

The economics of labour markets and retirement provision: Baby Boomers and gender differences in Australia

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Abstract

High priority has been given to understanding the economic and social consequences of an ageing population. The economics of retirement provision, particularly occupational superannuation, has received priority attention as a result of budgetary pressures on the Age Pension system. The different needs and experiences of women have, however, received limited attention although available literature does highlight significant gender considerations that are worthy of further inquiry. Micro-simulations projecting women's likely superannuation accumulations highlight the various constraints women face in accumulating an independent private retirement income (Preston and Austen 2001). The current paper builds on the micro-simulations reported in Preston and Austen and focuses on the specific case of baby boomers, a group particularly affected by changing economic, social and political contexts. Starting with a discussion of the economics of retirement provision the paper moves to an empirical analysis of contrasting male and female labour markets and the effects on employment, participation, pay and forms of employment. The paper also considers societal changes such as the incidence of divorce and family formation. In the final part of the paper the effectiveness of private occupational superannuation as a retirement income source is brought under the spotlight and critical questions asked regarding the capacity of this system to provide for the needs of those with intermittent periods of labour market attachment.

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1. Introduction

Numerous reports and commentary on the policy challenges associated with population ageing and fiscal stresses have had a major influence in shaping government policy with respect to retirement incomes (Disney and Johnson 2001; World Bank 1994). Within Australia, occupational superannuation is now the Commonwealth government's preferred system for the provision of income in retirement (Atkinson, Creedy and Knox 1995). Legislation and generous taxation concessions are used to encourage and support occupational superannuation accumulations for later life (alternatively referred to as 'retirement')¹. It is a common perception that occupational superannuation will reduce dependency on the age pension in later life and ease predicted budgetary pressures associated with an ageing population ((DFaCS, 1999).

The economic well-being of older women within a retirement income system centered on superannuation is, however, contentious. In the words of Olsberg, "On current savings trends, only a small minority of women will be able to confidently look forward to a comfortable, financially independent retirement lifestyle." (2001, p.1).

The government, nevertheless, remains highly focused on superannuation as a way of delivering income in retirement. Recent government initiatives aimed at improving final superannuation balances are reflective of this direction. The policies include: allowing couples to income-split, reduction in the superannuation surcharge tax for high income earners, matching superannuation contributions by up to \$1,000 for employees on low incomes, allowing the baby-bonus (a recently introduced tax break for new mothers) to be paid into a child's superannuation fund, increasing the age (from 70 to 75) until which individuals may make contributions, increasing the tax deductability of contributions from self-employed and forcing employers to make more regular payments into employee's funds.

¹ We use the term 'later life' as a way of acknowledging that there is considerable debate surrounding the language used to describe 'older people' and a lack of consensus on who the 'elderly', 'old' or 'retired' are (Walker and Naegele, 1999; p.3). The term 'retirement' is frequently used to refer to the life-period from 65 years onwards. This is the 'deemed' retirement period in Australia (the age for women is gradually being raised to 65).

Published papers spanning two decades highlight gender biases inherent within such a retirement income framework and resultant gender differences in incomes in later life (see for example: Owen 1985; Perry 1988; EPAC 1994; Senate Select Committee on Superannuation 1995; Donath 1998; Ginn, Street and Arber 2001; Shaver 2001; Gallagher 2001; Olsberg 2001; Preston and Austen 2001).² Gender differences in later life incomes are the product of:

- Gender differences in labour market attachment and patterns of workforce participation, including: part-time, casual and temporary work; occupation of employment; industry of employment and; levels of remuneration.
- Superannuation policy and taxation arrangements that tend to maximise benefits for workers with high incomes and stable career paths.
- Changing patterns of family relationships, in particular the increased incidence of divorce and associated financial insecurity of ex-dependent wives in retirement.
- Women's greater longevity.
- A higher incidence of elderly women living alone (a function of their longevity and also a product of marriage patterns which see many women marrying older men).

These factors are also causing an increasing polarization of retirement incomes amongst women. One group whose needs are increasingly under the spotlight is the baby-boomer cohort, sometimes defined as those born between 1946 and 1964. This group has been particularly affected by changing economic, social and political contexts and a breakdown in the 'social compact'. In the remainder of this paper we concentrate on this group of women and using micro-simulation analysis shed light on their likely superannuation accumulations in later life. Our findings suggest the maintaining the integrity of the Age Pension system will be integral to a retirement income structure which meets the needs of most female baby boomers and that significant attention should be paid to this important pillar of the Australian retirement incomes framework. The capacity for changes to occupational superannuation to meet the needs of this cohort is

² The list is, of course, much longer than that recorded here.

particularly limited because of their previously established work history of intermittent labour market attachment.

The paper is organised as follows. We begin, in the following section with a brief overview of the economics of retirement income provision and, thereafter, discuss developments in Australia's occupational superannuation framework. Section 4 discusses the particular issues for baby boomers associated with this framework. Section 5 uses micro-simulations to estimate superannuation accumulations of baby boomers at the time of retirement. A summary and conclusion is offered in Section 6.

2. The Economics of Retirement Provision

Traditionally, Australia has relied on the age pension to provide some measure of income security among those who have retired from the workforce. The age pension represents a form of intergenerational transfer of income Australia's system of aged pensions reflects a system of intergenerational transfers. That is, taxes from the current working population are used to provide some level of income security to the current retired population. This type of system has been described as "a compact between successive generations; generation B supports generation A in the expectation that it will be supported by generation C, and so on" (Hancock 1981, p.11). When a population is growing and has stable or growing workforce participation rates, each successive working population is larger than the retiring population. This can allow the burden of retirement incomes for each working generation to be lessened or can allow an increase in the transfers to each successive retired population (Samuelson, 1958).

Current concerns about an ageing population reflect a possible change in the ratio of the working population to the retired population. Whether this actually occurs depends upon a range of factors, particularly society's demographic profile and the workforce participation of people in both the traditional "working age" population and that of the over 65 age group. However, given present demographic trends, it is possible that the growing proportion of retired people may represent a change to the required level of transfers required from the working population.

This is not the only source of change that can affect the level of taxation required to sustain a universal age pension system. Certainly, the ability of the working population to support the retired population can change due to demographic shifts. However, it should also be noted that other changes, such as the willingness of the working population to pay such transfers, may also change the income levels afforded to retired people.

Each of these factors can be seen in the development of policies relating to retirement incomes. An ageing population profile has been developing alongside a growing tendency for governments to consider balanced or surplus budgets a political imperative. Australia is one of many countries facing this issue. Recent OECD studies illustrate that most western economies are facing similar issues (Cooper and Scherer 1998). In a study of retirement income concerns and processes, the adequacy of pensions and issues of intergenerational equity were listed as specific concerns by 12 of 28 countries. Others listed closely related issues such as reforming the benefit structure and providing incentives for older people to remain in the workforce (Kalisch and Tetsuya, 1998; Blondal and Scarpetta 1998)

An alternative system to that of intergenerational transfers is that of capital accumulation. Under this system, each generation saves for their own eventual retirement from the workforce. There are a range of methods of achieving such a structure. In Australia a shift away from intergenerational transfers towards capital accumulation has been encouraged through incentives to achieve a considerable increase in the coverage of occupational superannuation.

