career jobs, took their pensions, but continued to work part-time, usually on a new job. As noted above, the combination of earnings and retirement benefits, and the use of bridge jobs between career employment and complete labour force participation are very common in the United States.

iv) Education level

60. The expected impact of different education levels on retirement behaviour is ambiguous. Higher educational attainment will be correlated with higher wages, which, other things equal, would suggest a higher opportunity cost of stopping work. But other things will not be equal. Those with more education are more likely to be in jobs with pension coverage and generous pension benefits (permitting them to leave the job and perhaps the labour market), but also in attractive jobs with more non-pecuniary benefits (inducing them to stay, even if they can afford to leave).

61. The simple cross-tabulations in Table 13 suggest that retirement rates decline with level of education. While 36 per cent of those without a high school degree had stopped work by 1996, only 31 per cent of those with a high school degree and only 26 per cent of those with a college degree had left. The same pattern by education level is observed in 1994.

30. For more detail on the retirement patterns of self-employed versus wage-and-salary workers, see Quinn, Burkhauser and Myers (1990), chapters 5 and 6.

62. Holding work status constant, the receipt of retirement benefits generally rose with level education, because of superior pension coverage. Among those no longer working in 1996, for example, only 32 per cent of those in the lowest educational group received pension benefits, compared to 38 per cent of the high school graduates, and 62 per cent of the college graduates. The same pattern is observed, although with smaller differences, among those still employed in 1996.

v) Pension status

63. Employer pensions play a very important role in the retirement decisions of many older Americans, especially those who have defined-benefit plans, which can impose significant financial penalties on workers who remain on the career job too long. In this section, we determine the pension eligibility status of our sample as of 1996, with respect to their 1992 jobs. (They might also be eligible for pension benefits from earlier jobs.) We expect that those eligible to receive defined-benefit pension income (from their 1992 jobs) by 1996 will be the most likely to have left the labour force by then, those eligible for a defined-contribution benefit the next most likely, and those not eligible (either because they do not participate in a plan, or do but have not yet reached the age of eligibility) the least likely.

64. In Table 14, we find just these patterns in 1996. Of those eligible in a defined-benefit plan, 43 per cent had stopped working by 1996, compared to about one-third of those with defined-contribution eligibility, and only about one-quarter of those not eligible on their 1992 jobs. Retirement income receipt is consistent. Of those eligible for pension benefits and no longer working, over 80 per cent were receiving some combination of employer pension and Social Security benefits, compared to less than 25 per cent of those eligible but still working. Those not eligible from their 1992 jobs were less likely to be receiving pension benefits, although some were (13 per cent of those still working, and 23 per cent of those no longer working), presumably from prior jobs.

vi) Marital status

65. Of our sample of workers, about three-quarters were married in 1992. The cross-tabulations in Table 15 suggest little or no differences in retirement behaviour by marital status -- married individuals were slightly less likely to stop working by 1994 (17 versus 21 per cent) and by 1996 (31 versus 33 per cent). Holding work status constant, there was also very little difference by marital status in retirement income receipt in 1996 (Table 15, bottom)³¹.

vii) Spouse's employment status

66. Half of our working sample had a spouse who was also working in 1992, and the other half did not (23 per cent were not married, and the others had a spouse who was not employed in 1992.) As seen in Table 16, spouse's employment status had only a modest effect on labour force participation at best. Those with a working spouse in 1992 seemed to be slightly more likely to be working two and four years

31. In the 1994 data, when the sample was aged 57 to 63, married people who had stopped working were less likely to be receiving retirement benefits (Social Security and employer pensions) than were nonmarried retirees (Table 13, top). There may be a gender issue here. Married women may be retiring disproportionately, relying on the earnings or retirement income of their husbands, which would not show up in this table. Two years later, more of these women would have been eligible for their own Social Security benefits, and the difference disappears.

later -- 84 versus 80 per cent in 1994, and 71 versus 67 per cent in 1996 -- suggesting that spouses may try to time retirement together.

viii) Dependent children

67. In Table 17, we observe that less than 10 per cent of these workers had dependent children, defined here as children under the age of 18 who reside in the home. Those who did, however, were slightly less likely to stop working by 1994 (14 versus 19 per cent), or by 1996 (28 versus 33 per cent). This probably reflects the financial burdens associated with dependent children, such as anticipated college tuition payments.

ix) Home ownership

68. If home ownership is a proxy for wealth, and leisure is viewed as a normal good, one would expect that those who do own their home, *ceteris paribus*, would be more likely to be able to afford retirement. As seen in Table 18, however, there is no strong evidence that this is the case. Those who did not own a home in 1992 were 4 percentage points more likely to stop working (21.6 versus 17.4 per cent.) By 1996, however, this small difference was reversed, and those with a home were slightly more likely to have stopped work. Home ownership may be picking up the effect of correlated variables, as it can in a simple cross-tabulation. Perhaps, for example, those who own homes are also more likely to have attractive jobs (and therefore less likely to leave) or jobs with generous pension benefits (and therefore more likely to leave).

8. Multivariate analysis

Multinomial Logit Results

69. The cross-tabulations above suggest that transition probabilities out of the labour force and the receipt of particular retirement incomes do vary by demographic and economic characteristics. These simple cross-tabulations, however, reflect the impact of a particular variable, plus the impact of any other correlated variables. Multivariate statistical techniques are needed to discern the effects of each variable, holding the impacts of the other variables constant.

70. In this section, multinomial logit estimation is used to examine the determinants of three types of transitions for those employed in 1992:

- working or not working in 1996;
- working full time, working part time or not working in 1996 (for the subsample working full time in 1992);
- working or not working and the receipt of particular retirement income sources by 1996.

71. We expect that both demographic variables (such as age, gender, race, health status, marital status, and education level) and economic variables (such as wage rate, wealth, self-employment status, part-time status, tenure, occupation, and spouse's wage and work status) will be significant transition determinants.

i) Employed or not employed by 1996

72. By 1996, about 30 per cent of those employed in 1992 had stopped working. Table 19 shows the logit coefficients and the t-statistics of our list of explanatory variables for the decision to work or not to work in 1996. Since the magnitudes of the coefficients in Table 19 have no obvious interpretation, we also calculate the marginal impact of each explanatory variable -- the *change in the probability* of moving from employment in 1992 to non-employment by 1996, given a one-unit change in each in each of the explanatory variables. In this thought experiment, we hold the other explanatory variables at their sample means. For continuous variables, the marginal effects are calculated with the independent variable evaluated at its sample mean. For dichotomous variables, we change the value from zero to one.

73. The results are generally very reasonable. As expected, a health condition that limits the type or amount of work the individual can do significantly increases the probability (by 12 percentage points) that the person is no longer working by 1996.³² Age is also key. Compared to those aged 65 in 1996 (the reference category), those less than 62 (and therefore younger than the earliest age of Social Security eligibility) are much less likely to have ceased employment ; that is, more likely to still be working, by about 23 points. At ages 62 to 64, the coefficient is still highly significant, but the marginal impact (again, relative to age 65) drops to -10 points. These large age differentials are consistent with aggregate labour force participation statistics, and reflect the impact of Social Security eligibility on the retirement decision.

32. We find similar results with two others measures of health status. These results are discussed below.

74. All things being equal, women employed in 1992 were about 7 percentage points more likely to have stopped working by 1996, and men or women with dependent children (at least one under 18 at home) were about 3.5 points less likely to stop than those without dependent children. There is no evidence here of significant differences by race or marital status.

75. Among the economic variables, the decision to stop working by 1996 appears to be influenced modestly by home ownership. Those who own their homes are slightly more likely to stop working (by 4 percentage points), probably because they are more likely to be able to afford it. It is interesting to note that a broader measure of wealth in 1992 is statistically insignificant, as is the individual's wage on the 1992 job.³³ Years of education have a statistically significant negative effect, implying that highly educated people are more likely to continue working. This variable may reflect non-pecuniary aspects of the job -- highly educated individuals may be more likely to enjoy their work.

76. The coefficient on the spouse's labour force status in 1992 is interesting. As noted in the cross-tabulation above, those with working spouses are slightly less likely to retire (by 4 percentage points, according to the logit estimates), other things equal, suggesting that spouses may tend to retire together. On the other hand, the higher the spouse's wage, the more likely the individual is to have stopped work by 1996 -- a typical income effect, and one here that is almost statistically significant.

77. Several other aspects of the 1992 job are important. As suggested by the literature, the self-employed are considerable less likely to stop working -- about 9 percentage points less at the point of means. Those already working part time in 1992 are 10 points more likely to have stopped, and those eligible to receive a defined-benefit employer pension are significantly less likely to remain employed (16 points). The coefficient for eligibility for benefits from a defined-contribution plan is smaller (4 points) and not quite significant³⁴.

78. Some workers would lose their employee-sponsored health insurance if they left the firm. Others would suffer no such loss, either because their firm offers post-retirement health insurance, because they have coverage from some other source (for example, a spouse's plan or (after age 65) Medicare), or because they have no employer health insurance to lose. Recent research suggests that the availability of health insurance can affect the individual retirement decision (Madrian 1994; Gruber and Madrian 1995).

79. We have defined a dummy variable designating those who would lose health coverage if they left the firm; i.e., they have coverage now and would have none if they left. This turns out to be an important predictor of the employment choice. Those who would lose coverage are 10 points more likely to remain employed in 1996, and the coefficient is highly significant.

33. This wealth variable excludes the value of the individual's home. It includes the value of other real estate and property, stocks, bonds, checking and savings accounts and other assets (excluding life insurance.)

34. Wage rates are often found to be insignificant in retirement equations. One plausible hypothesis is that the wage rate is picking up its own effect (high wage people are more likely to keep working) and the impact of the generosity of retirement benefits (which are positively correlated with the wage rate and which would induce workers out of the labor force, other things equal.) When direct measures of the size of potential employer pension benefits are unavailable, the two effects may cancel out. See Quinn, Burkhauser and Myers (1990), p. 65.

35. When the pension eligibility variable is entered as a single dummy, without the defined-benefit versus defined-contribution distinction, the coefficient is large (12 points) and highly significant. The disaggregation in Table 19 suggests that most of the effect is from the defined-benefit subset -- those likely to suffer an surreptitious pay cut if they remain on their current jobs past the age of eligibility.

80. Those in white collar or high-skilled blue collar jobs are slightly (3 to 5 points) more likely to keep working than those in low-skill blue-collar jobs (the reference category), holding other aspects of the job, including pension eligibility constant, suggesting again that the non-pecuniary aspects of employment may be important.

81. We also experimented with a number of specific job characteristics, including whether or not the job offered the opportunity to interact with people, to learn new things or to have friendly work mates and whether the job required physical effort. With one exception (those who interacted with people were significantly more likely to keep working until 1996; the point estimate was 5 percentage points), these coefficients were far from statistical significance. Although these variables were in the logit equation reported in Table 19, the job characteristics coefficients are excluded.

82. Because of the special importance of health status, we experimented with three difference health specifications, all based on 1992 status:

- a simple dummy indicating that the respondent reports a health condition that limits the type or amount of work he or she can do (as in Table 19);
- a three-way variable summarising self-reported health as either excellent or very good, good, or fair or poor (as in Table 10);
- a set of dummy variables based on the respondent's self-reported ability to perform a number of daily living tasks that might be difficult for someone with a health problem.³⁵ Those who reported difficulties were then asked if they had a little (ANY) or a lot (LOT) of difficulty. We then created variables based on whether the respondent reported 0, 1 to 5, 6 to 10, or 11 to 17 of these problems, for both the ANY and the LOT characterisation³⁶.

