

Assessing Age Pension Options: Public Opinion in Australia 1994-2001 with Comparisons to Finland and Poland *

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Abstract

This working paper assesses Australians' views on alternative old age pension systems. We find that a no-pension system is very unpopular (28 points out of 100, on average), and a universal pension system fairly popular (62 points, on average), with other systems in between. The current catchment of the current system was not asked about directly in the existing data, but forecasts of its likely rating, based on interpolation between the ratings of the other systems suggest that it would draw ratings of around 55, on average. The existing data do not include any variations in age at access, which ought to be inquired about in future research, because varying that might accommodate goals of containing or reducing spending with public preference for widespread access. Our temporal analysis found no trends between 1993 and 2000 in ratings of any of the alternative pension systems, so the universal age pension still remains the most popular option. Our multivariate analysis found little sign of self-interest in attitudes towards old age income systems: age, occupation, income, and workforce participation do not have important influences on these attitudes, and the education and gender effects do not support a self-interest interpretation. Instead, attitudes towards old age income systems are linked to other political attitudes – to party preferences and to attitudes towards general consumer subsidies. Ideals about the provision of old age income appear to be strongly shaped by other aspects of political ideology, and only lightly touched by self-interest.

INTRODUCTION

Origins of the age pension

The Australian age pension was introduced to provide decent support during the vulnerable last five years of life, when disability and rapid health deterioration are common (e.g. Borowsky and Ozanne 1993; Johnson 1996). Because the pension was attached to a fixed age, and the human life span has dramatically expanded, it now covers a much longer (and ever-increasing) span (Borowsky and Hugo 1997; Kendig and McCallum 1990; McDonald 1997), with Australians having among the highest life expectancies in the world (Jensen 2000: 26). But just because the extension of the pensionable age span occurred inadvertently, does not necessarily mean that it would be easy to reverse; Australian men are among the most likely in the developed world to be working in late middle age and early old age (Evans 1999a: 23).¹ Nonetheless, to people aiming to curb the welfare state, getting healthy people in late middle age to take financial responsibility for themselves seems like an obvious place to start, as is abundantly clear in the Department of the Treasury's "Intergenerational Report".

Origins of the age pension

On the other hand, in Australia and throughout developed world, policy elites -- the constellations of legislators, senior public servants, high-level trade union officials and representatives of employers associations, journalists, and sometimes special-interest lobbying groups who take an active role endeavouring to make policy and influence public opinion -- have been keener on shrinking the welfare state than have the people they serve (Papadakis 1990; see also the papers in Svallfors and Taylor-Gooby 1996). Theory suggests that elites pushing reform too far risk undermining the legitimacy of the government (Ferge 1997), and, indeed, quantitative research on governmental policy initiatives finds that it is normal for democratic governments to go beyond public opinion in one direction, and then suffer electoral defeats until they shift their positions into better alignment with the citizenry's values and goals (Burstein 1998).

Data

To examine public opinion on age pension possibilities, we turn to data from the IsssA, which has been tracking attitudes towards different age pension options since 1994. Founded in 1984, the IsssA (International Social Science Survey/ Australia) is Australia's longest-running social science survey. It elicits data from representative nationwide samples of Australians using a postal questionnaire method. The international data are from the ISEA (International Survey of Economic Attitudes) which includes the IsssA in Australia and partner surveys abroad.

¹ Recent Australian policy has tended towards individualisation of the costs of retirement through a (relatively new) system of tax-advantaged deferred pay called "superannuation". Australian attitudes towards superannuation are the focus of another module of the larger project on attitudes towards the provision of old age income of which this is a part, and analyses of them are in progress.

A detailed analysis by Sikora (1997) finds these data to be representative, except for slight underrepresentations of the very youngest and the very oldest adults. More details are in Appendix A, in Kelley and Evans (1999) and in Evans and Kelley (2002: Appendix).

Plan of the paper

In this paper we begin by describing Australians' attitudes towards various possible age pension systems. Fortunately, there are strictly comparable overseas data from the ISEA that enable us to assess some international differences. We then provide an assessment of changes over time. Valuable as such descriptions are in assessing the overall state of opinion, one also wants to know why people think the things they do, and for that we turn first to a review of pertinent hypotheses and evidence from prior research, and then to a multivariate analysis testing these hypotheses in our data.