This type of system requires each person to take into account their expected earnings over their life and to save during their working life in order to finance their retirement. It means that each person must make a number of assessments relating to their current income, their expected future income, their required level of savings and their life expectancy. These are complex issues and when an individual is on a low income, it may be difficult to forgo current consumption in order to save for a future retirement.

While changing demographics and budgetary constraints can pose uncertainties for intergenerational transfers, capital accumulation also presents risks. The current framework does not provide capital guarantees for superannuation schemes. This means that returns on capital can be either positive or negative, depending upon the success of investments made with fund contributions. For defined contribution schemes, the majority of schemes in Australia, this risk is carried by individual policy holders whose eventual payouts will be influenced by investment returns. It has been argued that the shift in emphasis from intergenerational transfers to capital accumulation also represents a privatisation of the risks associated with retirement income provision (Gallery, Brown and Gallery, 1996; Kelly 1997).

3. The Development of Australia's Occupational Superannuation Framework

Occupational superannuation schemes have existed in Australia since the middle of the last century. However prior to the early 1980s they were essentially confined to male professionals, managers and public servants. While a major inquiry into the development of a national superannuation scheme was carried out in the 1970s, it was through the industrial relations system that significant expansion of occupational superannuation was achieved.

During the wage indexation and Accord era of the 1970s unions, wishing to circumvent the wage indexation process, pressed for superannuation coverage as a form of deferred wages, (Kelly, 1997, p.62). In addition to providing some flexibility in a period of centralised wage indexation, superannuation also offered various concessions to both employees and employers. The economic context of inflation and increasing marginal tax rates made it 'cheaper' for employees to receive benefits that did not immediately affect their assessable income. While many employers resisted moves to extend superannuation coverage, some adopted the pragmatic view that taxation provisions made it 'cheaper' for employers to negotiate superannuation schemes rather than grant pay rises. In short, the net benefits to the employee were greater and the costs to the employers less, than would

have been the case if equivalent wage increases were negotiated (Pickering 1979; Cook 1981; Hutcheon 1982).

Further expansion of occupational superannuation arrangements over the 1980s and 1990s may be attributed to wage fixing arrangements and legislative provisions, respectively. In 1985 the ACTU entered into a second Accord with the federal government and in it agreed to offset a national productivity claim with occupational superannuation. From the government's perspective the agreement provided them with a mechanism for the granting of wage increases (albeit deferred wage increases) while not adding to rising inflationary pressures. Employer groups were, however, opposed to the treatment of superannuation as an industrial issue and made an appeal to the High Court of Australia. In 1986 the High Court handed down a landmark decision stating that superannuation was a workplace matter and could be included in the pay conditions under particular awards, (Beal and Mc Keown, 2001). This decision led to a rapid growth in superannuation coverage, facilitated by the incorporation of superannuation provisions into awards.³ Superannuation and life offices recognised this growth in award-based superannuation as a new opportunity for business and, therefore, worked closely with the Australian Council of Trade Unions (ACTU) to establish schemes, (Kelly, 1997).

Over the course of the 1990s, in response to employer pressure to curtail potential union dominance of the operation of the occupational superannuation schemes, arrangements governing the operation of the system gradually shifted from the industrial arena (through awards) into the political arena (through legislation). Awards no longer specify the fund to which the employer must contribute and legislation, in the form of the *Superannuation Guarantee Charge Act 1992*, now mandates the *minimum* required employer contribution. While there are provisions exempting coverage in some cases, the general pattern is that employers currently contribute 9 per cent of their employees' earnings to an approved superannuation scheme.

³ Awards are legally binding documents that prescribe the minimum terms and conditions of the employment contract.

The history of superannuation in Australia, means that access has been tied to the occupational characteristics of individuals. A range of ‘occupational links’ restrict access to superannuation to those in paid employment and it has been argued that this serves three main purposes:

- To distinguish superannuation funds, as retirement savings vehicles, from other savings vehicles;
- To restrict access to the superannuation tax concessions to those in ‘gainful employment’; and
- To maintain superannuation as a means from redistributing a person’s working life income into their retirement years. (emphasis in original text, Larkin (1994).

While some of the objectives of superannuation are reasonably clear, the reason for restricting access to this vehicle to those in paid employment is not as obvious. Larkin explains this connection in the following way:

The rationale for providing tax concessions for superannuation is to encourage savings which will replace salary and wages income on retirement and thus enable them, as far as practicable, to maintain a standard of living in retirement which is related to their pre-retirement standard of living. Taking this line to its logical conclusion, it follows that persons who are not in paid employment, or whose income comprises ‘unearned or passive income’ (that is, income from other investments) do not generally experience a drop in income on retirement and therefore do not have the same need for superannuation to generate replacement income. In fact, the very notion of ‘retirement’ for such people is something of a misnomer. (Larkin, p.64)

This rationale has important implications for women, or anyone with broken or marginal attachment to the paid workforce. It means that their relatively disadvantaged position in relation to superannuation access can be seen as an extension of their labour market experiences, reinforced through a system based on an ideal of maintaining pre-retirement incomes. Those who have been reliant on income from other sources, such as transfers from a spouse or government transfers or who have low incomes, are implicitly expected to continue with this situation in their retirement.

The shift in emphasis from the age pension to occupational superannuation poses a range of issues for those about to retire or will retire over the next decade or so. Specifically, will occupational superannuation deliver a level of income sufficient to maintain or achieve the standard of living desired by imminent retirees.

4. Particular Issues for Baby Boomers

The switch in emphasis from intergenerational transfers to capital accumulation is particularly relevant for the baby boomer generation. Born between 1946 and 1964, most baby boomers entered the workforce when the age pension was the dominant form of retirement income and long before the introduction of the SGC in 1992. During the years in which most baby boomers have been in the workforce or carrying out the unpaid work associated with child rearing, there has been a major change in emphasis to private saving through superannuation. In the following section micro-simulations are used to predict the likely accumulated balances in superannuation accounts held by baby boomers. The remainder of this section provides important contextual information to guide our assumptions, develop the micro-simulations and understand the findings.

