

NBER WORKING PAPER SERIES

THE RETIREMENT BEHAVIOR OF
MARRIED COUPLES: EVIDENCE
FROM THE SPOUSE'S ALLOWANCE

Michael Baker

Working Paper 7138
<http://www.nber.org/papers/w7138>

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
May 1999

I thank Susanna Loeb, Marianne Page, and Aloysius Siow for helpful discussions, and Tom Crossley and participants at the 1998 CILN Conference for comments. Much of this paper was completed while I was visiting the Australian National University. I am grateful to the Economics Program, RSSH, for their hospitality. Research funding was provided by SSHRC (Grant #410-96-0187). The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

© 1999 by Michael Baker. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

The Retirement Behavior of Married Couples:
Evidence From the Spouse's Allowance
Michael Baker
NBER Working Paper No. 7138
May 1999
JEL No. H55, J22, J26

ABSTRACT

I examine the effects of the introduction of the Spouse's Allowance to the Canadian Income Security (IS) system on the retirement behavior of couples. This program was effectively targeted at females in couples attempting to live on a single pension. It allowed qualifying spouses to receive the age related benefits of the IS system at age 60, up to five years earlier than other members of the population. This policy intervention provides an excellent opportunity to investigate how income security programs affect the timing of retirement, and how programs targeted at one spouse can affect the behavior of the other. The results indicate that the introduction of the Allowance is associated with a relative increase in the labor force rates of 6 to 7 percentage points among males in eligible couples. Eligible females did not share the rising employment rates over the 1970s experienced by their counterparts (of the same age) who were not eligible for the Spouse's Allowance.

Michael Baker
Department of Economics
University of California, Davis
One Shields Avenue
Davis, CA 95616-8578
and NBER
mbaker@ucdavis.edu

1. Introduction

It is widely acknowledged that the aging populations of developed countries present one of the greater public policy challenges of the next century. Government transfers to the aged are typically one of the fastest growing components of government expenditure and many public pension plans are in poor fiscal health. In response, resources have been channeled into research programs on aging and retirement behavior. There is growing recognition, however, that the greater part of this research may miss part of the story. Traditionally, the focus has been on males modeled as independent decision makers. Yet the upward trend in the labor market participation of females implies that they will be both part of the “retirement problem”, as well as any solution.

The issue, therefore, is that the retirement behavior of **both** males and females is of interest, but there is just a handful of studies on this topic.¹ The scarcity of appropriate data, the complexity of the family decision making process and the historically low labor market activity of women have meant that many of the basic characteristics of couples’ retirement behavior—the incidence of joint retirement, the influence of one spouse’s economic opportunities on the retirement decision of the other spouse—are unknown or have just recently been explored. If the retirement decisions of couples are strongly connected, the reasons must be an important input to any reform of social security programs. Alternatively, many social security programs would appear to tie the retirement decisions of couples. Understanding the effects of any incentives for joint decision making is critical to forecasting the future fiscal balance of these programs in a labor market of dual worker families.²

Canada has a number of social security programs for seniors that would appear

¹ Recent research on the retirement behavior of couples includes Blau (1997 and 1998), Hurd (1990), McCarty (1990), Pozzebon and Mitchell (1989) and Vistnes (1994).

² For example, Blau (1997) examines how the spouse benefit provision of the US Social Security system has effects on labor market activity of both married males and females.

to induce interdependence in labor market behavior.³ In this paper, I examine the introduction, in the 1970s, of one of them: the Spouse's Allowance (SPA), a program nominally designed to aid couples attempting to live on one pension. Because females tend to marry older males, and males have historically been the primary earners, many Canadian couples of limited resources found themselves in precarious circumstances at retirement. The Canadian Income Security (IS) system of the 1970s included two age-related benefits and an earnings related public pension, all available starting at age 65. Assuming joint retirement, many couples would retire when the male turned 65 with only his IS benefits as support. The Spouse's Allowance made the age related benefits of the system available to individuals (typically the female) at age 60 if they were married to someone who was 65 or older.

I examine how the introduction of this program in 1975 affected the labor market decisions of the eligible couples. The empirical strategy is to compare (separately) changes in retirement behavior of males (65-75) and females (60-64) who became eligible for the Spouse's Allowance to that of their counterparts of the same age, who due to the age of their spouse did not qualify for an Allowance. I also provide some evidence on joint labor market status, although a direct analysis of joint retirement is prohibited by the lack of panel data for this period. One of the attractive features of this episode is the opportunity to analyze couples' behavior using a policy intervention rather than cross individual variation in benefit entitlement, which is likely correlated with unobserved determinants of labor market decisions.

It is acknowledged at that outset, that older females in the 1970s did not have high labor market participation rates, and so the potential for any effect on their behavior is in some sense bounded. Nevertheless, this is a period of rising female labor market activity, so that that the effect of the program may have been to remove

³ Gruber 1997 provides a simulation analysis of the tax incentives of various Canadian income security programs, highlighting the effects of means tested programs which are based on family income.

women eligible for the Allowance from this trend.

The results indicate that the introduction of the program is associated with a decrease in employment rates and increase in not in the labor force (NLF) rates among eligible males. The preferred estimates indicate that the NLF rates of eligible males rose 6 to 7 percentage points relative to males in the control groups. They provide further evidence of how government social security programs can influence the retirement behavior of individuals, and how in this instance males responded to a program which was targeted in effect at their spouses. I also observe relative reductions in labor market activity among eligible females. SPA eligible females did not share the rising employment rates of their counterparts in the control groups. Instead, their behavior bears a strong resemblance to that of females aged 65-75 married to males 65-75. The common factor here is that these older women had access to the age related benefits of the IS system throughout the sample period. The introduction of the SPA put these two groups on even footing. I also provide some evidence that the response is concentrated among individuals who are predicted to be on the part of the budget constraint where the SPA should have its greatest effect, or more generally who have limited labor market opportunities. Finally, the results indicate that the introduction of the program is correlated with a increase in joint absence from the labor market among eligible couples.

2. The Canadian Income Security Programs

Canada's social security system, circa the 1970's, had the same three main components present today: the Old Age Security (OAS) pension established in 1952,⁴ the Guaranteed Income Supplement (GIS) established in 1967 and the Canada Pension Plan (CPP; Quebec Pension Plan (QPP) for workers in Quebec) established

⁴ The 1952 *Old Age Security Act* replaced legislation from 1927, through which the federal government shared the cost of provincial means-tested benefits for the elderly.

in 1966. The OAS at this time was an unconditional cash benefit paid to individuals who satisfied age and residency requirements.⁵ Starting in 1970, all individuals 65 years of age or older were eligible for this benefit. The GIS was (and still is) a means tested supplement for OAS pensioners. Benefits were not subject to regular income tax, and there were different benefit rates for single and married persons. Finally, the retirement portion of the CPP and QPP pensions was, with some exceptions, similar to its present manifestation. Benefits were calculated on the basis of an individual's earnings history starting at age 18, and available starting at age 65 (presently benefits can be claimed as early as age 60).⁶ The benefits payable under these three programs over the 1970's are graphed in figure 1.⁷

Both OAS and CPP/QPP benefits were paid out at the individual level, and the programs' regulations did not directly tie the retirement decisions of spouses.⁸ There has always been a direct interdependence, however, in the GIS program. The amount of GIS benefits is based on family income excluding OAS and GIS benefits and a few other exemptions. For married individuals, how benefits are taxed back under the means test depends on whether both are pensioners. The rules in the 1970's were: 1) if both members of a couple were pensioners (65 or older), the benefits of each were taxed back at a rate of 25 percent for each dollar of monthly family income in excess of the family's combined OAS benefits (for a combined tax rate of 50 percent at the family level), and 2) if only one member of the couple was a pensioner, the monthly benefit was taxed back at a rate of 25 percent for each dollar of monthly family income in excess of the OAS pension, and the initial reduction did

⁵ There is now a clawback of benefits from high income individuals.

⁶ Further details of these programs can be found in Baker and Benjamin (1998 and 1999), Burbidge (1987) CCH Canadian Limited (1996), Gruber (1997) and Pesando and Rea (1977).

⁷ As a point of reference, as of January 1999 the monthly OAS pension is \$410.82, the maximum CPP pension for retirement at age 65 is \$751.67 and the maximum GIS benefits for single and married individuals are \$488.23 and \$318.01, respectively.

⁸ In fact, there is some interdependence between an individual and a deceased spouse through the survivor's benefit. The details can be found in Gruber (1997).

not occur until annual family income exceeded roughly 12 times the monthly OAS benefit.⁹

It is important to account for changes in these programs over the period the SPA was introduced, as any reforms could complicate inference. The main changes in the public pension programs were the elimination of the earnings test for beneficiaries 65-69 from the CPP in 1975 and the QPP in 1977, and the end of the so-called “transition period” of both programs in 1976. Baker and Benjamin (1999) argue that the removal of the earnings test led to a significant increase in weeks worked conditional on employment among males 65-69. Although not formally analyzed, the results from that study also suggest that the end of the transition period (1966-1975) was correlated with an increase in pension receipt for males, 65 and older.¹⁰ Over this period, individuals received only part of the “full pension” they qualified for, to account for the fact they had contributed to the plan for a short time. The pro-rating fraction rose linearly over the 10 year period, so that in January 1976 individuals could draw the full pension they qualified for subject to the other rules of the plan.¹¹ One could imagine that some workers may have delayed retirement until January 1976 so as to be able to draw a full pension. However, simulations of the present value of pension benefits at different retirement ages reveal that in the early 1970s the annual increase in the pro-rating fraction was roughly equivalent to an actuarially fair adjustment in pension benefits for delaying retirement.¹² That said, in the 1970s the CPP and QPP provided no explicit actuarial adjustment to benefits for delaying retirement beyond age 65, so with the end of the

⁹ Also, in this case an individual was eligible for the (larger) single person benefit.

¹⁰ An increase in pension receipt need not imply a reduction in labor supply in the absence of the earnings test. Unfortunately, it is difficult to isolate the labor market effects of the end of the transition period since they are perfectly co-linear with a 1976 year effect.

¹¹ Further detail is provided in Baker and Benjamin 1999 and CCH Canadian Limited (1996).