DESCRIPTION

Data and question sources

We begin with frequency distributions of opinions concerning different systems for the provision of old age incomes (using the variables envisioned in our proposal), then assess how those opinions have been changing over time, and how they compare internationally, and then investigate social differences concerning these different systems. We begin with the pooled sample including data from the Isssa surveys of 1993, 1994, and 2001.²

Pooling the surveys yields a total of about 4,830 cases, varying somewhat from item to item depending on missing data, so the estimates of the distributions and, especially of the means summarizing the distributions are quite precise. The potential answers are presented as an equal interval numeric scale (with word anchors at the ends), so it is reasonable to treat them as such in the analysis.³

To assess people's views about the ideal degree of personal responsibility vs governmental provision for old age income, the Isssa incorporated the Kangas-Ervasti "Elders" module⁴ which includes measures of evaluation of a range of possible old age government pension systems. We asked people to rate four options:

Respondents were asked to rate each system on a 7 point scale from Terrible to Best⁵. These were easy questions for respondents to answer:

² Because the Isssa is based on a simple random sample of English-speaking Australian citizens living at the addresses given by them to the electoral roll (a public document) we are justified in generalising to that population. For simplicity, we will sometimes refer to this population as "Australians". More details on sampling are in the Appendix.

³ We convert them to run from 0 to 100 simply for clarity. The location of the mean and the regression results in our scoring are simple, linear transformations of those that would be obtained in the original scoring.

⁴ The Kangas-Ervasti "Elders" module was designed and developed by Professor Olli Kangas and Dr. Heikki Ervasti, then of the University of Turku in Finland, and was adopted by the ISEA for international use.

⁵ In general, scale types and formats matter little to the psychometric quality of questionnaire items, so long as the substance of the question is clear and respondents can tell which end is high and which is low, although the reliability of ratings drops if there are under 3 answer categories or more than 9 answer categories (Milkovich and Wigdor 1991: 3). As a result, 5 to 7 answer categories are often treated as ideal, although one may need to vary this for specific purposes, such as replication.

Missing data are only 4 to 5 per cent of respondents on each of the questions, and none of the respondents' query calls to the IsssA toll-free number concerned them

What do you think of these government policies for providing income for retired people...
No government old age pension, people save for themselves
A government old age pension paid from taxes, given only to poor people
A government old age pension paid from taxes, given only to families who contributed by working and paying taxes for at least 10 years
A government old age pension paid from taxes, given to everyone over 65

Australia, pooled

The percentage distributions reported below (in Table 1.1) are based on the valid cases.

Table 1.1 Frequency distributions and descriptive statistics on attitudes towards diverse systems of financing old age income ranging from complete self-provision to government provision for all. Percentages read down. Australia 1993, 1994 and 2001; n=4,830 varying slightly due to missing data.

		No pension	Poor only	Contri-butors only	Universal pension
Best	(100)	5	9	15	27
	(84)	4	9	13	13
	(67)	8	15	17	15
	(50)	15	20	20	18
	(33)	14	17	13	11
	(17)	14	11	9	7
Terrible	(0)	40	19	13	9
		100%	100%	100%	100%
Mean		28	44	53	62
Standard Deviation		30	31	32	32

Compulsory financial autonomy for the elderly, or completely self-funded retirement, the option presented in the IsssA questionnaire as "No government old age pension, people save for themselves," attracts few adherents. Just 5 per cent of Australians give this option the highest possible marks, and another 4 per cent gave it the second highest rating. 8 per cent gave it the third highest rating and 15 per cent gave it the 4th highest rating. 14 percent gave it the fifth highest rating and another 14 per cent gave it the sixth highest rating. But fully 40 per cent give it the lowest possible rating (Table 1.1).

Indeed, “0, Terrible” is the modal answer on this question. If we score the answers at equal intervals from 0 to 100, the mean is 28, a very low score indeed, with a standard deviation of 30 reminding us that even on this question there is diversity of opinion. Aesop’s fable of “The Grasshopper and the Ant” is a perennially popular story, but Australians are not inclined to turn a cold shoulder to old grasshoppers.