Characteristics of Baby Boomers

Readily available national statistics are often aggregated. This, however, allows us to form a general picture of the Australian baby boomer population as follows:

- Compared to men, women are less likely to participate in the workforce and more likely to work part time: 88 per cent of men in the 45-54 year age group participate in the workforce, compared with 71.5 per cent of women; 92 per cent of employed men worked full time, compared to 57 per cent of employed women (*Labour Force Australia, 6203.0 April 2002, Tables 13 and 16.*)
- Women are more likely than men to have major responsibility for unpaid household activities. In 1997, men aged 35-44 spent 352 minutes per day in employment related activities, 92 minutes per day in domestic activities and 38 minutes per day in child

care. Women however, spent 165 minutes per day in employment related activities, 206 minutes per day in domestic activities and 80 minutes per day in child care. These patterns were largely similar for the 45-54 year old age group, although the amount of time spent on child care activities reduced dramatically for both men and women. (*Time Use Survey, 1997. ABS Catalogue 4153.0, page 55*)

- Women earn significantly less than men. The ratio of female/male average weekly earnings amongst 45-54 year olds is equal to 75 per cent for those in full-time employment (*Trade Union Membership and Employment Benefits, Australia 6310.0, August 2001 p. 12.*)
- Women born in 1950 have an average of 2.3 children, the median age of '1950 mothers' upon the birth of their first child was 25.9 years. The corresponding figures for women born in 1960 are 2.12 children and 28 years, respectively. (*Births Australia, 2000, 3301.0, Table 8.5*)

Some older baby boomers may have already retired and available information tells us that women and men retire from full time work for different reasons. Among retired women who were 45 or over in 1997 (now 50 years or over), 19 per cent retired to get married, 18 per cent retired to have children, 12 per cent retired to look after their family, the house or someone else and another 12 per cent retired due to their own ill health or injury. Men, however, retired because of their own ill health or injury (33%), because they had reached a compulsory retiring age (20%) or they were too old or had reached an appropriate retiring age (17%) or because they were retrenched (12%).

Among those who had retired from full-time work aged 45 or more, some differences in income sources were evident between males and females. At retirement from full-time work, the most common main source of income for males was an age or service pension (23%). For females, the most common main source of income was someone else's income (38%).

Profiling the Work Patterns of 'Young' and 'Old' Baby Boomers

While national averages can give us a general picture of the experiences of baby boomers, more detail can be provided by examining the actual life experiences of a range of individuals. By doing this, we can gain an understanding of the variety of circumstances faced by those who will retire over the coming decades and illustrate that not all issues apply equally to all future retirees.

Work Patterns

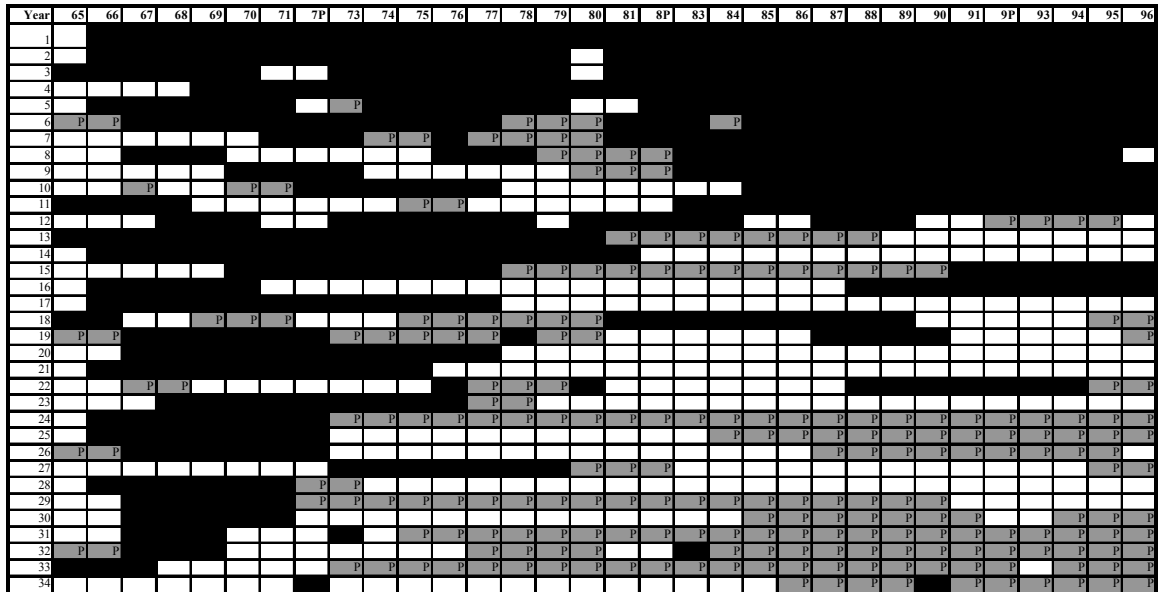
To illustrate the working life experiences of baby boomers, we draw on data from the 1997 Negotiating the Life Course Survey (Baxter, Jones, McDonald and Mitchell (2001)⁴. In this survey, over 2,000 randomly selected participants were asked wide ranging questions about their lives at home and at work. From the data, we have selected the experiences of 143 men and women born in 1950 and 1960 to construct profiles of 'old' and 'young' baby boomers. Our focus is on key factors known to affect superannuation accumulations, such as employment patterns, occupation and career paths and access to superannuation. Within the '1950 born' cohort there are 34 women and 32 men. The '1960 born' cohort is comprised of 42 women and 35 men.

We begin with an examination of employment patterns. Figures 1 to 4 illustrate, graphically, the actual employment histories of, respectively, men born in 1950, women born in 1950, men born in 1960 and women born in 1960. Two obvious features stand out: (a) the high incidence of full-time work amongst men; and (b) the absence of any clear 'typical' work pattern in the life course of women. By 1997 men born in 1950 had, on average, spent 27 years in full-time employment; this compares with 14 years for women born in 1950. Similarly by 1997, the men born in 1960 had spent an average of 19 years in full-time employment compared with 10 years for women of the same age. Women, however, spend more time in part-time employment than men. In round terms, for the 1950 group, women spent an average of 7 years in part-time work, compared with

⁴ While the original data used in this section are from Peter McDonald et al Negotiating the Life Course, 1997 [computer file]. Canberra: Social Science Data Archives, The Australian National University, 2000, the authors of this article bear full responsibility for the further analysis and interpretation of the data supplied.

3 years for men; the corresponding shares for the 1960 group were 6 and 2 years, respectively.