¹² These simulations are calculated for an individual turning 65 in 1972 and are available from the author on request.

transition period many individuals would have had a strong incentive to initiate pension receipt at that age.¹³

For the OAS, the major reforms were the full indexation of benefits starting 1972, and a modification of the residency requirement in 1977. Finally, the GIS was fully indexed in 1973.

3. The Spouse's Allowance

The Spouse's Allowance (SPA) came into effect October 1, 1975 to supplement the limited resources of couples living on the pension income of only one spouse, and more recently (1985) to enhance the circumstances of elderly widows and widowers. The program can be traced to a campaign promise of the Progressive Conservative party in the federal election of the early summer, 1974.¹⁴ The Liberal party consequently embraced a largely identical proposal, and upon winning the election incorporated it into their Throne Speech of September 30, 1974. The Speech was quite specific about the proposal and in particular mentions October 1, 1975 as a target date for implementation. The necessary amendments to the Old Age Security Act were passed in June 1975, and the program began operations on the target date.

The original program provided benefits to individuals between the ages of 60 and 64, who were spouses of OAS pensioners. Like the GIS, benefits were means tested on the basis of family income, and not subject to regular income taxes. The maximum payment was equal to the sum of the OAS pension and the GIS benefit at the married rate. Therefore, the SPA potentially made a couple as well off as they would be if both members were 65 years of age or older; in effect the program allowed qualifying spouses to receive their OAS and GIS benefits up to five

¹³ The exception is for individuals whose further contributions to the plans would improve their earnings histories.

¹⁴ The original proposal envisioned a program covering spouses aged 55-65.

years earlier than other members of the population. The equivalency is not exact, however, since SPA benefits were taxed back at higher rates than GIS benefits for marginal family income. The effective tax on benefits was 75 percent for each dollar of monthly family income in excess of OAS and GIS benefits. This rate was in effect until an amount of the Allowance equivalent to an OAS pension was recovered (when family income equaled 4/3's of the OAS benefit). At this point, both the Spouse's Allowance and the pensioner's (the spouse 65 or older) GIS benefit were taxed back at a rate of 25 percent for additional family income. Therefore, at the family level, benefits were subject to effective tax rates in excess of 75 percent.¹⁵

The program was revised in November 1978 and November 1979 to address the hardship faced by beneficiaries whose spouse died.¹⁶ Initially, if the pensioner spouse of an individual who was collecting an Allowance died, the SPA was terminated.¹⁷ The financial circumstances of the widow or widower were further impaired by the fact that the deceased spouse's OAS and GIS benefits would also be lost. The widow/widower would eventually qualify for their own OAS and GIS benefits, but this could be more than 4 years in the future. The program rules were changed so that the SPA would continue to be paid to a widow/widower for at first 6 months after the death of the pensioner (1978), and subsequently until the individual reached age 65 and would qualify for his/her own OAS and GIS (1979).¹⁸

The program was subsequently revised again in 1985 to provide benefits to all low income widows or widowers, between the ages of 60 and 64, regardless of when their spouse died. This reform falls outside the sample period and will not be exam-

¹⁵ Family income for the purposes of the means test was calculated for the calendar year preceding the fiscal year (April-March) of application. In the year of retirement, however, couples were permitted to substitute an estimate of income for the current calendar year reflecting their new (presumably reduced) circumstances.

¹⁶ The plight of widows and widowers was the main objections raised by opposition parties to the original SPA legislation.

¹⁷ The SPA also ended if the couple became separated or divorced.

¹⁸ Under the new rules the SPA would end if the individual re-married.

ined here.

4. The Predicted Effects of the Introduction of the Spouse's Allowance

The effects of the introduction of the SPA on the choice of family labor supply in a given year can be examined using the family budget constraint within the context of a simple Becker/Mincer model of the division of labor within the household. Before the introduction of the Allowance the components of family income are assumed to be the pensioner's OAS and GIS and any labor market earnings of the couple. For simplicity the amounts of any CPP pension or other non labor income are assumed to be zero.¹⁹ In figure 2, I graph family income against weeks of "leisure" in a given year. The distance AB is the amount of the pensioner's OAS pension (\$1551 in 1975). ABCD is the family budget constraint in the absence of the GIS or the SPA. It is drawn assuming the husband has comparative advantage at market work, and that this advantage is manifest in the relative wage rates.²⁰ The slope of BC, therefore, is w_M the male's wage, while the slope of CD is the female's wage, w_F .

The distance BE is the amount of the pensioner's GIS pension when the only other income is an OAS pension (\$1088 in 1975). The reduction in the GIS with labor market earnings is drawn for a pensioner whose spouse did not qualify for a pension. This would be the most common case for couples who would subsequently qualify for the SPA. An initial amount of income roughly equal to the annual OAS pension is exempt for the purposes of the GIS means test. Therefore, the segment

¹⁹ Any amounts of these sorts of income would have the effect of lowering the amount of the GIS pension when labor market earnings equal zero (and thus also lowering the "break even" level).

²⁰ The assumption that the male has comparative advantage in market work is adopted for its consistency with the traditional sexual division of market and non-market time common among older couples of this time. The assumption that the comparative advantage is manifest in wage rates is to retain a simple presentation within a standard labor supply diagram. A sufficient condition for this to be true is equal absolute advantage in non market work. Alternatively, the analysis could be conducted in a model of the allocation between market and non market goods without this simplification.

EF has the slope w_M . At point F, the marginal dollar of labor market earnings leads to a 25 cent reduction in the GIS, and therefore the slope of FG is $0.75w_M$. The GIS is completely taxed away at point G, which in 1975 was around \$5903.

The introduction of the SPA shifts the budget constraint to AHIJCD. The distance EH is the amount of the SPA when labor market earnings equal zero.²¹ The SPA is taxed back at a rate of 75 percent for any earnings until an amount equivalent to the OAS is recovered. Therefore, the segment HI has the slope $0.25w_M$. Any additional dollar of family earnings leads to a 50 cent reduction in non OAS government support (the pensioner's GIS and the GIS equivalent portion of the SPA) which in 1975 totaled \$1933.²² At point J all government assistance other than the pensioner's OAS is recovered which in 1975 occurred at labor market earnings of about \$5934.

The shift in the budget constraint with the introduction of the SPA has an unambiguous negative effect on labor supply. Over the segment HIJ both a substitution effect and an income effect act to reduce weeks of work, assuming leisure is a normal good. Also, families initially locating near the break even point may have found it optimal to reduce labor supply to qualify for some government support. Only families who were initially a sufficient distance above point J, or had enough other non labor income to make the GIS and SPA irrelevant would be unaffected by the reform.²³

In the diagram as drawn, any effect of the SPA would be visible in the male's labor supply, since if both members of the couple were working they would be lo-

²¹ In the figure, the distance also accounts for the reduction in the pensioner's GIS, which would now be paid out at the (lower) married person's rate.

²² The pensioner's GIS and the remaining amount of the SPA are each taxed back at a rate of 25 percent. The total non OAS support is calculated using the GIS married benefit in 1975.

²³ Note if both members of the couple were to qualify for the maximum CPP benefit (\$1633 annually) the GIS and SPA would be still be relevant although the break even levels would be much lower.

cated well above the break even point. For low wage families, however, the break even point might be beyond the kink at point C, and therefore both male and female labor supply would be affected. Note that in dual worker families, the model as drawn rules out any reductions of male labor supply without concurrent reductions in the female's work.²⁴

5. Data and Empirical Strategy

Most of the analysis is based on the census family files of the *Survey of Consumer Finances*, from 1972, 1974, 1976, 1978 and 1980. These are retrospective surveys conducted in April of the indicated years. Relative to individual level files, these data exclude unmarried individuals living at home, who are of limited concern here given the focus on the elderly. The data for Quebec are excluded from the analysis sample. As noted above, the earnings test was removed from the CPP and QPP at different times in the period of analysis. It is convenient to treat this reform as a common time effect, and this is most easily accomplished if the data for Quebec are excluded.

The introduction of the Spouse's Allowance should have its primary effects on 1) individuals over the age of 64 who have spouses between the ages of 60 and 64, and 2) these same spouses. Given the common practice of females marrying older males, it seems reasonable to focus the analysis on males 65-75 and females between the ages of 60-64, whose spouses' characteristics satisfy the requirements of the SPA program.²⁵ In each case the strategy is to compare measures of the labor market attachment of these groups before and after the introduction of the Allowance.

This time series variation, however, is not sufficient. Clearly, there is the pos-

²⁴ This is to say that the individual with comparative advantage in market work should be the last to leave the market.

²⁵ Males older than 75 are excluded because the age variable is truncated at age 76.

sibility of falsely attributing the labor market impacts of unobserved time effects which are concurrent with the introduction of the Allowance, to the SPA. More generally, secular trends in the labor market behavior of these groups might also end up a SPA effect. Finally, any effects of reforms of the CPP around the time of the introduction of the SPA must be accommodated.

To account for these possibilities, I use the labor market behavior of individuals of similar age, but whose marital circumstances render them ineligible for the SPA as control groups. For the analysis of males I consider three control groups: 1) males 65-75 with spouses aged 65-75, 2) males 65-75 with spouses aged 50-59 and 3) males 65-75 who are single. In each case these men are not eligible for the SPA. In the analysis of females the control groups are females aged 60-64 with spouses aged 1) 50-59 years and 2) 60-64 years old. In this case it is not possible to use single females, 60-64, as a control group. As noted above some of these individuals became eligible for the SPA in 1978 and 1979 under the new provisions for widowers.

The standard objections to this “experimental” strategy are that individuals in the different control groups might differ from their counterparts who are SPA eligible in both observed and unobserved ways, there may be group-specific trends in labor market behavior, or there may be unobserved year effects, coincident with the introduction of the SPA, that have heterogeneous impacts across groups. Any observable differences across the groups are controlled for directly in the estimation to extent that they are captured by characteristics available in the SCF’s, while average unobserved differences are captured by fixed effects. An investigation of any differences in trend labor market behavior can be conducted with data from the period prior to the introduction of the SPA. A validation of the assumption of homogeneous year effects is more difficult. In the absence of random assignment, it is important to directly consider the suitability of the different control groups. Further justification and criticism of the choices made here is provided in the course of the analysis.