83. All three specifications confirmed that health status is important, even in this subsample of relatively healthy people employed in 1992. The dichotomous specification included in Table 20 suggests an increase in the probability of being out of employment by 1996 of 12 points, based on a coefficient that is highly significant. In the second specification, those with excellent or good health were 6 points less likely to leave employment by 1996 than were those in good health (the reference category), and those with self-reported poor or fair health were 10 points more likely to leave than those with good health. Again, both of the coefficients are statistically significant. In the third specification, based on the activities of daily living (ADL), the higher the number of problems reported, the higher the probability of departure from the labour force, with four of the six coefficients statistically significant. For the ANY ADL variables, the change in probability rose from 2 points (for 1 to 5 problem areas reported) to 33 points (for 11 or more.) For the more serious indications of a LOT of difficulty, the estimates rose from 6 points (for 1 to 5 problem areas) to 41 points (for 11 or more).

36. Tasks included the ability to run or jog a mile, sit for two hours, climb several flights of stairs, lift or carry weights over 10 pounds, pick up a dime from a table, dress, eat or bathe without help, and pull or push large objects like a living room chair. There were 17 tasks in all.

37. About a quarter (23 per cent) of the sample who were employed in wave I and who were interviewed in all three waves reported that they had no difficulty in performing any of the 17 tasks. Another 65 per cent reported some difficulty with 1 to 5 of the tasks, and much smaller percentages reported difficulty with 6 to 10 (10 per cent) and 11 or more tasks (2 per cent.) More than half (54 per cent) reported that they did not have a *lot of difficulty* with any of the tasks, and smaller percentages than above reported a lot of difficulty with 1 to 5 (43 per cent), 6 to 10 (3 per cent) and 11 or more (0.4 per cent) of the tasks.

ii) Employed full time, employed part time or not employed by 1996

84. Nearly 80 per cent of those respondents working in 1992 were employed full time. We duplicated the equation in Table 19 using this full-time subsample, and the results were almost identical, and therefore are not repeated here. In addition, however, we asked whether those working full time in 1992 and were still working full time in 1994 (58 per cent were), were working part time in 1996 (less than 1600 hours per year -- 12 per cent were), or were not employed (the remaining 30 per cent). The logit results and marginal impacts shown in Table 21 suggest that some of these explanatory variables influence not only the work/not work choice, but also the full time/part time decision. Despite some statistical significance, however, the sizes of the marginal impacts on the part-time decision are generally small.

85. The probability of moving to part-time work increases substantially with age. Compared to those aged 65 in 1996, those aged less than 62 (and therefore ineligible for Social Security old-age benefits) were about 8 points less likely to move to part-time status; those aged 62 to 64 in 1996 were 6 points less likely (Table 21; next to last column.) Those with dependent children (and the attendant financial burdens) were more likely to remain full time (+6 points), and less likely either both to stop work (-4) or to move to part-time status (-2). Those who owned a home were more likely to stop work (+3) or to drop to part time (+3).

86. We saw above that those self-employed in their 1992 jobs were more likely to keep working through 1996. The results in Table 21 show that, among the full-time self-employed, this is about equally divided between remaining full-time (+7) and dropping to part-time hours (+5), an option that few wage-and-salary workers have on their career jobs. This reflects the flexibility that the self-employed have in setting their own hours.

87. The coefficients on the pension variables suggest that those who became eligible for defined-benefit employer pension benefits by 1996 were more likely to stop work (as we saw in Table 19) and also more likely to move to part-time. This is a reasonable result. Although many pension plans encourage workers to leave the firm at a particular age, few have any restrictions on subsequent employment elsewhere, which is often part time. The estimate of the marginal impact, however, suggests that this effect, even if statistically significant, is small (about 1 percentage point.) The same can be said for the health insurance variable. Losing health insurance with departure from the 1992 job decreases both the probability of leaving employment altogether (-10 points) and the probability of moving to another job part-time (-2 points.)

88. The occupational coefficients indicate that the groups most likely to move to part-time status are those at the ends of the socio-economic scale -- high-skilled, white-collar workers, and low-skilled blue-collar workers. These may be those who want to and have to continue working, respectively.

iii) Employment status and receipt of particular retirement income sources by 1996

89. In this section, we combine labour supply decision with the receipt of specific retirement income sources, analyse the transitions of all those employed in 1992 into five exhaustive and mutually exhaustive states:

- still working in 1996 (69 per cent);
- not working in 1996, and receiving Social Security but not pension benefits (10 per cent);

- not working in 1996, and receiving pension but not Social Security benefits (4 per cent);
- not working in 1996, and receiving both Social Security and pension benefits (8 per cent);
- not working in 1996, and receiving neither pension nor Social Security benefits (9†per cent).

90. The parameters of the model were estimated such that the comparison group contains those individuals who were still working in 1996 (state 1); the logit coefficients then reflect the probability of being in one of the other (non-working) transition states (2 through 5), relative to state 1.

91. Coefficient estimates and t-statistics are found in Table 22 for the four alternative states (2 through 5), with the marginal impacts (which sum to 1) for all 5 states in Table 23. Significant determinants of these transitions include health status, age, gender, education level, pension eligibility, and self-employed status, part-time status and occupation and industry on the 1992 job. These results are discussed below.

92. Health played an important role in determining if a transition occurred. Those with a health condition limiting the type or amount of work they can do were more likely to be in all of these "not-employed" states -- all four coefficients are positive, and three of the four are significantly so.³⁷ The marginal impacts suggest that those in poor health were not much more likely to be receiving a pension, but rather to be receiving Social Security alone or neither Social Security nor a pension.

93. As expected, age is also an important determinant of these transitions, although the relationships are complicated because of the two dimensions (working versus no working, and receipt of certain income sources) that are combined in these transitions states. Younger individuals (less than 62 in 1996, and therefore ineligible for Social Security old-age benefits) were significantly more likely to be working in 1996, and if they did stop working, they were less likely to be receiving Social Security benefits, either alone (state 2) or with a pension (state 4). For states 3 and 5, in contrast, the coefficients for the younger ages are positive, not because younger people are more likely to have stopped working, but because of those who have, the younger ones are more likely to be receiving no retirement benefits or employer pension benefits only. The latter reflects the diversity of eligibility ages in employer pension plans.

94. The gender coefficients are sensible, given the lower pension coverage rates of women in the United States. Of those in the sample who were no longer employed in 1996 (states 2 through 5), women were significantly more likely to be receiving either no retirement benefits (+4 percentage points; Table 23, column 5) or Social Security benefits alone (+4; Table 23, column 2). The coefficients for the two "pension" states were negative, although not statistically significant (Table 22, columns 3 and 4.) These gender coefficients reflect that near universality of Social Security coverage (in contrast to employer pensions), and the fact that some of these Social Security benefits may be survivor benefits, the majority of which go to women.

95. Race, marital status, and the presence of a child at home under the age of 18 were generally not significant determinants of the retirement income transitions examined in this model.

38. It should be remembered that the true impact of health on the retirement decision is undoubtedly greater than is observed here, since the sample for this study consists of individuals working in 1992. Even if these individuals indicated poor health in 1992, this health condition did not prevent them from working then. Had health in 1992 been sufficiently poor to prevent them from working, they would not have been part of our sample.

96. Among the economic determinants, pension eligibility plays an obvious role, again with larger impacts for defined-benefit eligibility. Those who became eligible to receive defined-benefit income by 1996 were significantly less likely to remain working (-12 points; Table 23, last column), and more likely to retire with either pension alone (+5) or with a pension and Social Security benefits (+7). The magnitudes are smaller and less significant for defined-contribution plans.

97. The self-employed are less likely to be in any of the retirement states (over 7 percentage points more likely to be working in 1996), with all of the coefficients either significant or nearly so. Part-time workers in 1992 are more likely than full-time employees to be in all of the 1996 retirement states, and all of the coefficients are statistically significant. The receipt of pension benefits by these part-time workers suggests that many were former full-time employees, who had already begun the withdrawal process by 1992 by moving to bridge jobs.

98. Surprisingly, wages and wealth in 1992 were generally not significant in these transition equations, nor were the work characteristics of the spouse. Spouse's work status in 1992 was insignificant in all the state equations.

9. Conclusions

99. As is the case for most industrialised nations, the United States has enjoyed a long, steady post-war decline in male retirement ages, the result of increasing national wealth and the desire to spend some of it on increased leisure late in life. The combination of this early retirement trend, increased life expectancy and the dramatic ageing of the U.S. population expected early next century, however, has given Americans pause, and prompted questions about the ability of the nation to support an increasing number of retirees.

100. The United States has initiated a number of policy changes designed to counteract the early retirement trend, and to encourage older workers to remain in the labour force. Mandatory retirement was first delayed from age 65 to age 70, and then eliminated altogether for the vast majority of American workers. Social Security rules are being changed to eliminate financial incentives that used to penalise those who stayed at work too long, and the age of eligibility for normal Social Security retirement benefits is about to increase from 65 to 66, and then to 67. In the private sector, the importance of defined-contribution employer pension plans is increasing. Defined-contribution plans do not have the strong age-specific retirement incentives that many of the traditional defined-benefit plans do. Finally, a vibrant American economy and strong demand for labour has broadened the options of older workers who want to remain employed.

101. The net result of these factors -- proactive policy change and a strong economy -- has been the demise of the post-war early retirement trend in the United States. After decades of decline, the labour force participation rates of older Americans have been flat or increasing since 1985. Many more older citizens are employed today than the pre-1985 trends would have predicted.

102. In this paper, we used the first three waves (1992, 1994 and 1996) of the new Health and Retirement Survey (HRS) to analyse the correlates of retirement in the United States, as well as the receipt of certain important sources of retirement income. Our primary sample consists of about 3,200 men and women who were aged 55 to 61 and working during the initial survey (1992), and who were re-interviewed in waves 2 and 3.

103. By 1996, four years later, nearly one-third of this working population had left the labour force, slightly higher for women than for men. As expected, there were important differences in the retirement rates by age, with significant jumps at key ages in Social Security and employer pension rules (60, 62 and 65.)

104. The most important income sources for those who left the labour force were Social Security and employer pension benefits. We noted, however, that these income sources were also important (although less so) for older Americans who continued to work. (Among those aged 62 to 64 and still employed in 1996, for example, more than a quarter were receiving Social Security benefits and nearly one-fifth were receiving employer pension benefits. At age 65, nearly 60 per cent of the employed were Social Security beneficiaries, and over one-quarter were receiving employer pension benefits.) Many elderly in the United States combine earnings and "retirement" benefits, and those who do so are unlikely to be poor. Unlike in many European nations, workers' compensation benefits, unemployment insurance benefits and welfare payments (e.g., Supplemental Security Income) are inconsequential in the aggregate income of the elderly, retired or otherwise.

105. In the multivariate section of the report, using our sample of individuals employed in 1992, we analysed a dichotomous retirement decision (in or out of employment in 1996), a trichotomous labour supply decision (working full time, working part time, or not working in 1996) and a five-way decision model involving labour supply and the receipt of Social Security and/or employer pension benefits in 1996.