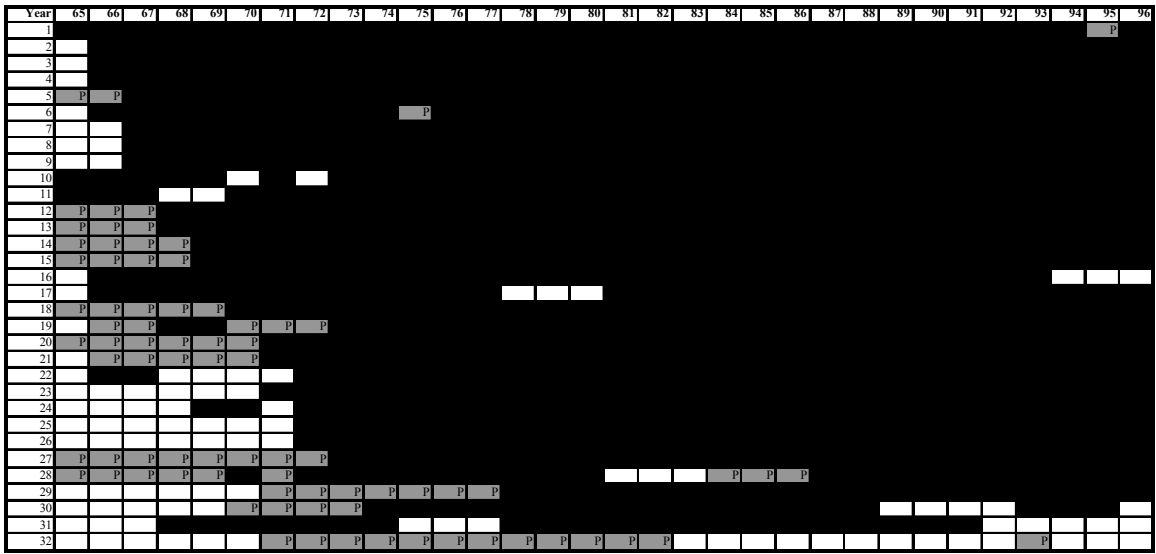
Figure 1: Patterns of Workforce Participation: Women born in 1950



Legend: Each row of this grid represents the working life of an individual respondent. Black rectangles denote a year of full time employment, grey denotes part-time employment and white denotes a year of not being in paid work.

Source: Original data are from Peter McDonald et al Negotiating the Life Course, 1997 [computer file]. Canberra: Social Science Data Archives, The Australian National University, 2000. The authors of this article bear full responsibility for the further analysis and interpretation of the data supplied.

Figure 2: Patterns of Workforce Participation: Men Born in 1950



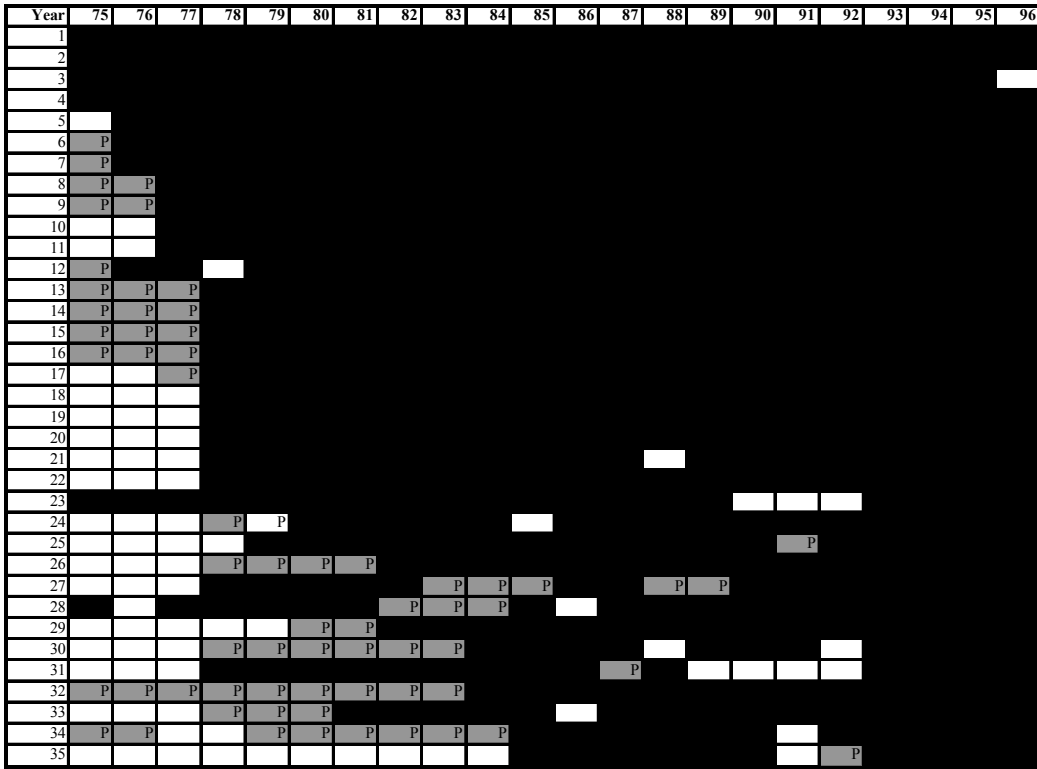
Note: See notes attached to figure 1.

Figure 3: Patterns of Workforce Participation: Women Born in 1960

Year	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	
1																							
2		P																					
3		P	P	P																			
4		P										P										P	P
5																						P	P
6			P	P																			P
7			P	P	P																		
8		P														P	P	P	P				
9																							
10		P	P	P	P	P	P	P		P													
11										P	P	P	P				P						
12				P	P																		P
13																		P	P	P			
14																			P				
15		P	P	P	P														P	P		P	P
16			P	P	P																		
17		P																		P	P		
18																							
19																							
20		P	P	P	P	P	P	P	P											P	P	P	P
21		P	P	P	P	P	P	P				P	P			P	P			P	P		
22																							
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33		3	P	P	P	P		P	P	P	P	P	P	P	P	P	P	P	P				
34		3	P	P	P																		
35		P	P	P																			
36		P	P	P	P	P																	
37		P	P	P	P																		
38																							
39																							
40		P	P	P																			
41				P																			
42																							

Note: See notes attached to Figure 1.

Figure 4: Patterns of Workforce Participation: Men Born in 1960



Note: See notes attached to Figure 1.

If each year of part-time work is given a weighting of half a year, then, over their lifetime, men born in 1950 and 1960 will accumulated, on average, 44.5 and 45.0 years of work experience, respectively. The corresponding rates for women born in 1950 and 1960 are 26.5 and 28.2, respectively. In other words, on average, women will spend around 40 per cent less time in paid employment when compared to men.

Occupation, Career and Earnings

Upon leaving school and commencing work, several important differences between the occupations of men and women become apparent in the survey data. While roughly similar proportions of men and women entered professional and managerial occupations, there were marked differences in the occupations of men and women in trade and semi-skilled occupations. Men were more likely to commence their working life in a trade or related occupation in comparison with women who entered clerical and service occupations at either an intermediate or elementary level in greater numbers. This pattern of occupational employment tends to concentrate women in labour market sectors which have relatively low pay rates. In relation to respondents in professional occupations, it should be noted that women professionals tend to be concentrated in the areas of Teaching and Nursing, again, labour market sectors with relatively low pay rates compared to other professions (Nowak and Preston, 1999).