Some selected mean characteristics of the various groups are reported in table 1. For males, the most striking differences are in average age and the presence of children who are enrolled full time in school. SPA eligible males are a full two years younger than males whose spouses are 65-75, but marginally older than their counterparts whose wives are 50-59. Also, this latter group of males is far more likely to have children at home enrolled full time in school. Among the different groups of females the largest differences are in educational attainment and urban residence. Those with spouses aged 50-59 are more likely to have more than a primary education and live in an urban area.

Other objections to the empirical strategy are the possibilities that individuals anticipated the policy change, or the program was introduced in response to some trend in the labor market behavior of the target group. As noted above, the program gained public exposure in the federal election of 1974.²⁶ It is probably safe to assume that the Canadian public took the campaign promises of the various parties with a grain of salt. The program appeared on firmer ground in the Throne Speech of September 1974, although it is not unusual for governments to fail to implement their entire legislative agenda before their term ends. The data I use to measure labor market attachment before the introduction of the SPA are from April 1972 and 1974. These dates precede the dissolution of parliament on May 9, 1974 and the subsequent election campaign in which the SPA entered public debate. Also the social policy document that became the basis of the Progressive Conservatives' proposal for a spouse's allowance was released in May 1974. Therefore, it seems reasonable to assume that these data predate any wide public reliance on the promise of the SPA.

The motivation for the SPA, as revealed by parliamentary debate and subse-

²⁶ It was not, however, a dominant issue in the campaign. The wage and price controls proposed by the Progressive Conservative party took center stage.

quent Standing Committee discussion, was the hardship experienced by couples attempting to live on one pension.²⁷ Opposition criticism of the legislation centered on other needy groups among the elderly, and the fact that the program discriminated against poor individuals who were not married. The labor market status of the target population, however, was not absent from the discussions. In fact, the Minister of National Health and Welfare, Marc Lalonde, predicted little labor market response to the new program, stating, “The [SPA eligible] spouse is, in most cases, not a member of the work force and highly unlikely to be employed in any case” (*House of Commons Debates*, June 6, 1975).

To measure the effect of the introduction of the SPA on labor market behavior, I estimate the equation

$$(1) \ y_{it} = X'_i\beta + \gamma \cdot SPA_{it} + \lambda_1 \cdot Y72_{it} + \lambda_2 \cdot Y78_{it} + \alpha \cdot SPA_{it} \cdot Y78_{it} + \lambda_3 \cdot Y80_{it} + \epsilon_{it},$$

using samples of SPA eligible males or females and the various control groups from the 1972, 1974, 1978 and 1980 SCF's. Note that data from the 1976 SCF are (initially) not used because the survey week (April 1976) is not long after the introduction of the program (October 1975). y_{it} is a measure of labor market behavior in the survey reference week. The X_{it} are a set of individual level demographic variables, SPA_{it} is a dummy variable which equals one if an individual is eligible for the SPA, $Y72_{it}$ and $Y80_{it}$ are year dummies that equal one in the indicated years, and $Y78_{it} = 1$ in years 1978 and later (the SCF years that the Spouse's Allowance was available). Therefore, $\hat{\alpha}$ provides the an estimate of the difference in the change in the dependent variable, y_{it} , between individuals who were eligible for the SPA and those in the control group, as the new program was introduced. The measures of labor market attachment examined (y_{it}) are employment and not in the labor force rates in the reference week.

²⁷ See 30th Parliament (1975) and Standing Committee on Health, Welfare and Social Affairs (1975).

Two specifications of (1) are estimated. In the first, the X_{it} consist of a full set of province effects (the base specification). In the second, I add dummy variables for single year age categories, education, urban residence, and for individuals who have any children enrolled full time at school (expanded specification).²⁸ As noted above, individuals who were eligible for the SPA could differ from those in the control group in unobserved ways. This argument extends directly to observable differences, so the results from the expanded specification provide an important check on the inference. Finally, all estimation is weighted least-squares using SCF sample weights, and the standard errors are corrected for heteroskedasticity following the method of White (1980).

6. An Overview of the Data

In figure 3, I graph an estimate of the incidence of the Spouse's Allowance in the 1970's using administrative data.²⁹ Information on SPA beneficiaries is available for the fiscal year ending March 31. On the assumption that the overwhelming majority of them are female, I divide this number by calendar year estimates of the population of females aged 60-64. The proportion of the "eligible population" receiving a SPA climbs quite quickly in 1976 when the program is established, and settles in the 14 to 16 percent range by the end of the decade. In the SCF data, roughly 30 percent of women aged 60-64 are spouses of males 65 and older and thus eligible for the SPA in this period. Therefore, by the end of the decade an upper bound estimate is that over one-half SPA eligible females are collecting the Allowance.

A view of labor supply over the period is provided in figures 4 and 5. In figure 4, I graph the proportion of females aged 60-64 who are out of the labor force in the

²⁸ Variable definitions are provided in the appendix.

²⁹ Note the data include the province of Quebec which is excluded from the regression analysis. The data on SPA beneficiaries is from Human Resources Development Canada (1994). The population of females aged 60-64 is taken from CANSIM

reference week. For females eligible for the SPA this rate is fairly constant over the sample period. In contrast the rate falls sharply for females with spouses 60-64 or 50-59. The profile for women with spouses 50-59 is somewhat erratic. This partly reflects small sample sizes: this group makes up only 7 percent of females 60-64 (annual sample sizes range by year from 82 to 136). Also, the composition of the group changes dramatically over the period. For example, the proportion with only a primary education rises from 29 percent in 1971 to 51 percent in 1977. This suggests that the time trends in the raw data could reflect composition effects, and that the conditional means from the regression analysis should be more informative.

The SPA was introduced just prior to the survey date in 1976. Therefore, the data for 1972 and 1974 provide a limited opportunity to compare labor market trends prior to the introduction of the program. Figure 4 suggests the trends for the SPA eligible group and women with spouses aged 60-64 were very similar in this period. In fact a regression of the NLF rate on group specific year effects confirms there is no economically or statistically significant differences in the 1972–1974 changes in rates between these two groups.³⁰ In contrast, the NLF rate for women with spouses 50-59 was already trending downward before the introduction of the SPA. A regression analysis indicates that the difference here is also not statistically significant, but this has much to do with the imprecision of the estimates. As noted above the composition of this groups changes significantly over the period and this might lie behind the difference in trends.

Using the experience of women with spouses aged 60-64 as the counterfactual, the graph suggests that the availability of the SPA is associated with a relative increase in the proportion not in the labor force. Starting in 1976, women who could collect the SPA did not share the falling NLF rates of their counterparts in the con-

³⁰ Using the pooled sample, the regression is of the NLF rate on year dummy variables for 1972, 1976, 1978 and 1980, a dummy variable for the women with spouses aged 60-64, and a full set of interactions of this dummy with the year effects.

trol groups.

The evidence for males is presented in figure 5. Again a comparison of labor market trends prior to the introduction of the SPA reveals a fair bit of homogeneity across groups. A regression analysis confirms this inference as all inter-group differences in the 1972–1974 changes are small and statistically insignificant. A comparison of the post 1975 trends, suggests an impact of the SPA although it differs somewhat across the control groups. There appears to be a common element to the 1974–1976 and 1978–1980 changes for SPA eligible males and males with spouses 50–59. One reason for some similarity in 1974–1976 change is the end of the transition period of the CPP in December 1975. This end date was known well in advance (10 years) so that anyone delaying retirement to this point in time might be expected to have acted fairly quickly. In the comparisons to the other two control groups the SPA eligible males experience relative increases in NLF rates in both 1974–1976 and 1976–1978. If the preceding reasoning is correct, then it follows that the end of the transition period had limited effect on these other two groups. This is certainly plausible since, as shown in table 1, men in these two groups are older, and in one case have older spouses. Given limited lifespans and declining health with age, the incentives to delay retirement until the end of the transition period were greater for males in their mid to late sixties than those in their seventies. That said, it will be important in the regression analysis to make some control for these relative differences in the 1974–1976 changes across groups so as not to attribute them to the SPA.

These graphs suggest that the SPA may have had some effect on the labor supply decisions of the affected males and females separately. In figures 6 and 7, I present some evidence of joint labor supply. In figure 6, I graph the proportion of couples in which each member is NLF by the different comparison groups for the analysis of females. There is only modest evidence here that the introduction of the SPA

is correlated with an increase in this behavior. Stronger evidence is available for males. Here there is a clear, relative increase in joint absence from the labor market in couples eligible for the Allowance. Also, the SPA eligible couples and males with spouses aged 50-59 share common trends in NLF rates prior to the introduction of the SPA.

7. Results

In the first panels of tables 2 and 3, I present the estimates of the parameter on $SPA_{it} \cdot Y78_{it}$ from equation (1) from both the base and expanded specifications. The results for males, in the first panel of table 2 tell a fairly consistent story. Relative to each control group, men eligible for the SPA experienced a relative increase in their NLF rate and decrease in their employment rate with the introduction of the program. Regardless of specification or control group, the changes in the employment and NLF rates are nearly equal and opposite in sign signaling that movements in or out of unemployment are not part of picture.³¹ There is also broad agreement across the three control groups, with smaller estimates obtained relative to males with the youngest wives (aged 50-59). This is consistent with the evidence in figure 5. It is possible that the estimates using single men or males with older spouses also capture the effect of the end of the CPP transition period on SPA eligible males. This effect is more accurately netted out in the comparison to males married to females aged 50-59. Finally, the addition of demographic characteristics in the expanded specification has relatively little effect on the results.

In addition to the end of the transition period, the abolition of the CPP earnings test in January 1975 could also complicate inference. Baker and Benjamin (1999) show that the abolition of the earning test is associated with increases in employ-

³¹ This result is confirmed in separate estimates (not shown) for reference week unemployment rates.

ment rates and decreases in NLF rates. Therefore, in contrast to any effects of the end of the transition period, the effects of this reform should work in the opposite direction, attenuating rather than enhancing the estimated SPA effect. Both these events would have affected males who were eligible for the SPA and those in the various controls groups. Therefore, the net effect of these reforms should be captured in the estimate of the parameter on $Y78$ (the common year effect) assuming it is the same across these groups. The removal of the earnings test, however, only affected males between the ages of 65 and 69. Also, as argued above, the end of the transition period might be expected to have had larger effects on younger males. While I do control directly for age in the expanded specification, there are no interactions between the age dummies and the year effects. Therefore, to accommodate age specific responses to the CPP reforms I add the interaction between $Y78_{it}$ and $A6569_{it}$ to (1), where $A6569_{it} = 1$ if the individual is 65 to 69 years old (the age range affected by the removal of the earnings test). The parameter on this variable is identified by any common change in labor supply for all males of these ages in the sample.