106. Many of the variables highlighted in the OECD work-plan turned out to be very important correlates of the labour supply decisions of the elderly, both in the simple cross-tabulations and in the multivariate logit equations. For example, fair or poor health, or the presence of a health condition that limited the type or amount of work a person could do, were highly correlated with labour force departure, as was age. Gender had a modest effect on the probability of retirement, with women slightly more likely to leave the labour force, other things equal. Self-employed workers were less likely to stop working than were wage and salary employees, and those already working part time in 1992 were more likely than full-time workers to leave employment completely by 1996. This suggests that some workers may use a stint of part-time employment (a bridge job) between full-time career jobs and complete labour force withdrawal. Although this phenomenon is not the focus of this research, there is a large literature in the United States that indicates that these non-traditional labour market exit routes are very important.

107. Several financial factors also appear to be influential. Home owners were more likely to retire, *ceteris paribus*, and those with dependent children were less so. Those with working spouses were less likely to stop working (suggesting that some spouses may want to co-ordinate their retirement decisions), but among those with working spouses, the higher the spouse's wage, the higher was the probability of retirement -- a traditional income effect. Both pension eligibility (especially for a defined-benefit pension, the type that often contains strong age-specific financial incentives to retire) and the availability of post-retirement health insurance influenced the decision to retire.

108. Many of the same factors were important in the three-way analysis, which focused on the 80 per cent of the individuals in the sample who were working full time in 1992. In this analysis, we differentiated between full-time work, part-time work and no work in 1996. The probability of working part time increased with age, home ownership and wealth, and eligibility for defined-benefit pension benefits, and declined with the presence of dependent children and the loss of health insurance with departure from the 1992 job. The pension result is particularly interesting, since many defined-benefit pensions discourage work on that specific job after a particular year, but do not penalise those who choose to continue working elsewhere. Many Americans switch to new part-time jobs when their pension

incentives dictate. However, while these effects were often significantly different from zero, they were usually small. Our models are better able to predict the work vs. no work decision than the decision to work full-time vs. part-time.

109. In the final section, we asked what determined the receipt of Social Security benefits, employer pension benefits, both or neither, for those who were out of the labour force in 1996. The comparison group is those who were still working in 1996.

110. Again, many of same variables were significant, and in the expected directions. Health played an important role in predicting transitions. Those with poor health were more likely to be in all of the "not-employed" states, but were not more likely to be receiving a pension. Younger individuals were more likely to remain working in 1996 (the comparison category), and if they did stop working, they were less likely to be receiving Social Security benefits. Women and the self-employed who had left the labour force were less likely than men to be receiving pension benefits -- no surprise given the lower pension coverage of these groups in the United States.

111. The United States provides an interesting case study. Its long trend toward earlier and earlier retirement ended in 1985, and the labour force participation rates of older workers have actually increased somewhat since then. It is not known how much of this is due to specific policy initiatives and how much to the strength of the overall economy. The microeconomic analysis in this paper shows that individual retirement decisions are not random, but rather depend on the variables that economic theory (and common sense) would indicate. Some of these variables can be altered by public policy, suggesting that future retirement trends, like those in the past, are not immutable.

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Table 1: Derivation of Sample of those in Waves 1, 2, and 3
Aged 55-61 and Working in 1992

	Less than 54	Age in 1992							62 +	(55-61)	TOTAL
		55	56	57	58	59	60	61			
In Wave 1	5318 (42%)	952 (8%)	881 (7%)	865 (7%)	891 (7%)	793 (6%)	858 (7%)	778 (6%)	1316 (10%)	6018	12652 (100%)
In Waves 1 & 2	4849 (42%)	861 (7%)	806 (7%)	793 (7%)	810 (7%)	716 (6%)	787 (7%)	712 (6%)	1158 (10%)	5485	11492 (100%)
In Waves 1, 2 & 3	4404 43%	766 (7%)	735 (7%)	716 (7%)	732 (7%)	638 (6%)	697 (7%)	638 (6%)	990 (10%)	4922	10316 (100%)
In Waves 1 & 2											
Not Working in Wave	1222 (32%)	255 (7%)	245 (6%)	256 (7%)	289 (8%)	251 (7%)	319 (8%)	307 (8%)	685 (18%)	1922 (50%)	3829 (100%)
Working in Wave 1	3627 (47%)	606 (8%)	561 (7%)	537 (7%)	521 (7%)	465 (6%)	468 (6%)	405 (5%)	473 (6%)	3563 (46%)	7663 (100%)
Percent Working	(75%)	(70%)	(70%)	(68%)	(64%)	(65%)	(59%)	(57%)	(41%)	(65%)	(67%)
Of Those In Waves 1 and 2 And Working in 1992											
Males	1484 39%	303 8%	302 8%	301 8%	274 7%	240 6%	257 7%	223 6%	407 11%	1900 50%	3791 100%
Females	2143 55%	303 8%	259 7%	236 6%	247 6%	225 6%	211 5%	182 5%	66 2%	1663 44%	3872 100%
In Waves 1, 2 & 3											
Not Working in Wave	1072 (32%)	222 (7%)	219 (7%)	229 (7%)	250 (8%)	218 (7%)	275 (8%)	267 (8%)	572 (17%)	1680 (50%)	3324 (100%)
Working in Wave 1	3332 (48%)	544 (8%)	516 (7%)	487 (7%)	482 (7%)	420 (6%)	422 (6%)	371 (5%)	418 (6%)	3242 (46%)	6992 (100%)
Percent Working	(76%)	(71%)	(70%)	(68%)	(66%)	(66%)	(61%)	(58%)	(42%)	(66%)	(68%)
Of These In Waves 1, 2 and 3 And Working in 1992											
Males	1347 (39%)	274 (8%)	268 (8%)	265 (8%)	257 (8%)	214 (6%)	229 (7%)	204 (6%)	359 (11%)	1711 (50%)	3417 (100%)
Females	1985 (56%)	270 (8%)	248 (7%)	222 (6%)	225 (6%)	206 (6%)	193 (5%)	167 (5%)	59 (2%)	1531 (42%)	3575 (100%)

Source: HRS, Waves 1,2, and 3.

Table 2: **Employment Status and Receipt of Selected Income Sources, 1994, 1996**
(Number and percentage)

	Sample Size (vert. %)	Social Security Retirement Benefits	Social Security Disability Benefits	Social Security Other Benefits	Some Social Security Benefits	Pension Benefits	Veterans Benefits	Some Benefits
Still Working in 1994	2919 (82%)	70 (2.4%)	4 (.1%)	38 (1.3%)	111 (3.8%)	225 (7.7%)	68 (2.3%)	359 (12.3%)
No Longer Working in 1994	644 (18%)	88 (13.7%)	27 (4.2%)	16 (2.5%)	129 (20.0%)	169 (26.2%)	15 (2.3%)	242 (37.6%)
	3563 (100%)	158 (4.4%)	31 (0.9%)	54 (1.5%)	240 (6.7%)	394 (11.1%)	83 (2.3%)	601 (16.9%)
Still Working in 1996	2230 (69%)				341 (15.3%)	315 (14.1%)	100 (4.5%)	605 (27.1%)
No Longer Working in 1996	1012 (31%)				591 (58.4%)	411 (40.6%)	56 (5.5%)	747 (73.8%)
	3242 (100%)				932 (28.7%)	726 (22.4%)	156 (4.8%)	1352 (41.7%)

Source: HRS, Waves I-III

Table 3: **Employment Status and Receipt of Selected Income Sources, 1994, 1996**
Males by Work Status in 1994, 1996
(number and percentage)

	Sample Size (vert. %)	Social Security Retirement Benefits	Social Security Disability Benefits	Social Security Other Benefits	Some Social Security Benefits	Pension Benefits	Veterans Benefits	Some Benefits
Still Working in 1994	1582 (83%)	35 (2.2%)	2 (.1%)	2 (.1%)	39 (2.5%)	162 (10.2%)	59 (3.7%)	233 (14.7%)
No Longer Working in 1994	318 (17%)	54 (17%)	17 (5.4%)	0 0%	70 (22%)	113 (35.5%)	13 (4.1%)	147 (46.2%)
	1900 (100%)	89 (4.7%)	19 (1.0%)	2 (0.1%)	109 (5.7%)	275 (14.5%)	72 (3.8%)	380 (20.0%)
Still Working 1996	1233 (72%)				167 (13.5%)	221 (17.9%)	89 (7.2%)	374 (30.3%)
No Longer Working in 1996	478 (28%)				289 (60.4%)	240 (50.2%)	48 (10%)	381 (79.7%)
	1711 (100%)				456 (26.7%)	461 (26.9%)	137 (8.0%)	755 (44.1%)

Source: HRS, Waves I-III

Table 4: **Employment Status and Receipt of Selected Income Sources, 1994, 1996**
Females, by Work Status in 1994, 1996
(number and percentage)

	Sample Size (vert. %)	Social Security Retirement Benefits	Social Security Disability Benefits	Social Security Other Benefits	Some Social Security Benefits	Pension Benefits	Veterans Benefits	Some Benefits
Still Working in 1994	1337 (80%)	35 (2.6%)	2 (.2%)	36 (2.7%)	72 (5.4%)	63 (4.7%)	9 (.7%)	126 (9.4%)
No Longer Working in 1994	326 (20%)	34 (10.4%)	10 (3.1%)	16 (4.9%)	59 (18.1%)	56 (17.2%)	2 (.6%)	95 (29.1%)
	1663 (100%)	69 (4.1%)	12 (0.7%)	52 (3.1%)	131 (7.9%)	119 (7.2%)	11 (0.7%)	221 (13.3%)
Still Working in 1996	997 (65%)				174 (17.4%)	94 (9.4%)	11 (1.1%)	231 (23.1%)
Not Working in 1996	534 (35%)				302 (56.5%)	171 (32.%)	8 (1.5%)	366 (68.5%)
	1531 (100%)				476 (31.1%)	265 (17.3%)	19 (1.2%)	597 (39.0%)

Source: HRS, Waves I-III

Table 5: **Employment Status and Receipt of Selected Income Sources, 1994, 1996**
Individuals aged 57-59 in 1994
by Work Status in 1994
And aged 59 in 1996
by Work Status in 1996
(number and percentage)

	Sample Size (vert. %)	Social Security Retirement Benefits	Social Security Disability Benefits	Social Security Other Benefits	Some Social Security Benefits	Pension Benefits	Veterans Benefits	Some Benefits
Aged 57-59 in 1994								
Still Working in 1994	1788 (87%)	3 (.2%)	4 (.2%)	8 (.5%)	15 (.8%)	113 (6.3%)	32 (1.8%)	150 (8.4%)
No Longer Working in 1994	272 (13%)	2 (.7%)	16 (5.9%)	4 (1.5%)	21 (7.7%)	63 (23.2%)	4 (1.5%)	78 (28.7%)
	2060 (100%)	5 (0.2%)	20 (1.0%)	12 (0.6%)	36 (1.7%)	176 (8.5%)	36 (1.7%)	228 (11.1%)
Aged 59 in 1996								
Working in 1996	466 (82%)				1 (.2%)	30 (6.4%)	12 (2.5%)	41 (8.8%)
No Longer Working in 1996	104 (18%)				14 (13.4%)	31 (29.8%)	3 (2.8%)	41 (39.4%)
	570 (100%)				15 (2.6%)	61 (10.7%)	15 (2.6%)	82 (14.4%)

Source: HRS, Waves I-III

Table 6: **Employment Status and Receipt of Selected Income Sources 1994, 1996**
Individuals aged 60-61 in 1994
by Work Status in 1994
And aged 60-61 in 1996
by Work Status in 1996