Table 1: First Occupations - Survey Participants born in 1950 and 1960

	Born in 1950				Born in 1960			
	Women (n=34)		Men (n=32)		Women (n=42)		Men (n=35)	
	n	%	n	%	n	%	n	%
Managers and Administrators							1	2.9
Professionals	6	17.6	6	18.8	9	21.4	5	14.3
Associate Professionals	1	2.9	5	15.6	2	4.8		
Tradespersons and related workers	1	2.9	10	31.3	3	7.1	15	42.9
Advanced clerical and service workers	3	8.8			4	9.5		
Intermediate clerical and service workers	8	23.5	4	12.5	13	31.0	6	17.1
Intermediate production and transport	2	5.9	4	12.5	1	2.4		
Elementary clerical, sales and service	8	23.5	2	6.3	6	14.3		
Labourers and related workers	4	11.8	1	3.1	4	9.5	8	22.9
Response missing	1	2.9						

Source: Peter McDonald et al Negotiating the Life Course, 1997 [computer file]. Canberra: Social Science Data Archives, The Australian National University, 2000.

Analysis of occupation of employment at the time of the survey in 1997 suggests that, over the life course, men are more likely to move into higher status occupations, whilst the proportion of women in employment at the time of the survey are more likely to be within their original occupation (the relatively high share of women with missing values to this question reflects the fact that many were not in paid employment at the time of the survey).

Table 2: 1997 Occupations - Survey Participants born in 1950 and 1960

	Born in 1950				Born in 1960			
	Women (n=34)		Men (n=32)		Women (n=42)		Men (n=35)	
	n	%	n	%	n	%	n	%
Managers and Administrators			4	12.5	2	4.8	5	14.3
Professionals	6	17.6	6	18.8	6	14.3	4	11.4
Associate Professionals	1	2.9	6	18.8	7	16.7	3	8.6
Tradespersons and related workers	2	5.9	4	12.5	1	2.4	9	25.7
Advanced clerical and service workers	1	2.9			2	4.8		
Intermediate clerical and service workers	3	8.8	4	12.5	8	19.0	3	8.6
Intermediate production and transport	1	2.9					3	8.6
Elementary clerical, sales and service	2	5.9	1	3.1	1	2.4	3	8.6
Labourers and related workers	4	11.8	1	3.1	3	7.1		
Responses missing or not fully specified (includes not having a paid job)	14	41.2	6	18.8	12	28.6	5	14.1

Source: Peter McDonald et al Negotiating the Life Course, 1997 [computer file]. Canberra: Social Science Data Archives, The Australian National University, 2000.

Clearly the differing work patterns, associated levels of experience and promotion opportunities have implications for the income levels of men and women. Although the sample sizes are relatively low for disaggregation purposes, indicatively we can see that amongst those employed full-time, there is a sizeable gender wage gap. The small number of women born in 1950 working full time in 1996 earned an average of \$42,000 per annum, compared with men's average of \$55,000. Similarly, 1960 born women working full time earned an average of \$34,000, while the men's average was \$43,000.⁵

Access to Superannuation

The differing employment patterns (in terms of attachment and occupation) are also associated with differing degrees of access to occupational superannuation. While less than a third of women in this survey make superannuation contributions, 75 per cent of men born in 1950 and 65.7 per cent of men born in 1960 make superannuation

⁵ These results include only those responses expressed in terms of a yearly, gross salary. Where responses are inconsistent with these conditions, they have been excluded from the average.

contributions. Similarly, there are disparities between the proportion of men and women who have employers contributing to superannuation on their behalf. This is particularly relevant to the group of women born in 1950, where only 38.2 per cent stated that an employer was making contributions on their behalf. The rate for women born in 1960 was much higher, at 61.9 per cent. For men, the rates were 65.6 per cent and 80.0 per cent respectively. Men in both groups are also more likely than women to have employers contributing above the compulsory SGC rate, as shown in Table 3.

Table 3: Access to Superannuation

	Born in 1950				Born in 1960			
	Women (n=34)		Men (n=32)		Women (n=42)		Men (n=35)	
	n	%	n	%	n	%	n	%
Does respondent contribute to superannuation								
Yes	11	32.4	24	75.0	13	31.0	23	65.7
No	23	67.6	8	25.0	29	69.0	12	34.3
Does respondent's employer contribute to SA								
Not relevant to respondents situation	17	50	10	31.3	16	38.1	6	17.1
Yes	13	38.2	21	65.6	26	61.9	28	80.0
No	4	11.8	1	3.1			1	2.9
Does employer contribute above compulsory level								
Not relevant to respondents situation	21	61.8	11	34.4	16	38.1	7	20
Yes	4	11.8	15	46.9	6	14.3	8	22.9
No	9	26.5	5	15.6	18	42.9	15	42.9
Don't know			1	3.1	2	4.8	5	14.3

Source: Peter McDonald et al *Negotiating the Life Course*, 1997 [computer file]. Canberra: Social Science Data Archives, The Australian National University, 2000.

Marriage and Family Formation

Table 4 outlines the legal and ‘partnered’ status of participants in the survey. It shows that most people were either married and living with their spouse or were living with someone, although not legally married. However, among the 1950 cohort, 32 per cent of women and 22 per cent of men described themselves as not being in a relationship. Similarly, 13 per cent of women and 29 per cent of men from the 1960 cohort described themselves in these terms. This illustrates the importance of individual superannuation entitlements, as a significant minority of people may not be able to rely upon a partner as a source of retirement income. The differences between the legal and ‘partnered’ marital status statistics also suggest that some people who are legally married are not necessarily residing with their spouse. It is therefore difficult to assume that, even in cases where people describe themselves as married, that they will necessarily be sharing financial resources with a spouse.

Table 4: Marital Status of Survey Participants born in 1950 and 1960

	Born in 1950				Born in 1960			
	Women (n=34)		Men (n=32)		Women (n=42)		Men (n=35)	
	n	%	n	%	n	%	n	%
Family/Household Partnered Status								
Not presently in a relationship	11	32.4	7	21.9	5	11.9	10	28.6
In a relationship but not living with them	2	5.9	2	6.3	1	2.4	1	2.9
Living with someone but not legally married	2	5.9			2	4.8	1	2.9
Married and living with spouse	19	55.9	23	71.9	34	81.0	23	65.7
Legal marital Status								
Never married	4	11.8	5	15.6	3	7.1	7	20.0
Married	23	67.6	23	71.9	36	85.7	24	68.8
Divorced	6	17.6	4	12.5	3	7.1	4	11.4
Widowed	1	2.9						

Source: Peter McDonald et al Negotiating the Life Course, 1997 [computer file]. Canberra: Social Science Data Archives, The Australian National University, 2000.