The results of this modification, reported in the second panel of table 2, are consistent with the arguments presented in the discussion of figure 5. The larger changes in the estimates of $SPA_{it} \cdot Y78_{it}$ are for the samples using single men or men with spouses aged 65-75 as a control. The fact that there is little change in the estimates using males with spouses aged 50-59 supports the argument that the common part of the 1974–1976 changes in NLF rates of this group and SPA eligible males reflects the CPP reforms that had larger effects on younger males. The estimates of both the $A6569_{it} \cdot Y78_{it}$ interaction and of $SPA_{it} \cdot Y78_{it}$ are now remarkably similar across groups.

A further refinement of this inference is presented in the third panel. Here I add the data for 1976 and use it to identify any effects of the removal of the earnings test and the end of the transition period. I add the year effect $Y76_{it}$ to (1), where

$Y76_{it} = 1$ in the years 1976 and later, as well as the interaction $A6569_{it} \cdot Y76_{it}$ (but delete $A6569_{it} \cdot Y78_{it}$). The earnings test was removed in January 1975, so any effects should be apparent by April 1976 when the 1976 SCF was conducted. As noted above, the transition period ended December 1975 but since the end date was well known, anyone delaying retirement to this point in time might be expected to have acted fairly quickly. I continue to identify the effect of the SPA with the parameter on $SPA_{it} \cdot Y78_{it}$, thus ignoring any response to this program which might be present in the 1976 data. This specification, therefore, takes a more extreme approach to accommodating the possibility the 1974-1976 change captures the CPP reforms, by discarding its contribution to the estimation of $SPA_{it} \cdot Y78_{it}$.

The resulting estimates of $SPA_{it} \cdot Y78_{it}$ are smaller again. The estimate of the relative increase in the NLF rate now ranges in a tight band of 6 to 7 percentage points. Also, the estimates of the $A6569_{it}$ interaction display similar changes.

Corresponding results for females are presented in table 3. Note that the identification of the SPA effect here is problematic. The primary strategy is compare labor supply changes across females 60-64 whose spouses are 65-75 and thus eligible for the SPA, and their counterparts of the same age whose spouses are younger (60-64, and 50-59). In contrast to the analysis in table 2, however, the couples in the control groups are not only ineligible for the SPA, but also due to their ages unaffected (at least immediately) by the CPP reforms. Therefore, a simple comparison of labor supply across the groups could potentially confound the effects of all three reforms.

The base estimates for females in the first four columns of the top panel of table 3 are largely consistent with the initial results for males using the single males and males with spouses 65-75 as control groups. The estimated relative increase in the NLF rate is 10 or 11 percentage points. In contrast to the results in table 2, however, the estimates of $SPA_{it} \cdot Y78_{it}$ are somewhat larger once the interaction for

couples in which males are 65-69 is added (panel 2). Note that these males are only present in SPA eligible couples, so that in this specification the effect of the SPA is identified by a comparison of females with spouses 70-75 and those in the control groups. Also, in this case the estimates of $A_{6569_{it}} \cdot Y_{78_{it}}$ are of opposite sign of the estimates of $SPA_{it} \cdot Y_{78_{it}}$ although all statistically insignificant at conventional levels. It is likely that both the removal of the CPP earnings tests and the end of the CPP transition period had limited direct effects on these females due to their low employment rates.

In the third panel of the table the data for 1976 are added. The resulting estimates are smaller, and compare favourably to the results for males from this specification. The estimated relative increase in the NLF rate is 7 to 9 percentage points, while all the estimates of $A_{6569_{it}} \cdot Y_{76_{it}}$ are very close to zero. The reason for these changes in the estimates can be seen in figure 4. The NLF rates of SPA eligible females and the control groups start to deviate with the 1974–1976 changes. By discarding this part of the post-SPA relative differences I obtain a smaller estimate.

Because isolating the effect of the SPA on females is problematic, it is worth examining another identification strategy. It is possible to partly replicate the strategy used for males by exploiting variation across age groups. For example, one comparison that may be informative is of SPA eligible females to females aged 50-59 who are also married to males aged 65-69. The age of the husbands is the same for each group, so it is more straightforward to capture any effects of the CPP reforms (possibly through the husband). Also, because the ages of the wives differ, only the couples in which the wife is 60-64 qualify for the SPA. Finally, the females in each group were not eligible for any IS benefits prior to the introduction of the SPA. The downside to this approach is the possibility of attributing age specific labor market shocks to the introduction of the Allowance. Also, any dynamic effects of the intro-

duction of the SPA on the younger females would bias the results.³²

The results using females 50-59 (married to males 65-75) as a control group are reported in the final two columns of table 3. The estimates of the increase in the NLF rate are smaller using this strategy, and comparable to the results for males. With the introduction of the data for 1976, however, the estimated parameter for the NLF rate is roughly the same size as its standard error.

In figure 8 I plot the NLF rates for females in this new control group. A comparison to figure 4 reveals that the identification of the SPA effect is essentially the same regardless of the comparison. In 1974–1976 the NLF rates in the control groups start to fall while they remain constant for the SPA eligible females. The decrease is relatively smaller and concentrated in the 1974-1976 period for females aged 50-59 married to males aged 65-75. Therefore for females the SPA effect is essentially that they did not share the increase in labor market activity experienced by other women their own age, and younger women married to spouses of similar age, with the introduction of the new program. Prior to this point, the four groups shared similar labor market trends.

I also graph the NLF rates of females aged 65-75 married to men 65-75. These women were not eligible for the SPA, but in this case the program would be superfluous. Due to their age, they were eligible for GIS and OAS benefits throughout the sample period. Therefore, with the introduction of the SPA the eligible females gain access to the resources already available to this group. It is interesting, therefore, that this group also does not show any sign of the time effect in 1974–1976 which sent the NLF rates in the other comparison groups falling.³³ In fact, the changes NLF rates for this group are very similar to those of SPA eligible females through-

³² An additional age based comparison is available: females in SPA eligible couples to 65-75 year old females who are married to 65-75 year old males. This comparison is taken up below.

³³ Estimates of equation (1) using the group of females aged 65-75 married to males 65-75 as a control confirms this result. In these regressions the estimate of the $SPA_{it} \cdot Y78_{it}$ interaction is consistently small and statistically insignificant.

out the sample period. What distinguishes these two groups from the others is the resources represented by the SPA. The inference here is that these resources are the common factor that “kept” these two groups from sharing the trend towards greater participation in the labor market exhibited by the women in the other three control groups.³⁴

The results so far are for the aggregate effect of the SPA on labor market behavior. The analysis in figure 2, however, suggests that the effects will be concentrated among individuals with income below the break even point.³⁵ Therefore, a refinement of the inference is possible if couples in this region of the budget constraint can be isolated within both the SPA eligible group and the various control groups. To attempt this, I draw samples of males 65-75 with spouses 50-75, and females 60-64 with spouses 50-75, from the 1971 Canadian Census, excluding couples living in Quebec, and in which one or both of the individuals are self employed.³⁶ For each sample, I estimate a regression of measures of the couple’s combined income on dummy variables for their (single year) age and education, as well as province effects, using a tobit specification.³⁷ I then use the estimated equation to predict 1970 income for couples in the SCF data sets.³⁸ Finally, I define a dummy variable BE which equals 1 if predicted earnings are less than or equal to the break even level in 1975 adjusted to 1970 dollars using the Consumer Price Index. I do not want to use the actual 1970 break even level, because as can be seen in figure 1 both OAS

³⁴ SPA eligible females and these older women also share being married to males who are eligible for all the benefits of the Canadian IS system, but this is also true of the females aged 50-59 married to males 65-75.

³⁵ As noted above, some individuals above the break even point may have the incentive lower labor supply to receive benefits.

³⁶ This exclusion was imposed to address the transitory large and small (i.e., negative) earnings of these individuals.

³⁷ There are couples with negative income under the different measures I use. They are always less than 0.7 percent of the sample, however.

³⁸ PEI was not included in the public use sample of the 1971 census. I use the province effect for Nova Scotia to predict income for individuals from this province in the SCFs. Note a very small number of observations are from this province (generally 0.5 to 0.8 percent per year).

and GIS benefits increase substantially in real terms in the early 1970s. Note that I temporarily drop the single men as a control group at this point to focus on a more homogeneous group for the income predictions.

The tax-back of SPA benefits circa 1975, is based on income calculated according to the income tax act, less any OAS or GIS benefits and any benefits payable under provincial programs for the elderly. The most detailed income variables in the 1971 census are for the census family, which may include monies attributable to individuals other than the couple, and thus not included in “family income” as defined by the program. Also, many of these variables combine “taxable” and “non-taxable” sources of income. At the individual level, the only income variables are employment income and total income.³⁹ Given these constraints, I use two measures of the couples taxable resources in the estimation. The first is simply the sum of the employment income of each spouse (“Predicted Earnings”). In the second, I add to this the family income “from other sources” (“Predicted Income”), which includes bond and deposit interest, dividends, other investment income, retirement pensions from previous employment and other income (mortgage interest, net rents, estate income or interest or cash dividends from insurance policies). One concern is this last category, which can be positive or negative, may contain a large transitory component. Another is that this variable will overestimate the income from other sources for the couple, due to the presence of other family members. Given that the simple sum of employment income most likely underestimates the taxable resources of the couple, these two measure may be viewed to bracket the object of interest.⁴⁰

The dummy variable BE is added to equation (1) along with its interactions with the year effects and the $SPA_{it} \cdot Y78_{it}$ interaction. The resulting equation is

³⁹ These limitations of the census data are also true of the SCF’s of the early 1970s.