	Sample Size (vert. %)	Social Security Retirement Benefits	Social Security Disability Benefits	Social Security Other Benefits	Some Social Security Benefits	Pension Benefits	Veterans Benefits	Some Benefits
Aged 60-61 in 1994								
Still Working in 1994	748 (79%)	16 (2.1%)	0 (.%)	18 (2.4%)	34 (4.6%)	64 (8.6%)	27 (3.6%)	113 (15.1%)
No Longer Working in 1994	201 (21%)	18 (9.%)	9 (4.5%)	8 (4.%)	35 (17.4%)	57 (28.4%)	7 (3.5%)	76 (37.8%)
	949 (100%)	34 (3.6%)	9 (0.9%)	26 (2.7%)	69 (7.3%)	121 (12.8%)	34 (3.6%)	189 (19.9%)
Aged 60-61 in 1996								
Still Working in 1996	774 (78%)				19 (2.4%)	90 (11.6%)	36 (4.6%)	126 (16.2%)
No Longer Working in 1996	222 (22%)				37 (16.6%)	80 (36.%)	9 (4.1%)	110 (49.5%)
	996 (100%)				56 (5.6%)	170 (17.1%)	45 (4.5%)	236 (23.7%)

Source: HRS, Waves I-III

Table 7: **Employment Status and Receipt of Selected Income Sources 1994, 1996**
Individuals aged 62-63 in 1994
by Work Status in 1994
And aged 62-65 in 1996
by Work Status in 1996
(number and percentage)

	Sample Size (vert. %)	Social Security Retirement Benefits	Social Security Disability Benefits	Social Security Other Benefits	Some Social Security Benefits	Pension Benefits	Veterans Benefits	Some Benefits
Aged 62-63 in 1994								
Still Working in 1994	383 (69%)	51 (13.3%)	0 (.)	12 (3.1%)	62 (16.2%)	48 (12.5%)	9 (2.4%)	96 (25.1%)
No Longer Working in 1994	171 (31%)	68 (39.8%)	2 (1.2%)	4 (2.3%)	73 (42.7%)	49 (28.7%)	4 (2.3%)	88 (51.5%)
	554 (100%)	119 (21.5%)	2 (0.4%)	16 (2.9%)	135 (24.4%)	97 (17.5%)	13 (2.3%)	184 (33.2%)
Aged 62-64 in 1996								
Still Working in 1996	816 (62%)				220 (26.9%)	148 (18.1%)	43 (5.3%)	325 (39.8%)
No Longer Working in 1996	503 (38%)				373 (74.1%)	212 (42.1%)	32 (6.4%)	425 (84.5%)
	1319 (100%)				593 (45.0%)	360 (27.3%)	75 (5.7%)	750 (56.9%)
Aged 65 in 1996								
Still Working in 1996	174 (49%)				101 (58.%)	47 (27.%)	9 (5.1%)	113 (64.9%)
No Longer Working in 1996	183 (51%)				167 (91.3%)	88 (48.%)	12 (6.5%)	171 (93.4%)
	357 (100%)				268 (75.1%)	135 (37.8%)	21 (5.9%)	284 (79.6%)

Source: HRS, Waves I-III

Table 8: Receipt of Multiple Benefits in 1994
Working in 1994

	Social Security Retirement Benefits	Social Security Disability Benefits	Social Security Other Benefits	Some Social Security Benefits	Pension Benefits	Veterans Benefits	Some Benefits
Social Security Retirement Benefits	70	0	1	111	23	3	359
Social Security Disability Benefits		4	0	111	1	0	359
Social Security Other Benefits			38	111	7	2	359
Some Social Security Benefits				111	31	5	359
Pension Benefits					225	11	359
Veterans Benefits						68	359
Some Benefits							359

Not Working in 1994

	Social Security Retirement Benefits	Social Security Disability Benefits	Social Security Other Benefits	Some Social Security Benefits	Pension Benefits	Veterans Benefits	Some Benefits
Social Security Retirement Benefits	88	1	0	129	44	1	242
Social Security Disability Benefits		27	1	129	12	2	242
Social Security Other Benefits			16	129	6	0	242
Social Security Some Benefits				129	62	3	242
Pension Benefits					169	8	242
Veterans Benefits						15	242
Some Benefits							242

Source: HRS, Waves I-III

Table 9: Receipt of Multiple Benefits in 1996
Working in 1996

	Some Social Security Benefits	Pension Benefits	Veterans Benefits	Some Benefits
Some Social Security Benefits	341	119	15	605
Pension Benefits		315	23	605
Veterans Benefits			100	605
Some Benefits				605
Not Working in 1996				
	Some Social Security Benefits	Pension Benefits	Veterans Benefits	Some Benefits
Social Security Some Benefits	591	267	38	747
Pension Benefits		411	25	747
Veterans Benefits			56	747
Some Benefits				747

Source: HRS, Waves I-III.

Table 10: Receipt of Benefits, 1994, 1996
by Health Status
and Work Status in 1994, 1996

	Excellent or Very Good (56%)	Good (30%)	Fair or Poor (14%)	Total
<u>Those Still Working in 1994</u>				
	<u>1687</u> (85.1%)	<u>885</u> (81.6%)	<u>347</u> (70.1%)	<u>2919</u> (81.9%)
Social Security Benefits	60 3.6%	30 3.4%	21 6.1%	111 3.8%
Pension Benefits	132 7.8%	72 8.1%	21 6.1%	225 7.7%
Some Benefits	205 12.2%	110 12.4%	44 12.7%	359 12.3%
No Benefits	1482 87.8%	775 87.6%	303 87.3%	2560 87.7%
<u>Those No Longer Working in 1994</u>				
	<u>296</u> (14.9%)	<u>200</u> (18.4%)	<u>148</u> (29.9%)	<u>644</u> (18.1%)
Social Security Benefits	60 20.3%	37 18.5%	32 21.6%	129 20.0%
Pension Benefits	86 29.1%	55 27.5%	28 18.9%	169 26.2%
Some Benefits	116 39.2%	78 39.0%	48 32.4%	242 37.6%
No Benefits	180 60.8%	122 61.0%	100 67.6%	402 62.4%
<u>Those Still Working in 1996</u>				
	<u>1349</u> (73.5%)	<u>643</u> (66.0%)	<u>241</u> (55.0%)	<u>2233</u> (68.8%)
Social Security Benefits	200 14.8%	97 15.1%	44 18.3%	341 15.3%
Pension Benefits	207 15.3%	84 13.1%	24 10.0%	315 14.1%
Some Benefits	334 24.8%	144 22.4%	59 24.5%	537 24.0%
No Benefits	1015 75.2%	499 77.6%	182 75.5%	1696 76.0%
<u>Those No Longer Working in 1996</u>				
	<u>486</u> (26.5%)	<u>331</u> (34.0%)	<u>197</u> (45.0%)	<u>1014</u> (31.2%)
Social Security Benefits	285 58.6%	187 56.5%	119 60.4%	591 58.3%
Pension Benefits	201 41.4%	146 44.1%	64 32.5%	411 40.5%
Some Benefits	356 73.3%	241 72.8%	138 70.1%	735 72.5%
No Benefits	130 26.7%	90 27.2%	59 29.9%	279 27.5%

Source: HRS, Waves I - III

Table 11: Receipt of Benefits, 1994, 1996
by Self-employment Status
and Work Status in 1994, 1996

	Self-employed (18%)	Wage and Salary (82%)	Total
Those Still Working in 1994			
	<u>557</u> (84.7%)	<u>2362</u> (81.3%)	<u>2919</u> (81.9%)
Social Security Benefits	33 5.9%	78 3.3%	111 3.8%
Pension Benefits	42 7.5%	183 7.7%	225 7.7%
Some Benefits	77 13.8%	282 11.9%	359 12.3%
No Benefits	480 86.2%	2080 88.1%	2560 87.7%
Those No Longer Working in 1994			
	<u>101</u> (15.3%)	<u>543</u> (18.7%)	<u>644</u> (18.1%)
Social Security Benefits	17 16.8%	112 20.6%	129 20.0%
Pension Benefits	13 12.9%	156 28.7%	169 26.2%
Some Benefits	29 28.7%	213 39.2%	242 37.6%
No Benefits	72 71.3%	330 60.8%	402 62.4%
Those Still Working in 1996			
	<u>458</u> (77.0%)	<u>1775</u> (66.9%)	<u>2233</u> (68.8%)
Social Security Benefits	110 24.0%	231 13.0%	341 15.3%
Pension Benefits	62 13.5%	253 14.3%	315 14.1%
Some Benefits	140 30.6%	397 22.4%	537 24.0%
No Benefits	318 69.4%	1378 77.6%	1696 76.0%
Those No Longer Working in 1996			
	<u>137</u> (23.0%)	<u>877</u> (33.1%)	<u>1014</u> (31.2%)
Social Security Benefits	82 59.9%	509 58.0%	591 58.3%
Pension Benefits	25 18.2%	386 44.0%	411 40.5%
Some Benefits	92 67.2%	643 73.3%	735 72.5%
No Benefits	45 32.8%	234 26.7%	279 27.5%

Source: HRS, Waves I - III

Table 12: Receipt of Benefits, 1994, 1996
by Part-Time
and Work Status in 1994, 1996

	Part-time (22%)	Full-Time (78%)	Total (a)
<u>Those Still Working in 1994</u>			
	<u>587 (75.5%)</u>	<u>2293 (84.2%)</u>	<u>2880 (82.3%)</u>
Social Security Benefits	46 7.8%	62 2.7%	108 3.8%
Pension Benefits	79 13.5%	142 6.2%	221 7.7%
Some Benefits	112 19.1%	240 10.5%	352 12.2%
No Benefits	475 80.9%	2053 89.5%	2528 87.8%
<u>Those No Longer Working in 1994</u>			
	<u>190 (24.5%)</u>	<u>430 (15.8%)</u>	<u>620 (17.7%)</u>
Social Security Benefits	38 20.0%	87 20.2%	125 20.2%
Pension Benefits	41 21.6%	122 28.4%	163 26.3%
Some Benefits	68 35.8%	165 38.4%	233 37.6%
No Benefits	122 64.2%	265 61.6%	387 62.4%
<u>Those Still Working in 1996</u>			
	<u>440 (62.1%)</u>	<u>1793 (70.6%)</u>	<u>2233 (68.8%)</u>
Social Security Benefits	131 29.8%	210 11.7%	341 15.3%
Pension Benefits	93 21.1%	222 12.4%	315 14.1%
Some Benefits	177 40.2%	360 20.1%	537 24.0%
No Benefits	263 59.8%	1433 79.9%	1696 76.0%
<u>Those No Longer Working in 1996</u>			
	<u>268 (37.9%)</u>	<u>746 (29.4%)</u>	<u>1014 (31.2%)</u>
Social Security Benefits	150 56.0%	441 59.1%	591 58.3%
Pension Benefits	84 31.3%	327 43.8%	411 40.5%
Some Benefits	184 68.7%	551 73.9%	735 72.5%
No Benefits	84 31.3%	195 26.1%	279 27.5%

Source: HRS, Waves I-III

Table 13: Receipt of Benefits, 1994, 1996
by Education Level
and Work Status in 1994, 1996