Table 5 summarises some aspects of family formation by survey participants and highlights some significant differences between the men and women who took part in the

survey. Firstly, a significantly higher proportion of men than women had not had children by 1997, at which time the two cohorts would have been aged 47 years and 37 years. For both groups of men, over 20 per cent did not have children, compared with 14.7 percent of 47 year old women and 9.5 per cent of 37 year old women. Further, among those with children, women had, on average, a higher number of children than men. While not the focus of this paper, it is possible that this is the outcome of the tendency for women to marry men older than themselves and of declining fertility rates. This may in turn have implications for the relative ability of men and women in a specific age cohort to save for their retirement from the workforce.

Table 5: Family Formation - Survey Participants born in 1950 and 1960

	Born in 1950				Born in 1960			
	Women (n=34)		Men (n=32)		Women (n=42)		Men (n=35)	
	n	%	n	%	n	%	n	%
Have No Children	5	14.7	8	25.0	4	9.5	8	22.9
Have Children:								
Average number of Children	2.75		2.29		2.52		2.0	
Average age at Birth of First Child	24		28		26		28	

Source: Negotiating the Life Course Survey

Summary

There is little doubt that the life course experiences of women and men vary significantly. Whilst men, for example, exhibit a strong degree of attachment to the workforce, the same cannot be said for women. In contrast with men's relatively homogeneous pattern of long term, full time employment, women present a diverse range of employment patterns. While a few may have long-term periods of full time employment, it is more typical for women to combine periods of full-time employment, part-time employment and time out of the formal labour market as they meet a range of paid and unpaid responsibilities throughout their life course. They are also more likely to be in lower paying occupations, have relatively flat career paths and to have limited access to superannuation contributions made on their behalf. Partnering patterns mean that a significant minority of baby boomers are unlikely to have a partner with whom financial

resources will be shared, making access to individual sources of retirement particularly important.

5. Estimating Superannuation Accumulation: Micro-Simulations

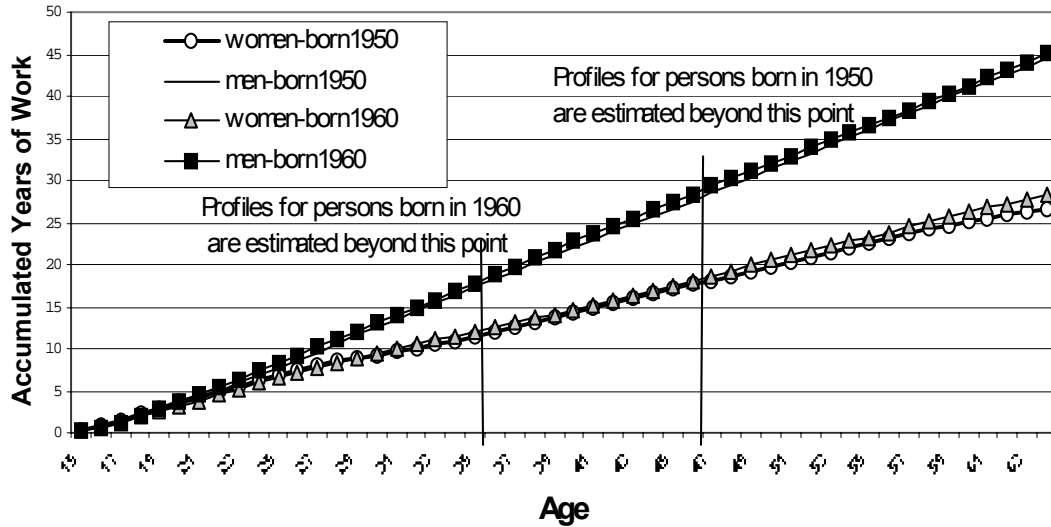
In this section micro-simulations are used to estimate or project the superannuation accumulations (or final account balances) of male and female baby boomers. The approach is similar to that outlined in Austen, Jefferson and Preston (2002), although there are two main points of departure: firstly, the focus in this paper is restricted to baby-boomers. Secondly, and perhaps more importantly, we are able to draw on actual (and projected) work histories to make claims with respect to the ‘average’ male and females born in 1950 and 1960. Earlier work constructed employment histories for hypothetical individuals to clearly illustrate how differing levels of workforce attachment affected on superannuation accumulations.

Data and Approach

Using data from the 1997 Negotiating the Life Course Survey, actual and projected work experience profiles are constructed for each individual born in 1950 and 1960. (The actual employment histories are illustrated in Figures 1 through 4). To project or create an employment history for each individual beyond 1997 we use a ‘mirror’ approach, ie. we replicate (backwards) each individual’s employment history until age 65. (In other words, activity in 1998 is equated with 1997 history; 1999=1996; 2000=1995 etc.). Our guiding assumption here is that a person’s previous employment history is probably the best predictor of their future history. That is, we have assumed that those with weak levels of attachment to the workforce, for example, are likely to continue to exhibit such patterns in the future. Comparison of the projected profiles for those born in 1960 with the actual profiles of those born in 1950 suggests that the approach is satisfactory (see Figure 5).

Figure 5

**Accumulated Average Years of Experience in Paid Employment:
by Gender, Age and Year Born**



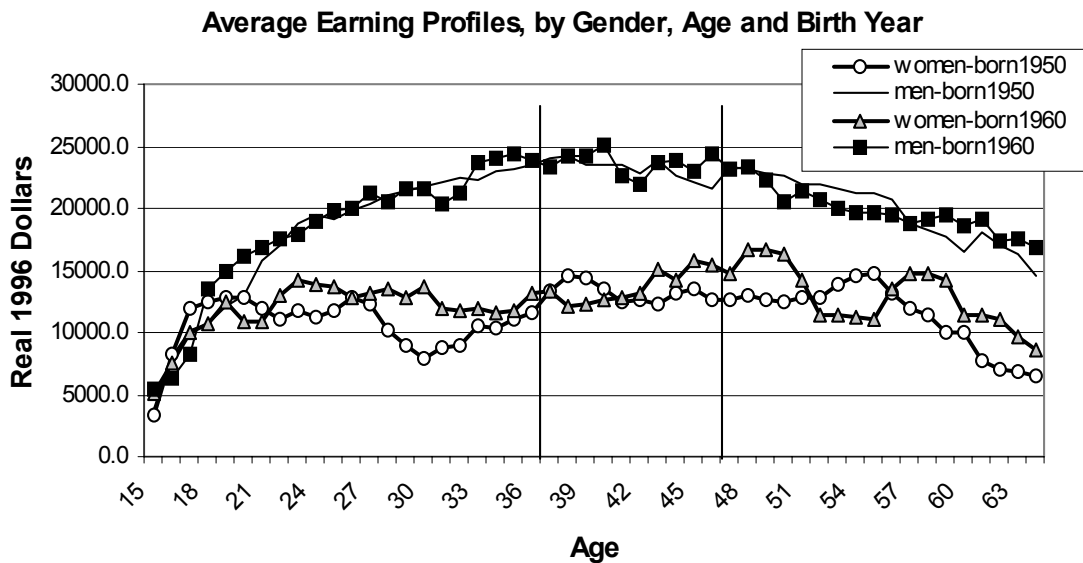
Estimates of the amount of savings an individual could accumulate under particular occupational superannuation arrangements requires data on: the lifetime earnings of the individual; information on the proportion of their income devoted to superannuation at different stages of their working life; as well as estimates of rates of return on these investments net of taxes, fees etc. To estimate life-time earning profiles we follow the approach used in Preston and Austen (2001) and use the Australian Bureau of Statistics 1996/97 *Income Distribution Survey* (IDS) to identify the average annual ‘starting’ salaries of a young person (aged 18). In 1996 this average wage for full-time work was \$16294. Persons in part-time employment are assumed to work a 50 per cent load (ie. 19/38 hours per week)⁶.