⁴⁰ One obvious exclusion is CPP benefits, which are part of taxable income under the Act. In the census CPP benefits are combined with OAS and GIS benefits. Nineteen seventy was in the middle of the CPP transition period and thus the average CPP benefit was relatively small.

estimated using the expanded set of control variables as well as the $A6569_{it} \cdot Y78_{it}$ interaction. The estimates for individuals above the break even point, as well the estimates for individuals below the break even point relative to this base response, are reported in table 4. The results using Predicted Earnings display some agreement with expectations. For example, the results for males using males 65-75 with spouses 50-59 as a control indicate the response to the SPA is almost exclusively among those below the break even point. The estimates for those above the break even point are wrong signed and statistically insignificant. In contrast, the results using males 65-75 with spouses 65-75 as a control suggest there is little to distinguish individuals by their predicted position on the budget constraint. Some of the results for females would appear to contradict the predictions in figure 2. Using females aged 60-64 with spouses 60-64 as the control group, it would appear that it is individuals who are **above** the break point who are driving the aggregate results. It is only using the control group of females aged 50-59 with spouses aged 65-75 that the interactions have the expected sign.

The results using Predicted Income are generally less supportive. All of the results for males now suggest there is little to distinguish the responses of males above or below the break even point. The results for females shift in a similar direction: the results using the control groups with females aged 60-64 are even more puzzling, and the change in the results using females aged 50-59 are similar to the changes observed for males.

In attempting to interpret these results it is useful to consider the proportion of each group predicted to be at or below the break even point in each group. These are reported in table 5. Not surprisingly, the proportions using Predicted Earnings are generally higher than those using Predicted Income. One thing to note is that the proportions for females 60-64 with spouses younger than 65 are very small by either definition of income. It would appear that earnings are strongly correlated with

the age of the husband, reflecting most likely their role as primary earners in these cohorts. As a consequence, it is not clear that these are “good” control groups for this purpose. The females aged 50-59 with spouses aged 65-75 exhibit proportions below the break even point that are comparable to those of SPA eligible couples, and thus are a better match in this dimension.

Lining up the changes in the proportions by the definition of predicted family resources in table 5, with the changes in the results in table 4, it appears that the response to the SPA is concentrated in a group that excludes very high earners. Further refinement that focuses on a more select group of individuals with modest financial resources (i.e., using Predicted Income) is not meaningful, however. There is some evidence, therefore, that the effect of the SPA is primarily within a group with more limited labor market opportunities.

While the preceding results suggest the introduction of the SPA was correlated with decreased labor market activity of eligible males, and to a lesser extent eligible females, it does not provide any information on the joint labor market status of household members. In table 6, I present the results of re-estimating some versions of (1) substituting measures of joint labor market behavior as the dependent variable. The variables examined are joint employment and NLF rates as of the survey week. The analysis is conducted for the different comparison groups from tables 2 and 3 (excluding single males). Note that identification here is somewhat different than in the preceding results. For example, consider the estimates for SPA eligible couples using couples where the female is 60-64 and the male is 50-59 as the control group. Any change in the behavior of SPA eligible females is identified the same way as in the corresponding results in table 3 (i.e., relative to females of the same age). The identification of any change in behavior of SPA eligible males, however, does not have a counterpart in table 2. Here the comparison is across males of different ages (males 65-75 to males 50-59) where in table 2 the age of the males is held constant.

Therefore, the estimates for the joint labor market variables are not a simple mapping of the preceding inference.

The estimates in table 6 indicate that the introduction of the SPA is associated with a decrease in joint employment and increase in joint absence from the labor market, although in some cases the estimates are imprecise. Note that the estimated reductions in joint activity are generally larger using the female control groups. Perhaps the most convincing results should be the estimates using the control group males 65-75 married to females 50-59. Here the labor market activity of SPA eligible males is measured relative to the group that the preceding argument establishes as most likely to net out the effects of contemporaneous reforms of the CPP. Likewise, the discussion of table 5 suggests that the 50-59 year old women provide the best comparison group for SPA eligible females.

Of course the estimates in table 6 do not signal joint retirement. It is not possible to directly measure joint retirement without panel data, which do not exist for this time period. The results in table 6 may be consistent with joint withdrawal, but needn't imply it. For example, the increase in joint absence from the labor market could arise from the retirement of men in couples where the wife does not work. In fact, this result is suggested by the absolute increase in NLF rates for SPA eligible males (figure 5) and relatively constant NLF rates for SPA eligible females (figures 4 or 8).

8. Conclusions

I examine the effect of the introduction of the Spouse's Allowance, to Canada's Income Security system, on the retirement behavior of couples. This episode provides an opportunity to analyze couples' behavior on the basis of a policy intervention rather than relying on cross individual/couple variation in benefit entitlement, which is likely correlated with other unobserved determinants of labor market deci-

sions.

The Allowance provided an unambiguous incentive for individuals in eligible couples to withdraw from the labor market. I provide evidence the males and females in these couples responded to these incentives in the form of (relative) decreases in their employment rates and increases in their NLF rates. For males there is an absolute increase in the NLF rate, while SPA eligible females did not share the rising labor market participation rates of their counterparts in the control groups. Also, the changes in labor market activity are concentrated among individuals who have limited labor market opportunities. Finally, I provide some evidence of changes in joint labor market status with the policy reform. Decreases in joint employment and increases in joint absence from the labor market are observed among SPA eligible couples.

Data Appendix

Survey of Consumer Finances

The data are extracted from the 1972, 1974, 1976, 1978 and 1980 Census Family Files. The base working samples are males aged 65-75 married to females aged 50-75, and females aged 60-64 married to males aged 50-75. Variable Definitions:

1. Employment and Not in the Labor Force (NLF) rates: constructed from measured labor force activity in the reference week (in April of the relevant year).
2. Age: single age dummy variables are constructed from the continuous age variable over the range 15-75.
3. Education: dummy variables are coded for a) 9 or 10 years of elementary and secondary, b) 11-13 years of elementary or secondary, c) some post-secondary or completed certificate or diploma, d) university degree. No schooling or elementary is the excluded category.
4. Urban Residence: a dummy variable is coded for individuals living in cities with population $\geq 30,0000$.
5. Children Enrolled Full-Time: a dummy variable is coded for individuals with children up to age 24 attending school full-time.

Canadian Census, 1971

Data are extracted by the same sample definitions used for the SCF. A couple's earnings are defined as the sum of each spouse's total income from employment, excluding observations where either spouse is coded as self-employed (using the "Class of worker" variable). A couple's income is constructed by adding "Total family income from other sources" to this sum. All other variables are defined as their SCF counterparts.

References

- Baker, M. and D. Benjamin. 1998. "Early Retirement Provisions and the Labor Force Behavior of Older Men: Evidence from Canada", *Journal of Labor Economics*, in press.
- Baker, M. and D. Benjamin. 1999. "How Do Retirement Tests Affect the Labor Supply of Older Men", *Journal of Public Economics*, 71: 27-51.
- Burbidge, J. 1987. *Social Security in Canada*. Canadian Tax Paper No. 79, Canadian Tax Foundation.
- Blau, D.M. 1997. "Social Security and the Labor Supply of Older Married Couples". *Labor Economics* 4: 373-418.
- Blau, D.M. 1998. "Labor Force Dynamics of Older Married Couples". *Journal of Labor Economics* 16:595-629.
- CCH Canadian Limited. 1996. *Canadian Employment benefits and Pension Guide Reports*, North York ON: CCH Canadian Limited, V. 1.
- Gruber, J. 1997. "Social Security and Retirement in Canada". National Bureau of Economic Research Working Paper #6308.
- Human Resources Development Canada. 1994. *Social Security Statistics, Canada and the Provinces 1968-69 to 1992-93*. Ottawa: Minister of Supply and Services Canada.
- Hurd, M.D. 1990. "The Joint Retirement Decisions of Husbands and Wives". In *Issues in the Economics of Aging*, edited by David A. Wise, pp. 231-254. Chicago: University of Chicago Press.
- McCarty, T.A. 1990. "The Effect of Social Security on Married Women's Labor Force Participation". *National Tax Journal* 43: 95-110.
- Pesando, J.E. and S.A. Rea. 1977. *Public and Private Pensions in Canada: An Economic Analysis*. Toronto: University of Toronto Press.
- Pozzebon, S. and O.S. Mitchell. 1989. "Married Women's Retirement Behavior". *Journal of Population Economics* 2:39-53.
- Thirtieth Parliament. 1975. *House of Commons Debates*, 1st Session, v. vi.
- Standing Committee on Health, Welfare and Social Affairs. 1975. Minutes of Proceedings and Evidence.

Vistnes, J.P. 1994. "An Empirical Analysis of Married Women's Retirement Decisions". *National Tax Journal* 48: 135-155.

White, H. 1980. "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity", *Econometrica*, 48: 817-830.

Table 1: Selected Characteristics of SPA Eligible Males and Females and Various Comparison Groups

Males, 65-75, Who are	SPA Eligible	With Spouses 50-59	With Spouses 65-75	Single
Age	68.17	67.78	70.21	69.71
Primary Education	0.545	0.560	0.547	0.661
University Graduate	0.049	0.046	0.048	0.034
Children Enrolled in School	0.053	0.184	0.014	0.008
Lives in Urban Area	0.518	0.506	0.573	0.527
Sample Size: Pooled Sample	2670	1714	4273	2467
Excluding 1976	2186	1428	3525	2017
Females, 60-64, Who are	SPA Eligible	With Spouses 50-59	With Spouses 60-64	
Age	62.23	61.32	61.56	
Primary Education	0.447	0.293	0.348	
University Graduate	0.028	0.038	0.026	
Children Enrolled in School	0.053	0.109	0.080	
Lives in Urban Area	0.518	0.643	0.598	
Sample Size: Pooled Sample	2670	529	1897	
Excluding 1976	2186	436	1563	

Notes: Source: 1972, 1974, 1976, 1978 and 1980 census family files of the SCF. Observations for Quebec are deleted. The reported statistics are (weighted) means for the pooled sample of SCF's. For males, SPA eligible means the spouse is 60-64. For females, SPA eligible means a spouse 65-75. Urban area is defined by cities with a population of 30,000 or more.