	<12 Years (25%)	12-15 Years (54%)	16+ Years (21%)	Total	
<u>Those Still Working in 1994</u>					
	<u>727</u> (80.3%)	<u>1574</u> (82.0%)	<u>618</u> (83.6%)	<u>2919</u>	<u>(81.9%)</u>
Social Security Benefits	36 5.0%	53 3.4%	22 3.6%	111	3.8%
Pension Benefits	31 4.3%	130 8.3%	64 10.4%	225	7.7%
Some Benefits	71 9.8%	200 12.7%	88 14.2%	359	12.3%
No Benefits	656 90.2%	1374 87.3%	530 85.8%	2560	87.7%
<u>Those No Longer Working in 1994</u>					
	<u>178</u> (19.7%)	<u>345</u> (18.0%)	<u>121</u> (16.4%)	<u>644</u>	<u>(18.1%)</u>
Social Security Benefits	37 20.8%	70 20.3%	22 18.2%	129	20.0%
Pension Benefits	26 14.6%	88 25.5%	55 45.5%	169	26.2%
Some Benefits	50 28.1%	131 38.0%	61 50.4%	242	37.6%
No Benefits	128 71.9%	214 62.0%	60 49.6%	402	62.4%
<u>Those Still Working in 1996</u>					
	<u>514</u> (63.9%)	<u>1208</u> (68.9%)	<u>511</u> (74.1%)	<u>2233</u>	<u>(68.8%)</u>
Social Security Benefits	90 17.5%	183 15.1%	68 13.3%	341	15.3%
Pension Benefits	38 7.4%	183 15.1%	94 18.4%	315	14.1%
Some Benefits	107 20.8%	307 25.4%	123 24.1%	537	24.0%
No Benefits	407 79.2%	901 74.6%	388 75.9%	1696	76.0%
<u>Those No Longer Working in 1996</u>					
	<u>291</u> (36.1%)	<u>544</u> (31.1%)	<u>179</u> (25.9%)	<u>1014</u>	<u>(31.2%)</u>
Social Security Benefits	186 63.9%	318 58.5%	87 48.6%	591	58.3%
Pension Benefits	93 32.0%	207 38.1%	111 62.0%	411	40.5%
Some Benefits	209 71.8%	385 70.8%	141 78.8%	735	72.5%
No Benefits	82 28.2%	159 29.2%	38 21.2%	279	27.5%

Source: HRS, Waves I-III

Table 14: Receipt of Benefits, 1996 by Pension Eligibility Status and Work Status in 1996

	Eligible - Defined Benefit (25%)		Eligible - Defined Contribution		Not Eligible (62%)		Don't Know (2%)		Total	
<u>Those Still Working in 1996</u>										
	471	(57.4%)	242	(68.2%)	1470	(73.4%)	50	(73.5%)	2233	(68.8%)
Social Security Benefits	49	10.4%	42	17.4%	244	16.6%	6	12.0%	341	15.3%
Pension Benefits	83	17.6%	40	16.5%	188	12.8%	4	8.0%	315	14.1%
Some Benefits	102	21.7%	68	28.1%	357	24.3%	10	20.0%	537	24.0%
No Benefits	369	78.3%	174	71.9%	1113	75.7%	40	80.0%	1696	76.0%
<u>Those No Longer Working in 1996</u>										
	349	(42.6%)	113	(31.8%)	534	(26.6%)	18	(26.5%)	1014	(31.2%)
Social Security Benefits	209	59.9%	74	65.5%	300	56.2%	8	44.4%	591	58.3%
Pension Benefits	231	66.2%	50	44.2%	124	23.2%	6	33.3%	411	40.5%
Some Benefits	289	82.8%	88	77.9%	349	65.4%	9	50.0%	735	72.5%
No Benefits	60	17.2%	25	22.1%	185	34.6%	9	50.0%	279	27.5%

Source: HRS, Waves I-III

Table 15: Receipt of Benefits, 1994, 1996
by Marital Status
and Work Status in 1994, 1996

	Married (77%)	Not Married (23%)	Total
<u>Those Still Working in 1994</u>			
	<u>2291</u> (82.9%)	<u>628</u> (78.7%)	<u>2919</u> (81.9%)
Social Security Benefits	71 3.1%	40 6.4%	111 3.8%
Pension Benefits	163 7.1%	62 9.9%	225 7.7%
Some Benefits	255 11.1%	104 16.6%	359 12.3%
No Benefits	2036 88.9%	524 83.4%	2560 87.7%
<u>Those No Longer Working in 1994</u>			
	<u>474</u> (17.1%)	<u>170</u> (21.3%)	<u>644</u> (18.1%)
Social Security Benefits	75 15.8%	54 31.8%	129 20.0%
Pension Benefits	104 21.9%	65 38.2%	169 26.2%
Some Benefits	145 30.6%	97 57.1%	242 37.6%
No Benefits	329 69.4%	73 42.9%	402 62.4%
<u>Those Still Working in 1996</u>			
	<u>1748</u> (69.2%)	<u>485</u> (67.4%)	<u>2233</u> (68.8%)
Social Security Benefits	254 14.5%	87 17.9%	341 15.3%
Pension Benefits	247 14.1%	68 14.0%	315 14.1%
Some Benefits	413 23.6%	124 25.6%	537 24.0%
No Benefits	1335 76.4%	361 74.4%	1696 76.0%
<u>Those No Longer Working in 1996</u>			
	<u>779</u> (30.8%)	<u>235</u> (32.6%)	<u>1014</u> (31.2%)
Social Security Benefits	457 58.7%	134 57.0%	591 58.3%
Pension Benefits	315 40.4%	96 40.9%	411 40.5%
Some Benefits	567 72.8%	168 71.5%	735 72.5%
No Benefits	212 27.2%	67 28.5%	279 27.5%

Source : HRS, Waves I-III

Table 16. Receipt of benefits, 1994, 1996 by Spouse's Employment Status and Work Status in 1994, 1996

	Spouse working (50%)		No spouse working (50%)		Total	
<u>Those Still Working in 1994</u>						
	<u>1465</u>	<u>(83.6%)</u>	<u>1454</u>	<u>(80.3%)</u>	<u>2919</u>	<u>(81.9%)</u>
Social Security Benefits	44	3.0%	67	4.6%	111	3.8%
Pension Benefits	97	6.6%	128	8.8%	225	7.7%
Some Benefits	154	10.5%	205	14.1%	359	12.3%
No Benefits	1311	89.5%	1249	85.9%	2560	87.7%
<u>Those No Longer Working in 1994</u>						
	<u>287</u>	<u>(16.4%)</u>	<u>357</u>	<u>(19.7%)</u>	<u>644</u>	<u>(18.1%)</u>
Social Security Benefits	42	14.6%	87	24.4%	129	20.0%
Pension Benefits	54	18.8%	115	32.2%	169	26.2%
Some Benefits	84	29.3%	158	44.3%	242	37.6%
No Benefits	203	70.7%	199	55.7%	402	62.4%
<u>Those Still Working in 1996</u>						
	<u>1145</u>	<u>(70.8%)</u>	<u>1088</u>	<u>(66.8%)</u>	<u>2233</u>	<u>(68.8%)</u>
Social Security Benefits	153	13.4%	188	17.3%	341	15.3%
Pension Benefits	157	13.7%	158	14.5%	315	14.1%
Some Benefits	254	22.2%	283	26.0%	537	24.0%
No Benefits	891	77.8%	805	74.0%	1696	76.0%
<u>Those No Longer Working in 1996</u>						
	<u>473</u>	<u>(29.2%)</u>	<u>541</u>	<u>(33.2%)</u>	<u>1014</u>	<u>(31.2%)</u>
Social Security Benefits	267	56.4%	324	59.9%	591	58.3%
Pension Benefits	187	39.5%	224	41.4%	411	40.5%
Some Benefits	340	71.9%	395	73.0%	735	72.5%
No Benefits	133	28.1%	146	27.0%	279	27.5%

Source: HRS, Waves I-III

Table 17: Receipt of Benefits, 1994, 1996
by Presence of Children Under 18 in The Home
and Work Status in 1994, 1996

	No (90%)	Yes (10%)	Total
Those Still Working in 1994			
	<u>2620</u> (81.4%)	<u>299</u> (86.4%)	<u>2919</u> (81.9%)
Social Security Benefits	106 4.0%	5 1.7%	111 3.8%
Pension Benefits	213 8.1%	12 4.0%	225 7.7%
Some Benefits	335 12.8%	24 8.0%	359 12.3%
No Benefits	2285 87.2%	275 92.0%	2560 87.7%
Those No Longer Working in 1994			
	<u>597</u> (18.6%)	<u>47</u> (13.6%)	<u>644</u> (18.1%)
Social Security Benefits	125 20.9%	4 8.5%	129 20.0%
Pension Benefits	153 25.6%	16 34.0%	169 26.2%
Some Benefits	225 37.7%	17 36.2%	242 37.6%
No Benefits	372 62.3%	30 63.8%	402 62.4%
Those Still Working in 1996			
	<u>1350</u> (66.9%)	<u>883</u> (71.8%)	<u>2233</u> (68.8%)
Social Security Benefits	221 16.4%	120 13.6%	341 15.3%
Pension Benefits	201 14.9%	114 12.9%	315 14.1%
Some Benefits	349 25.9%	188 21.3%	537 24.0%
No Benefits	1001 74.1%	695 78.7%	1696 76.0%
Those No Longer Working in 1996			
	<u>668</u> (33.1%)	<u>346</u> (28.2%)	<u>1014</u> (31.2%)
Social Security Benefits	410 61.4%	181 52.3%	591 58.3%
Pension Benefits	282 42.2%	129 37.3%	411 40.5%
Some Benefits	503 75.3%	232 67.1%	735 72.5%
No Benefits	165 24.7%	114 32.9%	279 27.5%

Source: HRS, Waves I-III

Table 18: Receipt of Benefits, 1994, 1996
by Home Ownership
and Work Status in 1994, 1996

	Owns Home (84%)		Does Not Own Home (16%)		Total	
<u>Those Still Working in 1994</u>						
	<u>2459</u>	<u>(82.6%)</u>	<u>460</u>	<u>(78.4%)</u>	<u>2919</u>	<u>(81.9%)</u>
Social Security Benefits	97	3.9%	14	3.0%	111	3.8%
Pension Benefits	205	8.3%	20	4.3%	225	7.7%
Some Benefits	317	12.9%	42	9.1%	359	12.3%
No Benefits	2142	87.1%	418	90.9%	2560	87.7%
<u>Those No Longer Working in 1994</u>						
	<u>517</u>	<u>(17.4%)</u>	<u>127</u>	<u>(21.6%)</u>	<u>644</u>	<u>(18.1%)</u>
Social Security Benefits	99	19.1%	30	23.6%	129	20.0%
Pension Benefits	136	26.3%	33	26.0%	169	26.2%
Some Benefits	190	36.8%	52	40.9%	242	37.6%
No Benefits	327	63.2%	75	59.1%	402	62.4%
<u>Those Still Working in 1996</u>						
	<u>1870</u>	<u>(68.5%)</u>	<u>363</u>	<u>(70.2%)</u>	<u>2233</u>	<u>(68.8%)</u>
Social Security Benefits	293	15.7%	48	13.2%	341	15.3%
Pension Benefits	289	15.5%	26	7.2%	315	14.1%
Some Benefits	471	25.2%	66	18.2%	537	24.0%
No Benefits	1399	74.8%	297	81.8%	1696	76.0%
<u>Those No Longer Working in 1996</u>						
	<u>860</u>	<u>(31.5%)</u>	<u>154</u>	<u>(29.8%)</u>	<u>1014</u>	<u>(31.2%)</u>
Social Security Benefits	503	58.5%	88	57.1%	591	58.3%
Pension Benefits	362	42.1%	49	31.8%	411	40.5%
No Benefits	634	73.7%	101	65.6%	735	72.5%
	226	26.3%	53	34.4%	279	27.5%