To construct age earning profiles for each individual in the four groups we use the coefficients from the wage equation reported in Preston and Austen (2001). The

⁶ This is a reasonable assumption. Data from the Australian Labour Force Survey show that in 2000/2001 the average hours of males and females in part-time employment was 21 and 19, respectively. In 1991/92 the corresponding hours were 21 and 18, respectively.

coefficients on the controls for work experience show how much wages grow for each additional year of work experience. The estimates are for a person with an average educational background. Having constructed age-earning profiles for each individual in the four groups, they are then averaged to form an average-earnings-age profile for each birth cohort. The result is illustrated in Figure 6.

Figure 6



In studies of the age-earning profile it is common to find that earnings increase at a decreasing rate, that profiles are higher and steeper for more educated people, and that profiles are steeper for men (Miller 1992). Our age earning profiles take on similar characteristics. The flatter female profile, however, reflects the fact that the earnings represent an average of the full-female sample for each age/birth group and that at each point in time some of the group will be in full-time employment, some will be in part-time employment and some not in employment.

It is apparent from these data that, over the life course, men are able to accumulate more income from wage and salary employment than women. Their capacity to accumulate a private retirement income is, similarly, higher.

To estimate the level of superannuation accumulated we make the following assumptions:

- Contributions to superannuation savings comprise only the minimum amounts mandated by the SGC.⁷ The SGC was gradually phased in between 1992 and 2002; the rate of compulsory contributions is now set at 9 per cent.
- Earnings in the superannuation funds increase at a real rate of interest equal to 3.25 per cent per annum.⁸
- A 15 per cent tax is levied on contributions. No allowance is made for a superannuation surcharge or other taxes (including taxes on retirement income).
- The preservation age for women and men is 65 years.
- The respondent makes no additional contributions.⁹

Table 6 shows the gross life-time income and nest-egg accumulated under the SGC. It is apparent that women's gross life-time income and superannuation balances are directly related to the amount of time spent in paid employment. As noted earlier, Australian women will, on average, spend around 40 per cent less time in paid work over their life time. Their gross life-time earnings will, as a result equate to around 60 per cent of that earned by men, as will the amount accumulated under the SGC.

⁷ This assumption is fairly reasonable. According to ABS data collected in 2000, only 18.7 per cent of women in employment have superannuation fund which consist of personal/spouse contributions *and* employer/business contributions. (Amongst men the corresponding share is 25.2 per cent) (ABS 6361.0, Table 15). Table 3 similarly suggests that women are less likely to be covered by arrangements where the employer makes contributions above the compulsory level.

⁸ This equates to the standard investment real rate of interest recommended by the Australian Securities and Investment Commission (ASIC) for use when calculating investment returns on a balanced style investment portfolio.

⁹ Table 3 again shows that, for women, this is a fair assumption. In 1997 of the women born in 1950, only 32 per cent were contributing to superannuation; the corresponding share for women born in 1960 was 31 per cent. In other words, around 70 per cent of women in the sample did not make voluntary contributions to a superannuation fund.

Table 6: Gross Life-Time Income and Accumulated Superannuation Savings

	Born 1950		Born 1960		Women/Men Shares (%)	
	Men	Women	Men	Women	1950	1960
Gross Life-Time Income	\$978,447	\$579,976	\$990,901	\$629,321	59.3%	63.5%
Super Balance	\$39,879	\$22,960	\$77,998	\$47,515	57.6%	60.9%

Notes: Amounts shown are in real 1996 dollars. The reported accumulated balances at age 65 (which is 2015 for those born in 1950 and 2025 for those born in 1960).

The Superannuation Guarantee Charge (SGC), as noted above, was first introduced in 1992 and gradually phased in over the period 1992 to 2002. Accordingly, baby-boomers are at a disadvantage relative to future cohorts. A comparison of the accumulations of those born in 1950 with those born in 1960 reveals that the former have, around half the savings of the latter (equal to 51 and 48 per cent for males and females, respectively). Comparisons of balances that would have been accumulated had the scheme been introduced when the respondents were age 15 (and thus first entering the workforce) are shown in Table 7. The amount accumulated by baby boomers born in 1960 will equate to around 50 per cent of that accumulated by those who first entered the labour market in 1992. The corresponding amount for those born in 1950 is around 25 per cent.

Table 7: Comparisons of Accumulated Superannuation Savings under Partial and Fully-Mature SGC Arrangements

	Fully Mature SGC System	Born 1960 (Age 65 in 2025)	Born 1950 (Age 65 in 2015)	1960/ Full SGC	1950/ Full SGC
Men	\$158,388	\$77,998	\$39,879	49.2%	25.2%
Women	\$99,769	\$47,515	\$22,960	47.6%	23.0%

Notes: Amounts shown are in real 1996 dollars

If these balances were used to purchase an annual annuity which completely exhausted the principal by the time of death¹⁰ it is apparent from the schedule below that the private pension flow that women are able to purchase will fall far short of the amount required to

¹⁰ Life Tables suggest that Australian men and women who reach 65 may expect, on average, to live for another 16. and 20.2 years, respectively.

be a self-funded retiree. Even if women were able to accumulate a nest-egg of \$200,000, this would only deliver a private pension stream of \$15,498 per annum. However, as it is our female baby boomers born in 1950 and 1960 will accumulate around \$23,000 and \$48,000 respectively – giving each an annual private income of less than \$3000.

Table 8: Present value of superannuation annuities – projections for women

Lump Sum Invested	\$200,000	\$150,000	\$100,000	\$50,000	\$20,000
Private Pension (per annum) – for women	\$15,498	\$11,623	\$7,749	\$2,941	\$1,550

Source: Preston and Austen 2001: Table 11 (1996 dollars).

It is apparent from these estimates that baby boomers are, on average, likely to remain highly dependent on the Age Pension in retirement and will have insufficient funds to be a fully self-funded retiree. In 1996 the Age Pension, set equal to 25 per cent of male average total weekly earnings (MATWE) was equal to \$8753 – an amount higher than that which could be purchased by investing a lump-sum of \$100,000.