Table 2: Estimates of the Effect of the Introduction of the Spouse's Allowance on Males Aged 65-75, with Spouses Aged 60-64

Control Group:	Males 65-75, Spouses 50-59	Males 65-75, Spouses 65-75	Males 65-75 who Are Single
Specification:	Base	Expanded	Base
Employed	-0.070 (0.039)	-0.063 (0.039)	-0.109 (0.031)
Not in the Labour Force	0.074 (0.040)	0.068 (0.039)	0.117 (0.032)
Add Control for Males 65-69, Expanded Specification			
	$A6569_{it} \cdot Y78_{it}$	$SPA_{it} \cdot Y78_{it}$	$A6569_{it} \cdot Y78_{it}$
Employed	-0.058 (0.040)	-0.066 (0.039)	-0.051 (0.031)
Not in the Labour Force	0.076 (0.040)	0.071 (0.039)	0.064 (0.031)
Add Control for Males 65-69 and Data for 1976, Expanded Specification			
	$A6569_{it} \cdot Y76_{it}$	$SPA_{it} \cdot Y78_{it}$	$A6569_{it} \cdot Y76_{it}$
Employed	-0.046 (0.038)	-0.054 (0.035)	-0.046 (0.029)
Not in the Labour Force	0.065 (0.038)	0.061 (0.036)	0.053 (0.029)

Notes: Source: 1972, 1974, 1976, 1978 and 1980 census family files of the SCF. Standard errors in parentheses. Observations for Quebec are deleted. Base: province effects, year effects for 1972 and 1980 and dummy variables for individuals with spouses 60-64 and for observations in 1978 or later (plus interactions). Expanded: add single age dummies, urban residence indicator, 4 education categories and a dummy variable for the presence of any children who are enrolled full time in school. The reported coefficients in the first panel are for $SPA_{it} \cdot Y78_{it}$ (see equation (1)). $A6569_{it} = 1$ for men aged 66-69. Sample sizes are reported in table 1.

Table 3: Estimates of the Effect of the Introduction of the Spouse's Allowance on Females Aged 60-64, with Spouses Aged 65-75

Control Group	Females 60-64, Spouses 50-59	Females 60-64, Spouses 60-64	Females 50-59, Spouses 65-75
Specification:	Base	Expanded	Base
Employed	-0.066 (0.051)	-0.071 (0.051)	-0.029 (0.036)
Not in the Labour Force	0.104 (0.053)	0.109 (0.052)	0.059 (0.037)
Add Control for Males 65-69, Expanded Specification			
	$A6569_{it} \cdot Y78_{it}$	$SPA_{it} \cdot Y78_{it}$	$A6569_{it} \cdot Y78_{it}$
Employed	0.018 (0.026)	-0.084 (0.053)	0.022 (0.024)
Not in the Labour Force	-0.019 (0.026)	0.123 (0.054)	-0.028 (0.024)
Add Control for Males 65-69 and Data for 1976, Expanded Specification			
	$A6569_{it} \cdot Y76_{it}$	$SPA_{it} \cdot Y78_{it}$	$A6569_{it} \cdot Y76_{it}$
Employed	0.000 (0.023)	-0.026 (0.049)	0.011 (0.021)
Not in the Labour Force	0.001 (0.023)	0.070 (0.050)	-0.010 (0.021)
			$SPA_{it} \cdot Y78_{it}$
			-0.009 (0.034)
			0.037 (0.034)

Notes: Source: 1972, 1974, 1976, 1978 and 1980 census family files of the SCF. Standard errors in parentheses. Observations for Quebec are deleted. Base: province effects, year effects for 1972 and 1980 and dummy variables for individuals with spouses 65-75 and for observations in 1978 or later (plus interactions). Expanded: add single age dummies, urban residence indicator, 4 education categories and a dummy variable for the presence of any children who are enrolled full time in school. The reported coefficients in the first panel are for $SPA_{it} \cdot Y78_{it}$ (see equation (1)). $A6569_{it} = 1$ for couples in which men are aged 66-69. Sample sizes are reported in table 1.

Table 4: Estimates of the Effect of the Introduction of the Spouse's Allowance By Predicted Position on the Budget Constraint

		Predicted Earnings		Predicted Income	
		$SPA_{it} \cdot Y78_{it}$	$SPA_{it} \cdot Y78_{it}$ $\cdot BE_{it}$	$SPA_{it} \cdot Y78_{it}$	$SPA_{it} \cdot Y78_{it}$ $\cdot BE_{it}$
Males					
Males 65-75, Spouses 50-59	Employed	0.031 (0.066)	-0.138 (0.065)	-0.061 (0.047)	-0.011 (0.049)
	Not in the Labour Force	-0.034 (0.066)	0.152 (0.066)	0.066 (0.048)	0.008 (0.050)
Males 65-75, Spouses 65-75	Employed	-0.090 (0.075)	0.006 (0.073)	-0.069 (0.036)	0.006 (0.035)
	Not in the Labour Force	0.091 (0.075)	-0.005 (0.073)	0.077 (0.036)	-0.012 (0.035)
Females					
Females 60-64, Spouses 50-59	Employed	-0.097 (0.072)	-0.012 (0.092)	-0.109 (0.059)	0.050 (0.076)
	Not in the Labour Force	0.125 (0.074)	-0.015 (0.093)	0.150 (0.061)	-0.085 (0.078)
Females 60-64, Spouses 60-64	Employed	-0.122 (0.058)	0.080 (0.053)	-0.132 (0.045)	0.133 (0.042)
	Not in the Labour Force	0.111 (0.059)	-0.067 (0.054)	0.134 (0.045)	-0.123 (0.044)
Females 50-59, Spouses 65-75	Employed	-0.001 (0.060)	-0.043 (0.061)	-0.038 (0.044)	0.024 (0.049)
	Not in the Labour Force	-0.014 (0.061)	0.066 (0.062)	0.058 (0.045)	0.002 (0.050)

Notes: Source: 1972, 1974, 1976, 1978 and 1980 census family files of the SCF. Standard errors in parentheses. Observations for Quebec are deleted. The estimating equation includes single age dummies, urban residence indicator, 4 education categories, a dummy variable for the presence of any children who are enrolled full time in school, province effects, year effects for 1972 and 1980 and dummy variables for individuals in SPA eligible couples, individuals with predicted earnings below the "break even" point, for observations in 1978 or later (plus interactions), and an interaction between the 1978 dummy and a dummy variable for males aged 65-6. Sample sizes are reported in table 1.

Table 5: The Incidence of Predicted Earnings At or Below the “Break Even” Point for Selected Samples

	Predicted Earnings	Predicted Income
Males 65-75 with Spouses 60-64 (SPA Eligible)	0.807	0.406
Males 65-75 with Spouses 50-59	0.697	0.421
Males 65-75 with Spouses 65-75	0.957	0.640
Females 60-64 with Spouses 65-75 (SPA Eligible)	0.796	0.463
Females 60-64 with Spouses 50-59	0.077	0.047
Females 60-64 with Spouses 60-64	0.108	0.043
Females 50-59 with Spouses 65-75	0.697	0.421

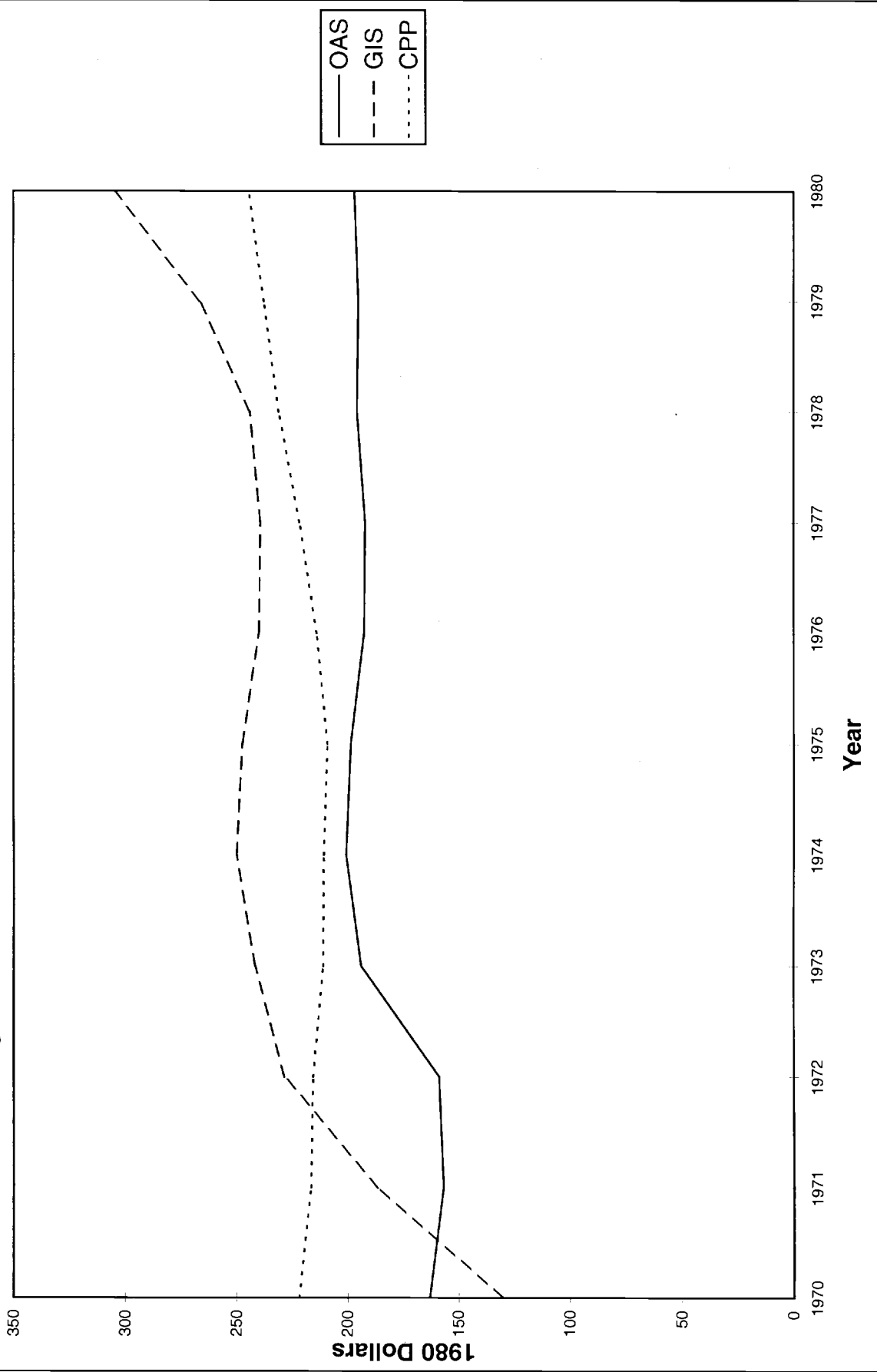
Notes: Source: 1972, 1974, 1976, 1978 and 1980 census family files of the SCF. Observations for Quebec are deleted. The reported statistics are the proportion (SCF sample weights) of the indicated samples (all years) with predicted 1970 earnings below the break even point. The break even point is defined by the SPA and GIS benefit levels in 1975 converted to 1970 dollars using the Consumer Price Index (\$4165). Predicted earnings and income are defined in the text. Sample sizes are reported in table 1.