Source : HRS, Waves I - III

Table 19: **Logit Estimates and Marginal Effects for Employment Status by 1996**
Sample: Individualas aged 55-61 and Working in 1992
Dependent Variable: Not Working in 1996

	Coefficient	t-statistic		Marginal
CONSTANT	0.738	2.055	**	
HEALTH				
Health condition in 1992	0.545	4.004	**	0.121
AGE				
Less than 60 in 1996	-1.535	-9.269	**	-0.243
60-61 in 1996	-1.241	-8.789	**	-0.225
62-64 in 1996	-0.508	-3.935	**	-0.102
65 in 1996	-----	-----		-----
FEMALE	0.355	3.542	**	0.073
RACE (Non-white)	-0.013	-0.116		-0.003
DEPENDENT CHILDREN	-0.171	-1.932	*	-0.035
MARRIED	0.071	0.552		0.014
HOME OWNERSHIP	0.221	1.706	*	0.044
SPOUSE WORKS in 1992	-0.203	-1.850	*	-0.041
SPOUSE'S WAGE in 1992	0.006	1.610		0.001
YEARS OF EDUCATION	-0.079	-4.443	**	-0.016
WAGE in 1992	0.000	1.048		0.000
WEALTH in 1992	-0.005	-0.340		-0.001
PENSION				
Pension, Not Eligible in 1996	-----	-----		-----
Defined Benefit, Eligible in 1996	0.733	6.749	**	0.159
Defined Contribution, Eligible in 1996	0.203	1.420		0.043
Pension, DK Eligibility Status	-0.036	-0.117		-0.007
LOSE HEALTH INSURANCE WHEN RETIRE	-0.545	-4.032	**	-0.102
SELF-EMPLOYED in 1992	-0.499	-3.533	**	-0.094
PART-TIME in 1992	0.446	4.087	**	0.096
TENURE in 1992	0.007	0.573		0.001
TENURE in 1992 - squared	0.000	-0.215		0.000
JOB CHARACTERISTICS (see text)				
OCCUPATION				
White collar, high skill	-0.133	-0.868		-0.027
White collar, other	-0.217	-1.500		-0.043
Blue collar, high skill	-0.273	-1.949	*	-0.054
Blue collar, other	-----	-----		-----
INDUSTRY				
Manufacturing Industry	0.041	0.339		0.008
Service Industry	-0.194	-1.732	*	-0.039
Other Industries	-----	-----		-----

* Significant at 10% level

** Significant at 5% level

Source: HRS, Waves I-III

Table 20. **Logit Estimates and Marginal Effects for Alternative Specifications of the Health Variable**
 Sample: Individuals Aged 55-61 in 1992 and Working in 1992
 (other explanatory variables are the same as in Table 19)

Dependent Variable: Not Working in 1996

	Coefficient	t-statistic		Marginal
Specification #1				
Health Condition which limits the type or amount of work	0.545	4.004	**	0.121
Specification #2				
Excellent/Very Good	-0.299	-3.090	**	-0.061
Good	----	----		----
Fair/Poor	0.471	3.587	**	0.103
Specification #3				
None	----	----		----
Any ADL 1-5	0.118	0.987		0.024
Any ADL 6-10	0.568	2.949	**	0.126
Any ADL 11-17	1.393	3.490	**	0.330
None	----	----		----
Lot ADL 1-5	0.307	2.972	**	0.063
Lot ADL 6-10	1.050	3.377	**	0.246
Lot ADL 11-17	1.758	1.558		0.413

* Significant at 10% level

** Significant at 5% level

Source: HRS, Waves I-III

Table 21: **Logit Estimates and Marginal Effects for Employment Status by 1996**
 Sample: Individuals Aged 55-61 in 1992 Working Full Time in 1992

	Not working in 1996			Working Part-Time in 1996			Marginal Impacts			
	Coefficient	t-statistic		Coefficient	t-statistic		Transition State in 1996:	Not working	Part-Time	Working Full Time
CONSTANT	0.972	2.183	**	-1.187	-1.892	*				
HEALTH										
Health condition in 1992	0.678	3.944	**	0.308	1.273		0.137	0.006	-0.142	
AGE										
Less than 60 in 1996	-1.944	-9.426	**	-1.477	-5.709	**	-0.258	-0.082	0.340	
60-61 in 1996	-1.595	-8.923	**	-1.413	-6.201	**	-0.240	-0.086	0.326	
62-64 in 1996	-0.711	-4.265	**	-0.817	-3.838	**	-0.113	-0.059	0.171	
65 in 1996	-----	-----		-----	-----		-----	-----	-----	
FEMALE	0.456	3.685	**	0.167	0.999		0.086	0.002	-0.089	
RACE (Non-white)	0.032	0.245		0.082	0.450		0.004	0.007	-0.011	
DEPENDENT CHILDREN	-0.247	-2.320	**	-0.286	-1.963	**	-0.040	-0.021	0.061	
MARRIED	0.162	1.039		0.084	0.394		0.029	0.004	-0.033	
HOME OWNERSHIP	0.231	1.496		0.447	2.009	**	0.033	0.035	-0.068	
SPOUSE WORKS in 1992	-0.163	-1.197		-0.188	-1.071		-0.026	-0.014	0.040	
SPOUSE'S WAGE in 1992	0.000	-0.041		0.001	0.233		0.000	0.000	0.000	
YEARS OF EDUCATION	-0.070	-3.252	**	0.051	1.656	*	-0.016	0.007	0.008	
WAGE in 1992	0.001	0.131		-0.007	-1.031		0.000	-0.001	0.000	
WEALTH in 1992	0.004	0.177		0.042	2.257	**	-0.001	0.004	-0.004	
PENSION										
Pension, Not Eligible in 1996	-----	-----		-----	-----		-----	-----	-----	
Defined Benefit, Eligible in 1996	0.848	6.718	**	0.369	2.069	**	0.166	0.007	-0.173	
Defined Contribution, Eligible in 1996	0.335	2.066	**	0.171	0.774		0.064	0.006	-0.070	
Pension, DK Eligibility Status	0.046	0.135		-0.062	-0.124		0.011	-0.008	-0.004	
LOSE HEALTH INSURANCE WHEN RETIRE	-0.598	-3.972	**	-0.336	-1.644		-0.099	-0.017	0.116	
SELF-EMPLOYED in 1992	-0.635	-3.284	**	0.240	1.200		-0.118	0.046	0.072	
TENURE in 1992	0.017	1.193		-0.010	-0.525		0.004	-0.002	-0.002	
TENURE in 1992 - squared	0.000	-0.765		0.000	0.712		0.000	0.000	0.000	
JOB CHARACTERISTICS (see text)										
OCCUPATION										
White collar, high skill	-0.326	-1.692	*	-0.007	-0.027		-0.063	0.009	0.053	
White collar, other	-0.320	-1.740	*	-0.398	-1.612		-0.050	-0.029	0.080	
Blue collar, high skill	-0.421	-2.475	**	-0.437	-1.868	*	-0.068	-0.030	0.099	
Blue collar, other	-----	-----		-----	-----		-----	-----	-----	
INDUSTRY										
Manufacturing Industry	-0.098	-0.726		-0.301	-1.527		-0.010	-0.026	0.037	
Service Industry	-0.263	-1.900	*	-0.347	-1.874	*	-0.041	-0.026	0.067	
Other Industries	-----	-----		-----	-----		-----	-----	-----	
							0.273	0.115	0.612	

* Significant at 10% level

** Significant at 5% level

Source: HRS, Waves I-III

Table 22: **Logit Coefficients for Employment and Retirement Income**
 Sample: **All Individuals Working in 1992**
 Transition State

Variable	(2) Not Employed and Receiving Social Security Benefits Only		(3) Not Employed and Receiving		(4) Not Employed and Receiving Social Security and		(5) Not Employed and Receiving Neither Social Security nor	
	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
CONSTANT	0.566	1.035	-5.512	-5.294 **	-0.921	-1.449	-1.489	-2.434 **
HEALTH								
Health condition in 1992	0.629	3.178 **	0.638	2.083 **	0.358	1.400	0.520	2.493 **
AGE								
Less than 60 in 1996	-3.498	-8.450 **	1.286	2.039 **	-3.425	-7.744 **	0.524	1.590
60-61 in 1996	-2.764	-10.505 **	1.744	2.885 **	-3.155	-10.117 **	0.680	2.175 **
62-64 in 1996	-0.625	-3.696 **	1.314	2.165 **	-0.803	-4.628 **	0.189	0.595
65 in 1996	-----	-----	-----	-----	-----	-----	-----	-----
FEMALE	0.703	4.387 **	-0.181	-0.791	-0.075	-0.416	0.597	3.595 **
RACE (Non-white)	-0.216	-1.190	0.394	1.670 *	0.002	0.009	-0.069	-0.393
DEPENDENT CHILDREN	-0.225	-1.564	-0.144	-0.736	-0.309	-1.926 *	-0.011	-0.077
MARRIED	0.201	0.987	-0.307	-1.079	-0.014	-0.062	0.131	0.632
HOME OWNERSHIP	0.100	0.500	0.590	1.731 *	0.172	0.740	0.260	1.241
SPOUSE WORKS in 1992	-0.046	-0.274	-0.119	-0.467	-0.183	-0.857	-0.260	-1.464
SPOUSE'S WAGE in 1992	0.004	0.865	0.007	0.772	-0.006	-0.526	0.012	2.435 **
YEARS OF EDUCATION	-0.110	-4.077 **	-0.013	-0.303	-0.048	-1.501	-0.104	-3.669 **
WAGE in 1992	0.000	0.876	0.000	0.120	0.000	1.203	-0.005	-0.931
WEALTH in 1992	0.014	0.685	-0.051	-1.046	-0.046	-1.197	0.013	0.641
PENSION								
Pension, Not Eligible in 1996	-----	-----	-----	-----	-----	-----	-----	-----
Defined Benefit, Eligible in 1996	-0.298	-1.548	1.411	6.126 **	1.435	7.447 **	0.462	2.488 **
Defined Contribution, Eligible in 1996	-0.187	-0.859	0.563	1.659 *	0.666	2.683 **	0.136	0.535
Pension, DK Eligibility Status	-0.951	-1.515	-0.387	-0.375	0.680	1.286	0.250	0.586
LOSE HEALTH INSURANCE WHEN RETIRE	-0.286	-1.385	-0.788	-2.180 **	-1.072	-3.861 **	-0.266	-1.250
SELF-EMPLOYED in 1992	-0.342	-1.699 *	-1.166	-2.354 **	-0.841	-2.540 **	-0.341	-1.517
PART-TIME in 1992	0.292	1.757 *	0.761	3.069 **	0.558	2.662 **	0.380	2.233 **
TENURE in 1992	0.012	0.674	0.033	1.135	0.006	0.291	-0.006	-0.290
TENURE in 1992 - squared	0.000	-0.333	0.000	-0.373	0.000	-0.300	0.000	0.036
JOB CHARACTERISTICS (see text)								
OCCUPATION								
White collar, high skill	-0.733	-3.049 **	1.106	2.431 **	-0.036	-0.125	0.069	0.290
White collar, other	-0.234	-1.109	0.980	2.226 **	0.016	0.059	-0.529	-2.302 **
Blue collar, high skill	-0.429	-1.992 **	0.592	1.362	0.180	0.701	-0.442	-1.975 **
Blue collar, other	-----	-----	-----	-----	-----	-----	-----	-----
INDUSTRY								
Manufacturing Industry	0.255	1.290	-0.246	-0.904	0.386	1.968 **	-0.340	-1.582
Service Industry	-0.247	-1.354	-0.045	-0.184	0.097	0.478	-0.348	-1.978 **
Other Industries	-----	-----	-----	-----	-----	-----	-----	-----