The size of the accumulated balances will, of course, vary depending on assumptions made about earnings, contributions and real rates of return within the superannuation fund. The comparator shares will, however, remain relatively stable. In other words, even under different assumptions about starting salaries, the average baby boomer born in 1950 will still only accumulate a nest-egg around 25 per cent the size of an average person who turned 15 in 1992 (and is now aged 25).

That said, some comments should be made about superannuation balances suggested here and those projected by NATSEM (National Centre for Social and Economic Modelling). Table 9 below summarises results reported in Tables 4 and 6 from Kelly, Harding and Percival (2002: 10-13) on average balances for baby boomers. According to NATSEM's estimates female baby boomers born around 1960 would have had an average superannuation balance of around \$13,713 in 1999. Their elder sisters (born around 1950) would have amassed around \$24,012 by 1999. These estimates are considerably higher than those projected in this paper (and also shown in Table 9 for comparative purposes).

It is difficult to reconcile the differences, although the obvious difference is that our projections assess accumulations under the SGC only and do not allow for voluntary contributions. Kelly et. al.'s include compulsory and voluntary contributions and a comparison of the results for women in each cohort suggests that it must be the voluntary component that is driving the result.

Our projections suggest that, under the SGC alone, the amounts accumulated by women in each birth cohort would have been roughly similar in 1999 – on account of the fact that they would have had similar exposure to the SGC. Moreover, earlier figures presented in Table 3 indicate that, of the women born in 1950 and 1960 and included in the 1997 NLC survey, around 70 per cent did not make voluntary contributions. (The opposite, however, held for men born in 1950 and 1960, with around 70 per cent of respondents to the 1997 NLC survey indicating that they did make voluntary contributions). We, therefore, suggest that the average balances simulated by NATSEM possibly over-estimate the potential accumulations of women.

Table 9: Estimated Average Superannuation Balances, 1999 Dollars

	Aged 35-39 in 1999 (ie. Born around 1960)			Aged 45-49 in 1999 (ie. Born around 1950)		
	Men	Women	Gender Ratio (%)	Men	Women	Gender Ratio (%)
1999	\$33,357	\$13,713	41.1	\$67,076	\$24,012	35.8
1999 ^(a)	\$9,561	\$5,150	53.9	\$9,196	\$4,965	54.0
2020	\$172,049	\$87,841	51.1	-	-	
2020 ^(a)	\$74,436	\$45,525	61.2			

Notes: (a) these estimates are from the micro-simulation projections used in this paper. The estimates based on 1996 dollar values have been indexed to 1999 rates using the assumption of real annual average wage growth equal to 4 per cent.

A similar conclusion is arrived at when comparing NATSEM's projections on median account balances with actual estimates for the same period. Consider Table 10 below, which is a replica of Table 2 in Kelly, Percival and Harding (2001:24). It shows that by 2000 the median account balance of women aged 55-64 was around \$29,459. In 2000 the median balance for the pre-retired population with superannuation coverage and aged between 55 and 69 was \$38,269 for men and \$18,815 for women – a third less than that estimated by NATSEM (ABS Cat. No. 6360, unpublished data).

Table 10: Estimated Superannuation Balances for Females with Superannuation, Aged 55-64, selected years 2000-2030

Percentile	2000	2010	2020	2030
90%	\$47,042	\$103,110	\$179,705	\$290,632
Median	\$29,459	\$61,674	\$109,600	\$183,638
10%	\$3,850	\$27,226	\$55,032	\$93,414

The difference in the NATSEM results and the ABS official figures thus highlights the importance of underlying assumptions in the micro-simulation process. As noted earlier, there is no such thing as an ‘average’ or ‘typical’ woman, making it hard to develop a set of robust assumptions. Aside from the issue of voluntary contributions, some of NATSEM’s more challenging assumptions as applied to women include allocated starting balances in 1993, division of family assets on divorce, real interest rate in superannuation funds and coverage rates. Projections in the NATSEM model, for example, estimate that by 2000 almost all people will be covered by superannuation (Kelly et al, 2001: 14). ABS data on coverage, however, shows that in 2000, of the pre-retired population one quarter (28.6 per cent of women and 21.8 per cent of men) were without superannuation (see Austen, Jefferson and Preston, 2002: 12).

It is clear from the above discussion that projecting the superannuation balances of women, in particular, is fraught with difficulty. Amounts projected depend, in part, on assumptions with respect to starting salary, rate of interest in superannuation fund etc. However, ignoring the final dollar balances, the results show a clear pattern of women’s disadvantage relative to men. Figures reported in Table 8 show that by 2020, women born around 1960 will have average balances which are 40 per cent less (if comparisons are made solely on SGC balances) or around 50 per cent less if voluntary contributions are also allowed for.

From whatever vantage the question is approached, it is apparent that the amounts accumulated by baby boomers (and women in particular) will fall short of amounts required in retirement, leaving baby boomers highly dependent on the Age Pension – a critical pillar of the Australian retirement income framework and one which is rarely the subject of debate.

6. Summary and Conclusion

This paper uses micro-simulation analysis to estimate the average nest-egg or balance in the superannuation funds of baby-boomers – specifically persons born in 1950 and 1960. The focus is principally on amounts accumulated under the SGC, since around 70 per cent of women do not make additional contributions. Thus, the gender comparisons (female/male ratios) are thus over-estimates in that the projections for men in this paper most likely underestimate their total balances were voluntary contributions also to be included.

The main findings in the paper are as follows:

- The SGC accumulations of baby-boomers born around 1960 will equal around half of the total SGC accumulations of persons covered by the SGC over their entire working life. Baby boomers born around 1950 will accumulate around one quarter of the total amount amassed by the latter group.
- Australian women will, on average, spend around 40 per cent less time than men in paid employment over their life course – thus affecting their earnings potential and superannuation accumulations relative to men.
- The gender ratio or common ratio of women’s SGC superannuation balances relative to men’s SGC superannuation balances, is around 60 per cent – irrespective of birth cohort. The gender gap in superannuation balances widens when voluntary contributions are taken into account.
- Female baby boomers will remain highly dependent on the Age Pension in old age. They will need to accumulate a nest-egg of around \$100,000 (in 1996 dollars) to return a private pension roughly equivalent to the Age Pension. However, simulated projections – even with NATSEM’s generous assumptions – suggest that the average superannuation balances of female baby-boomers (old and young) will fall far short of this mark.

The main conclusion arrived at in this paper is that the Age Pension will remain a significant source of retirement income for most female baby boomers and that policy makers have to direct attention to this important pillar of the Australian retirement incomes framework. Tinkering with superannuation policy (eg. income splitting, forcing

employers to make more regular payments, increasing the compulsory component and reducing the tax rate for high income earners) will not help the majority of women in retirement. The question as to how all older Australians can secure their income needs in later life needs to be urgently addressed by government. As a minimum it requires explicit commitment to the maintenance of an adequate age pension safety net.

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