Table 6: Estimates of the Effect of the Introduction of the Spouse's Allowance on the Joint Labour Market Behaviour of Females Aged 60-64, married to Males Aged 65-75

Specification	Control Group: Males 65-75,		With Spouses 50-59		With Spouses 65-75	
	Both Employed	Both NLF	Both Employed	Both NLF	Both Employed	Both NLF
Expanded	-0.036 (0.026)	0.075 (0.043)	-0.045 (0.016)	0.053 (0.030)		
Controls for Males 65-69	-0.036 (0.026)	0.077 (0.043)	-0.047 (0.016)	0.029 (0.031)		
Controls for Males 65-69 and 1976 data	-0.017 (0.024)	0.062 (0.040)	-0.032 (0.013)	0.034 (0.027)		
Specification	Control Group: Females 60-64,		With Spouses 50-59		With Spouses 60-64	
	Both Not Employed	Both NLF	Both Not Employed	Both NLF	Both Not Employed	Both NLF
Expanded	-0.107 (0.045)	0.047 (0.046)	-0.104 (0.027)	0.022 (0.036)		
Controls for Males 65-69	-0.107 (0.046)	0.104 (0.051)	-0.101 (0.029)	0.079 (0.042)		
Controls for Males 65-69 and 1976 data	-0.052 (0.044)	0.061 (0.043)	-0.083 (0.026)	0.061 (0.035)		

Notes: Source: 1972, 1974, 1976, 1978 and 1980 census family files of the SCF. Standard errors in parentheses. Observations for Quebec are deleted. Labour supply status is for the survey reference week. The reported estimates are for $SPA_{it} \cdot Y78_{it}$ (see equation (1)). See notes to tables 2 and 3. Sample sizes are reported in table 1.

Figure 1: Real Monthly Benefits of the OAS, GIS and CPP



Notes: Source CCH Canadian Limited (1996). OAS: Old Age Security; GIS: Guaranteed Income Supplement; CPP: Canada Pension Plan. The GIS benefit is for a married couple. In 1970 it is calculated as two times the single GIS benefit.

Figure 2: The Family Budget Constraint under the Spouse's Allowance

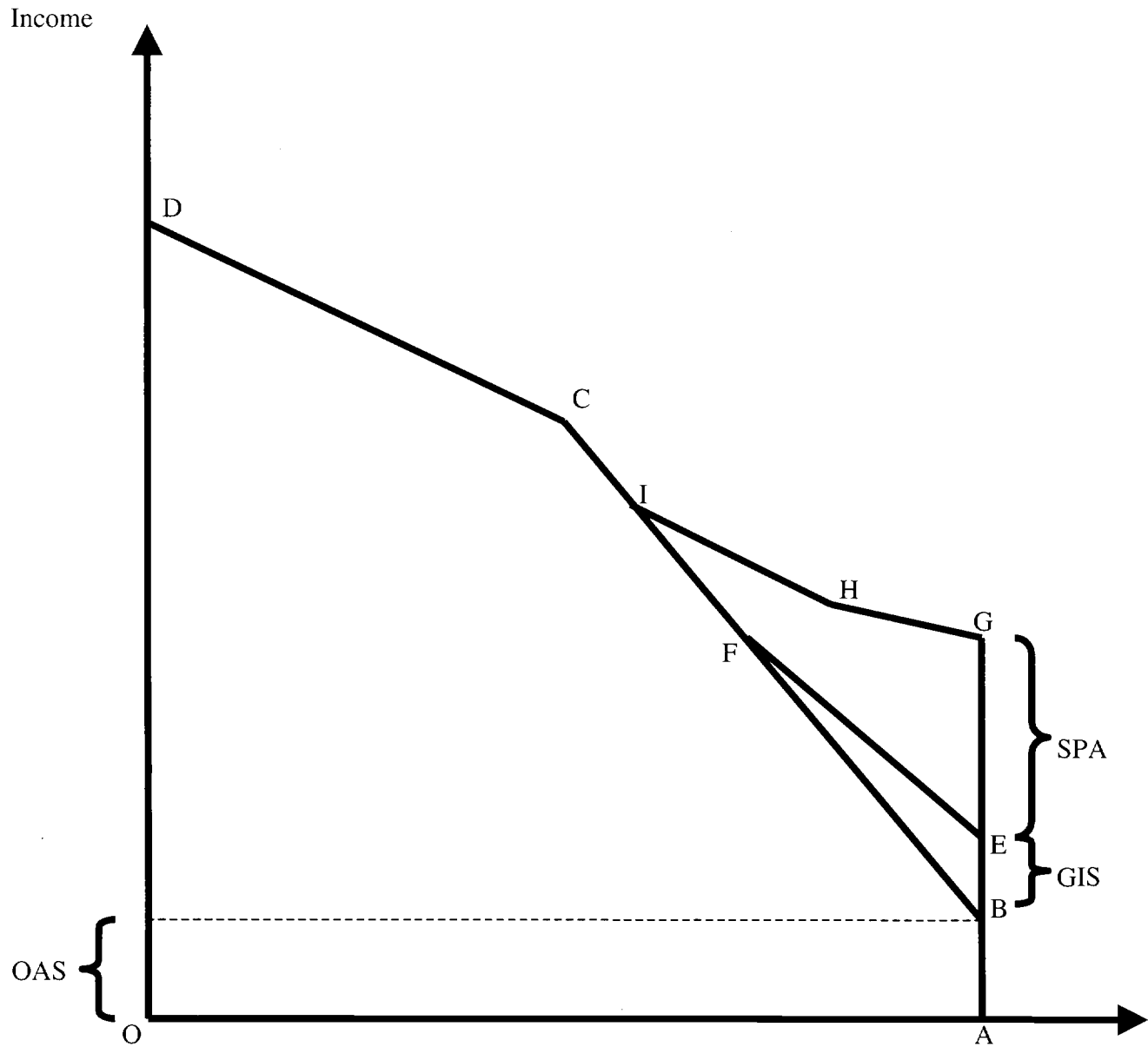
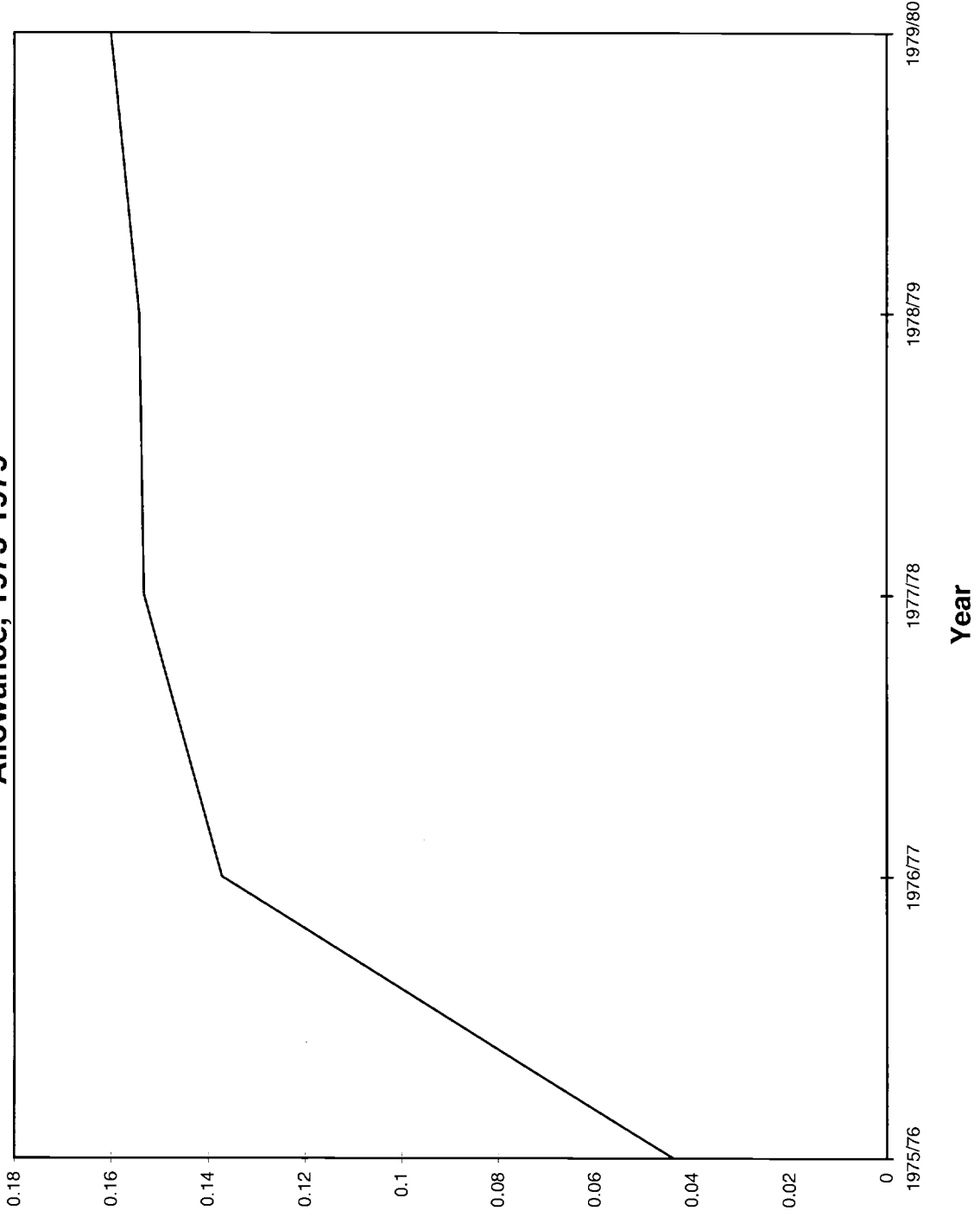


Figure 3: Estimated Proportion of Females 60-64 Receiving a Spouse's Allowance, 1975-1979



Source: Human Resources Development Canada (1994) and the Labour Force Survey. The underlying population statistics are calendar year while the number of beneficiaries are fiscal year.