* Significant at 10% level

** Significant at 5% level

Source: HRS, Waves I-III

Table 23: Marginal Effects on Employment and Retirement Income Transitions by 1996
 Sample: All Individuals Working in 1992
 Transition State

Variable	(2) Not Employed and Receiving Social Security Benefits Only	(3) Not Employed and Receiving Pension Benefits Only	(4) Not Employed and Receiving Pension & Social Security Benefits	(5) Not Employed and Receiving Neither Pension Nor Social Security Benefits	(1) Still Working
HEALTH					
Health condition in 1992	0.036	0.017	0.010	0.035	-0.098
AGE					
Less than 60 in 1996	-0.097	0.059	-0.064	0.052	0.051
60-61 in 1996	-0.114	0.076	-0.087	0.063	0.063
62-64 in 1996	-0.034	0.044	-0.029	0.015	0.005
65 in 1996	----	----	----	----	----
FEMALE	0.037	-0.007	-0.006	0.040	-0.064
RACE (Non-white)	-0.012	0.012	0.000	-0.005	0.004
DEPENDENT CHILDREN	-0.011	-0.003	-0.011	0.001	0.023
MARRIED	0.011	-0.010	-0.001	0.009	-0.009
HOME OWNERSHIP	0.003	0.013	0.005	0.015	-0.036
SPOUSE WORKS in 1992	-0.001	-0.002	-0.006	-0.017	0.026
SPOUSE'S WAGE in 1992	0.000	0.000	0.000	0.001	-0.001
YEARS OF EDUCATION	-0.005	0.000	-0.001	-0.007	0.013
WAGE in 1992	0.000	0.000	0.000	0.000	0.000
WEALTH in 1992	0.001	-0.001	-0.002	0.001	0.001
PENSION					
Pension, Not Eligible in 1996	----	----	----	----	----
Defined Benefit, Eligible in 1996	-0.024	0.049	0.071	0.024	-0.120
Defined Contribution, Eligible in 1996	-0.013	0.017	0.030	0.006	-0.041
Pension, DK Eligibility Status	-0.037	-0.009	0.036	0.020	-0.010
LOSE HEALTH INSURANCE WHEN RETIRE	-0.011	-0.015	-0.028	-0.013	0.067
SELF-EMPLOYED in 1992	-0.013	-0.021	-0.023	-0.017	0.075
PART-TIME in 1992	0.012	0.022	0.020	0.023	-0.077
TENURE in 1992	0.001	0.001	0.000	-0.001	-0.001
TENURE in 1992 - squared	0.000	0.000	0.000	0.000	0.000
JOB CHARACTERISTICS (see text)					
OCCUPATION					
White collar, high skill	-0.038	0.039	-0.002	0.005	-0.005
White collar, other	-0.012	0.036	0.001	-0.034	0.009
Blue collar, high skill	-0.021	0.020	0.008	-0.028	0.021
Blue collar, other					
INDUSTRY					
Manufacturing Industry	0.016	-0.006	0.017	-0.023	-0.003
Service Industry	-0.012	0.000	0.005	-0.022	0.029
Other Industries	----	----	----	----	----
Mean Values	0.058	0.028	0.039	0.075	0.800