Figure 4: NLF Rates for Females Aged 60-64

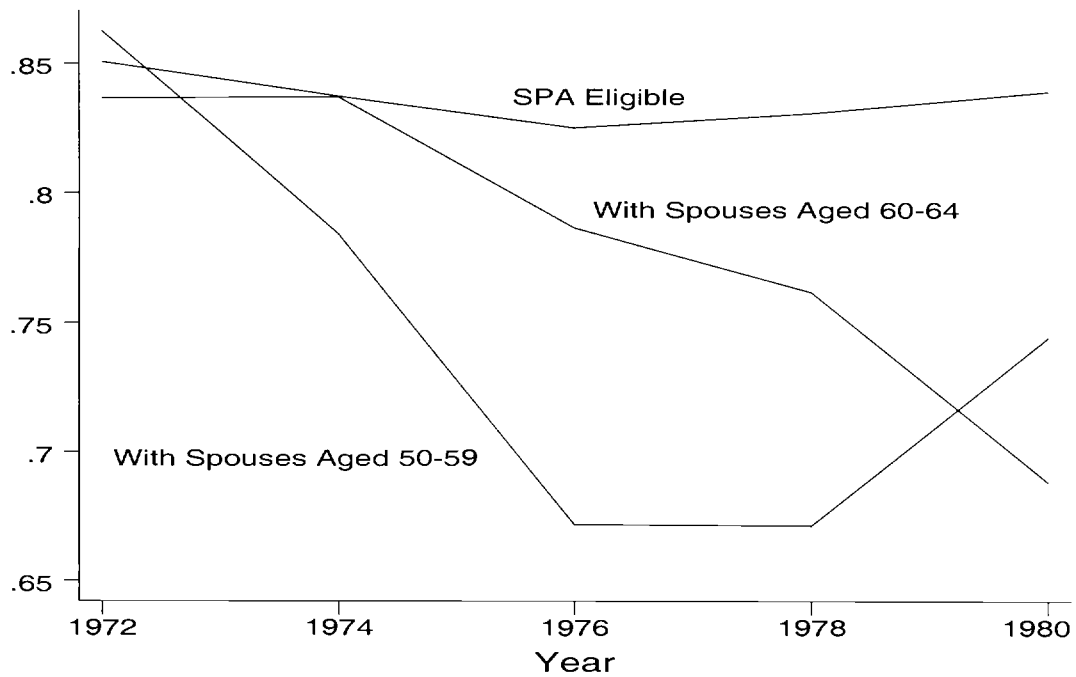


Figure 5: NLF Rates for Males Aged 65-75

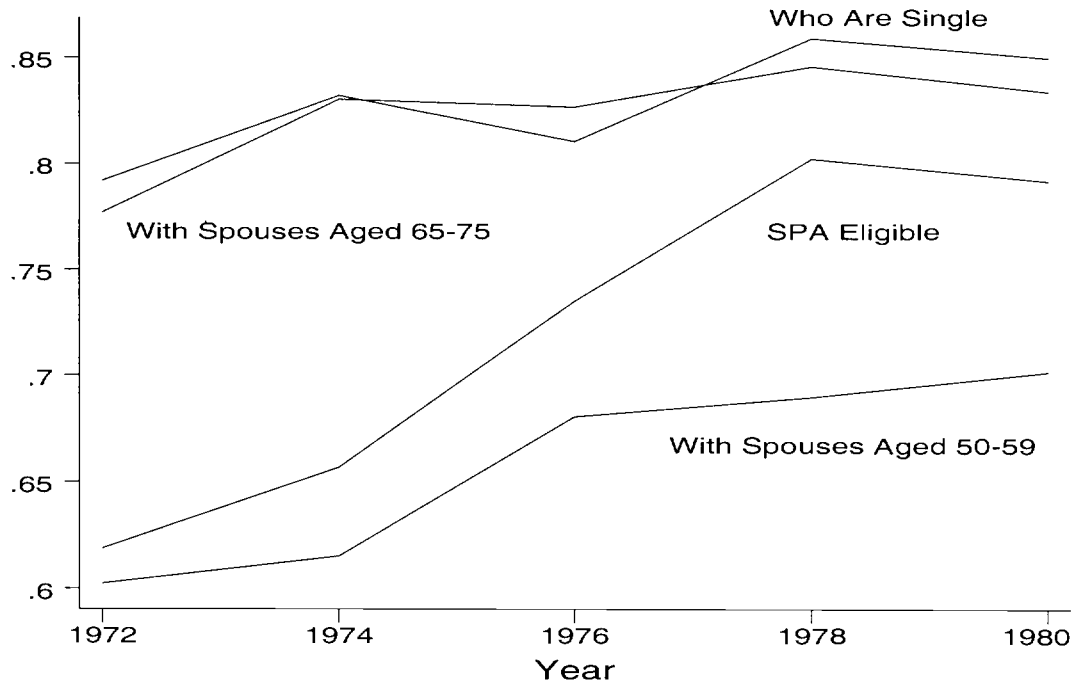


Figure 6: Joint NLF Rates of Couples With Females Aged 60-64

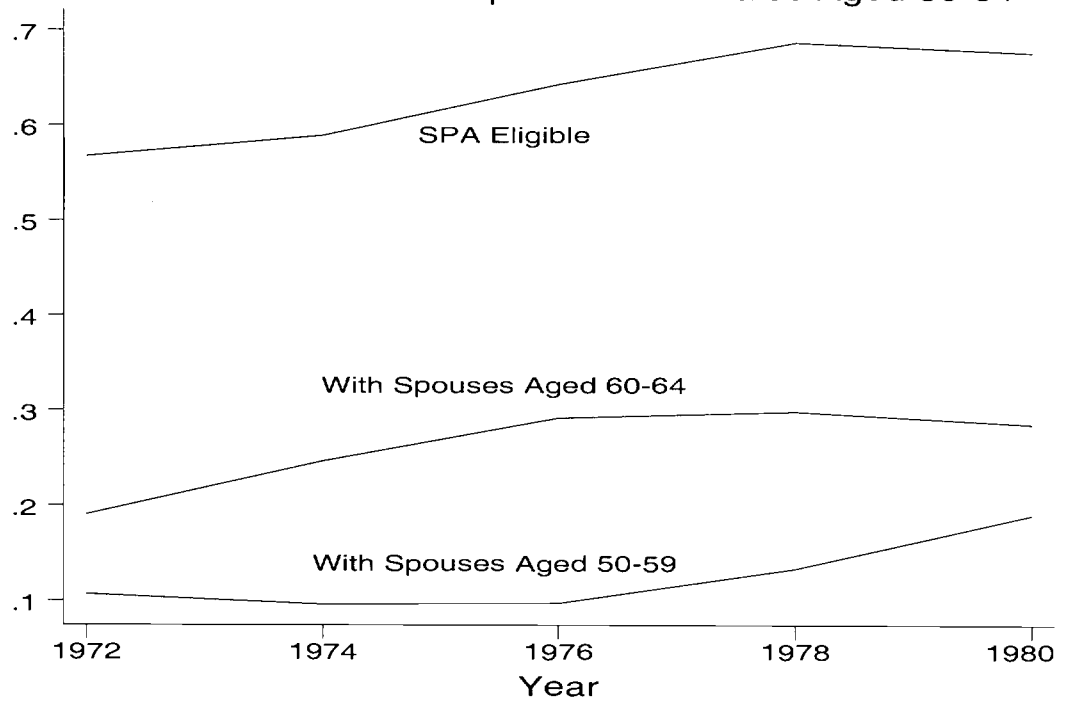


Figure 7: Joint NLF Rates of Couples With Males Aged 65-75

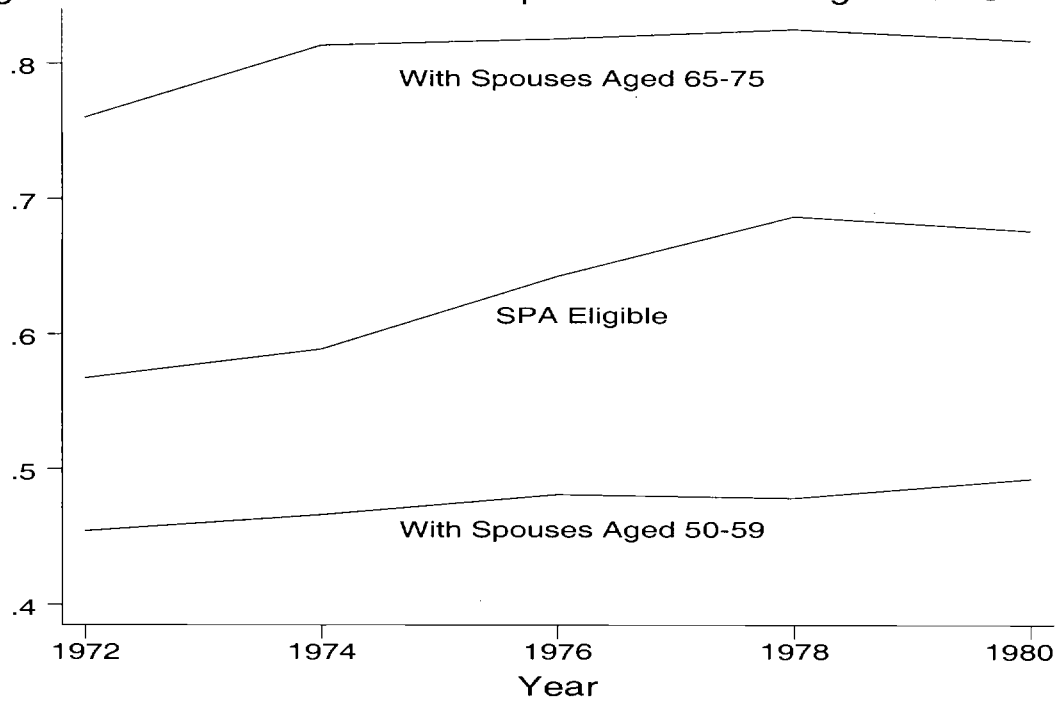


Figure 8: NLF Rates for Females Married to Males 65-75