Source: HRS, Waves I-III

Figure 1: Labour Force Participation Rates, Males, by Age Group

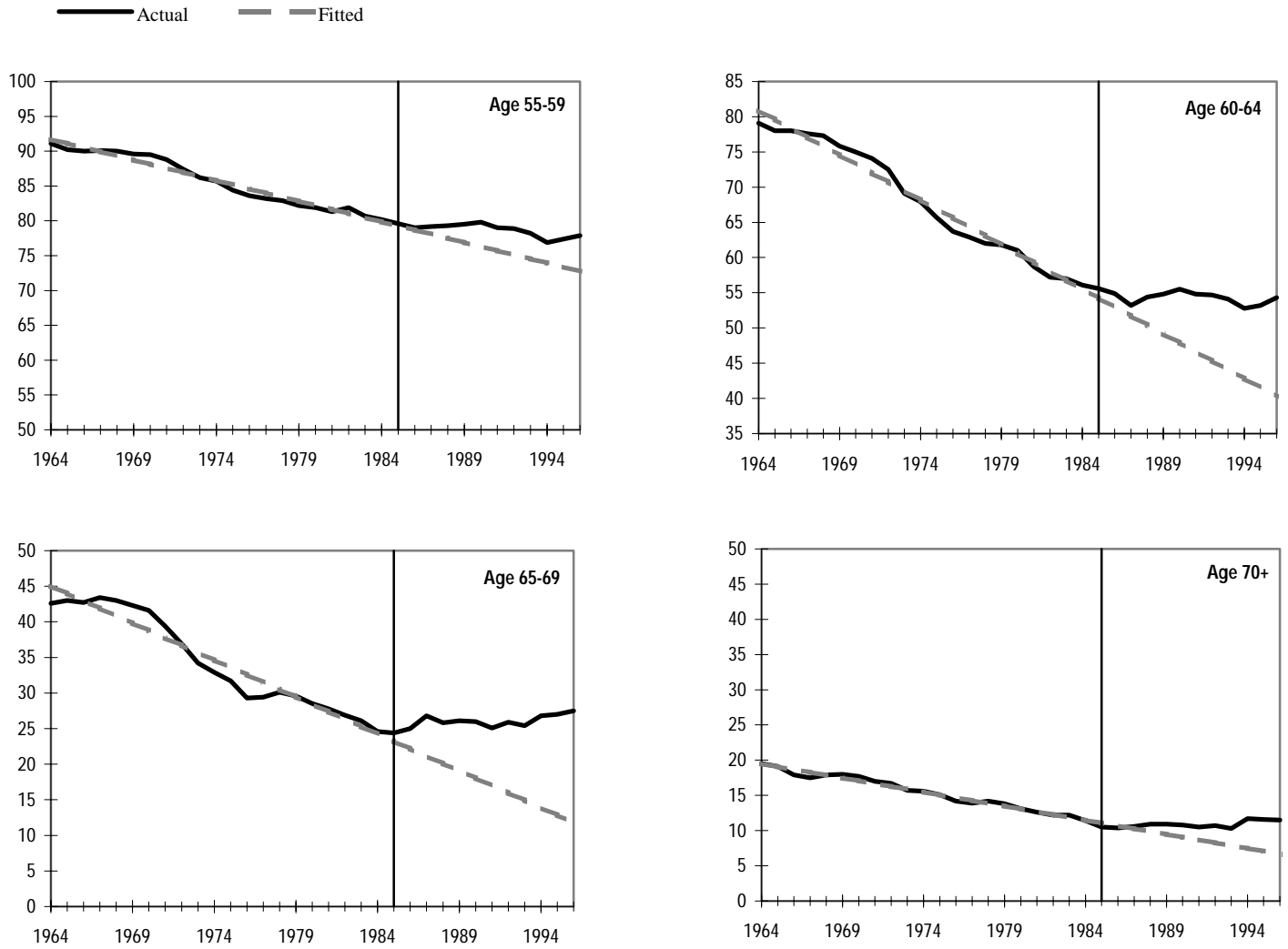


Figure 2: Labour Force Participation Rates, Females, by Age Group

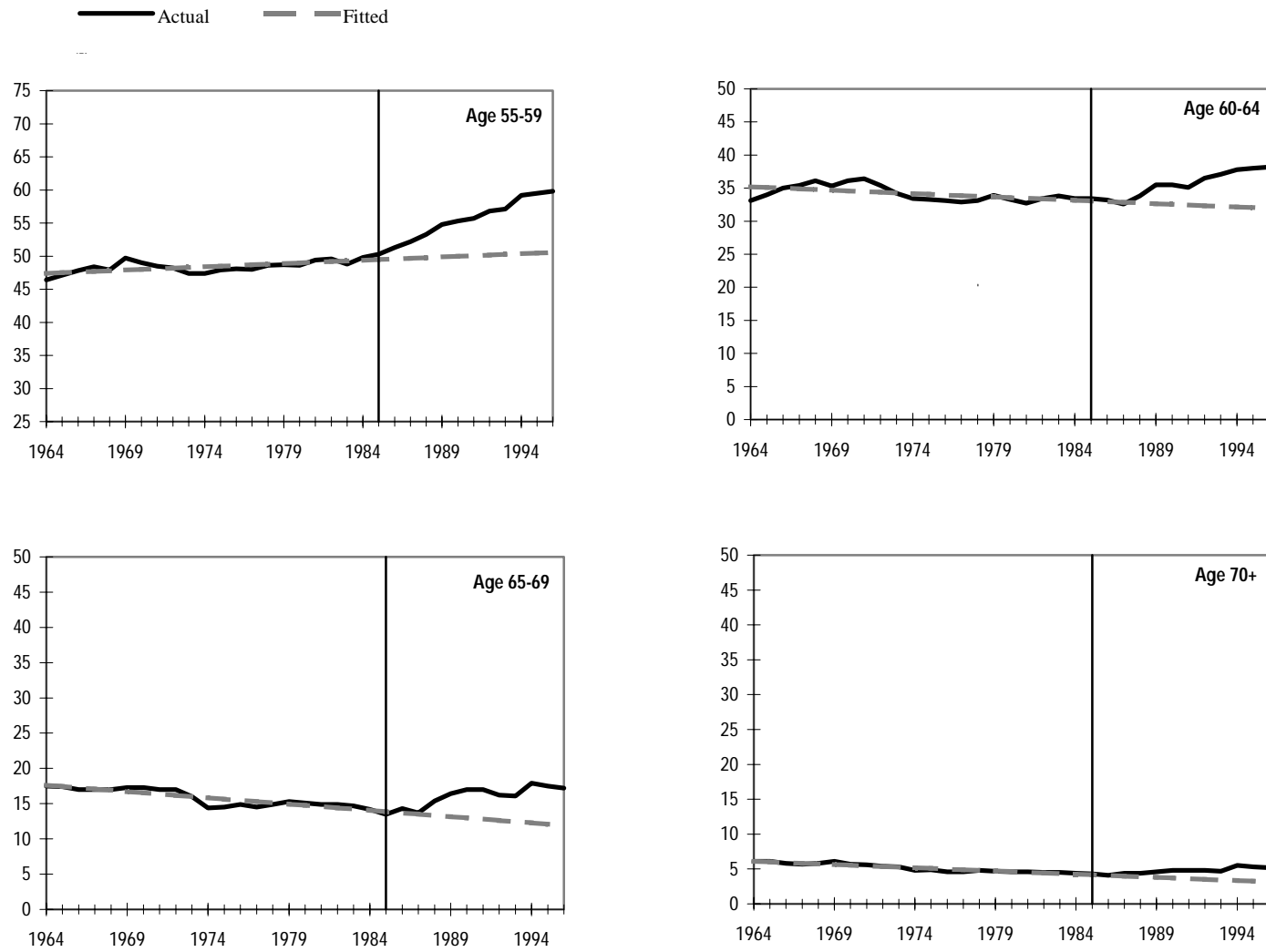


Figure 3: **Income Shares for Aged Units Age 65 or Older, 1994**

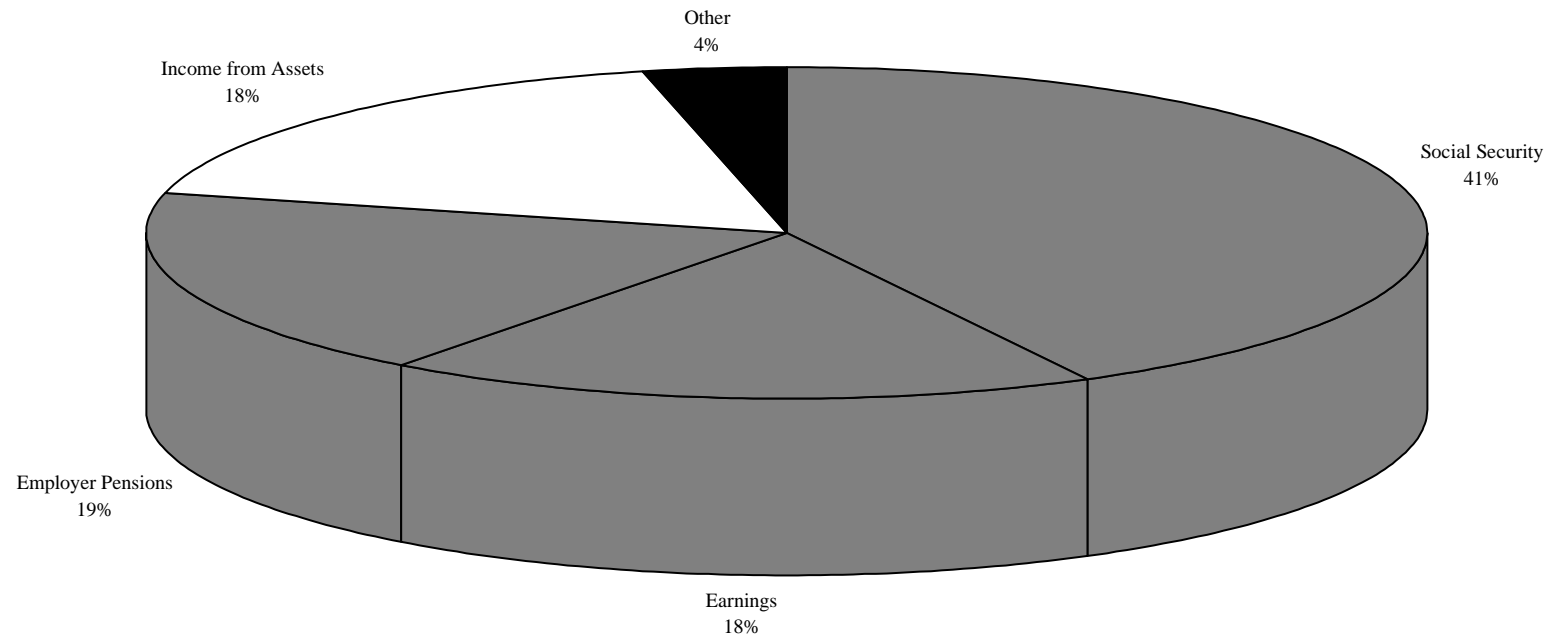
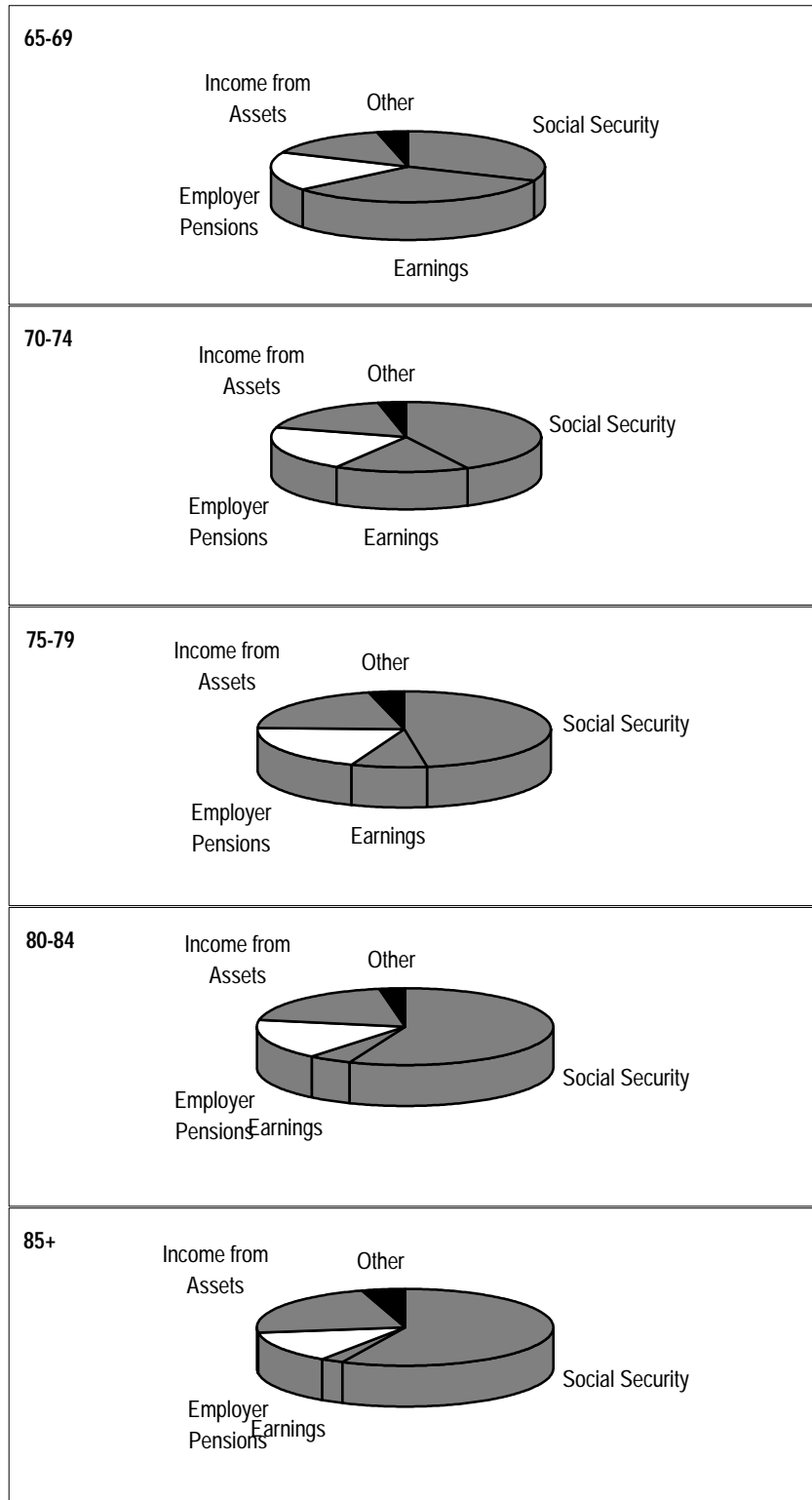
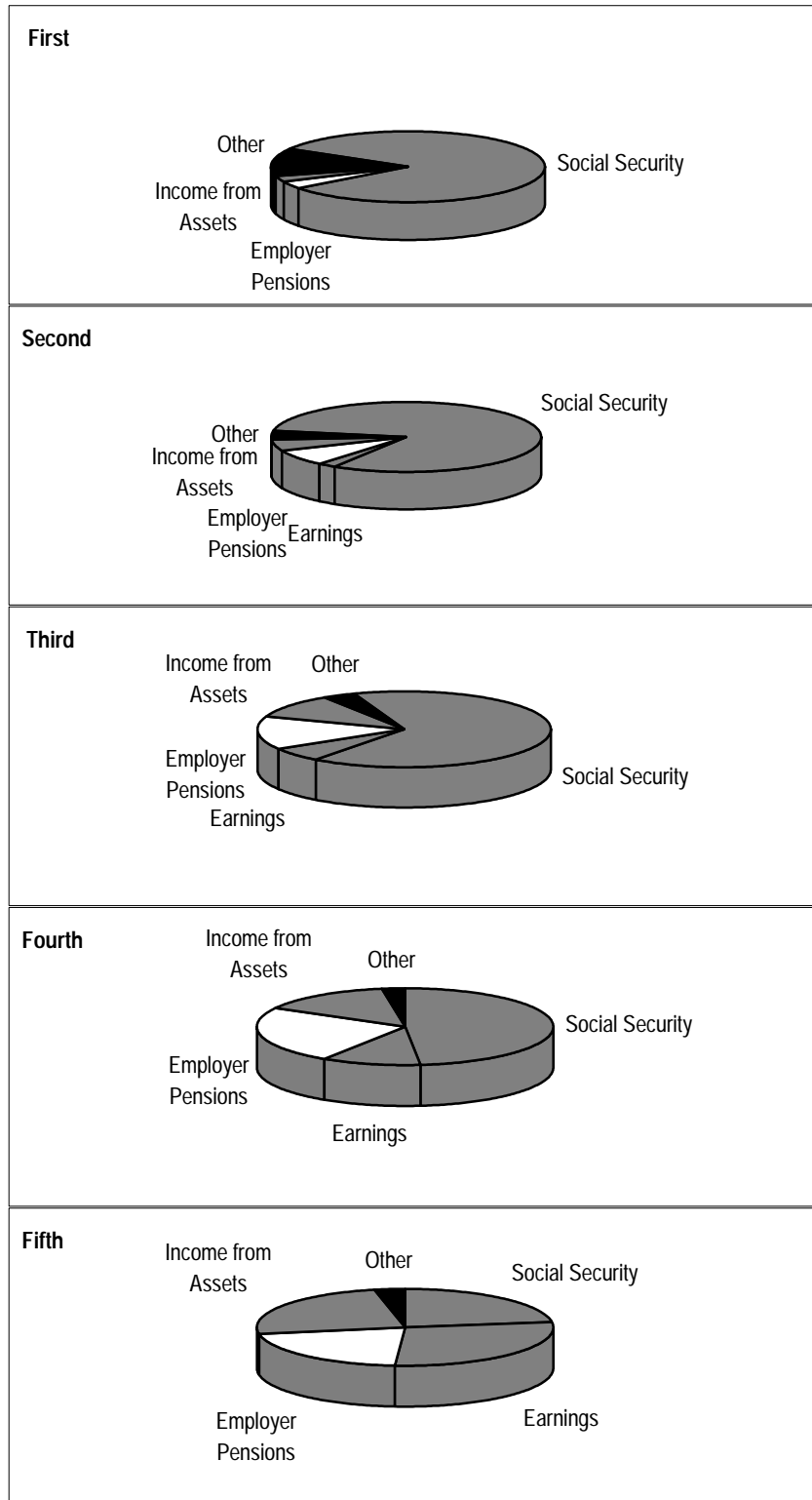


Figure 4
Income shares for Aged Units, by Age, 1994



Source : Grad (1996), Table VIII.1

Figure 5
Income Shares for Aged Units, by Income Quintile, 1994



Source : Grad (1996), Table VIII.5

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