Modifying individual responsibility by providing a safety net for older people who haven’t enough savings to live on -- the poverty relief system -- was the next system we asked respondents to rate. When asked how they rate “A government old age pension paid from taxes, given only to poor people,” 9 per cent give it top marks, and another 9 per cent give it the second highest rating. 15 per cent give it the third highest rating. 20 percent give a poverty relief system a neutral rating, choosing the answer half-way between “worst” and “best”. 17 per cent report feelings just on the chilly side of neutral, rating poverty-relief fifth best. 11 per cent are a bit cooler on this option, rating it sixth best . Finally 19 per cent choose the lowest option, describing the poverty-relief system as “terrible”.

The mean is 44 points out of 100 – that is 16 points higher than fully individual provision, but nonetheless still on the disapproving side of neutral. The standard deviation is 31 points out of 100, indicating substantial diversity of opinion.

A more inclusive system, the contributory pension scheme, “A government old age pension paid from taxes, given only to families who contributed by working and paying taxes for at least 10 years,” is somewhat more popular than the poor-relief system. 15 per cent give it the highest rating and another 13 per cent give it the second highest rating. 17 percent give it the third highest rating. 20 per cent choose the fourth highest rating, the neutral point. 13 per cent give it the fifth highest rating, and nine per cent give it the sixth highest rating. 13 per cent choose the lowest rating. Thus, opinions are fairly evenly distributed across the full spectrum with essentially equal numbers describing it as “Terrible” (13 per cent) and “Best” (15 per cent). The mean of 53 points out of 100, very near the neutral point, gives a concise summary of the highly diverse, essentially counterbalancing views.

A fully inclusive system, a universal age pension, “A government old age pension paid from taxes, given to everyone over 65,” receives higher ratings. 27 per cent of respondents give it the highest possible score, and another 13 per cent give it the second highest rating. 15 per cent choose the third highest rating. The neutral point, the fourth highest rating is chosen by 18 per cent. 11 per cent choose the fifth highest rating and 7 percent select the sixth highest rating. 9 per cent rate a universal age pension as “Terrible”. The mean is 62 points out of 100 which is positive, but fairly mildly positive – it is 38 points below the possible maximum (100) whereas the least popular option is much closer to the minimum possible value just 23 points above zero.

Of course, Australia’s age pension scope is between the extremes posed by the universal pension and the elimination of the age pension. We can, somewhat speculatively forecast what the rating for it would be by interpolating between the ratings. Thus, with a rating of 62 for the universal age-pension system and a rating of 28 for the system with no age pension, the difference between the two is 34 points. Because the current system currently reaches about three quarters of the elderly, it is reasonable to take a forecast that the rating for the current system would be three quarters of the distance towards the higher rating from the lower rating. That would make it 54 points out of 100 ($[[62-28]*0.75] + 28$). An alternative forecast, assuming somewhat arbitrarily that that the poverty-relief only system would reach 25% of the elderly population, would place the forecast rating two thirds of the distance from the rating for the poverty-relief- only system (44) towards the universal pension system (62). That would make it 56 points out of 100 ($[[62-44]*0.67] + 44$). These different forecasts

from the available data are only two points apart, which adds to their plausibility. This is a little above the neutral point.

Comparisons Over Time and Among Nations

Complete Self-Provision

Baseline: Australia 1993. In 1993, when these questions were first asked in Australia, 4 per cent gave complete self-provision the highest rating (Table 1.2), and another 3 percent gave it the second highest rating. 9 per cent chose the third highest rating. The neutral point, the fourth highest rating, was chosen by 15 per cent. 22 per cent chose the fifth highest rating, and 13 per cent chose the sixth highest rating. More than one third, 35%, chose the lowest possible rating. The mean was a very low 30.

Table 1.2. Attitudes toward complete self-provision of age pensions: Australia 1993-2001, Finland and Poland. Percentages read down.

	Australia 1993	Australia 1994	Australia 2001	Finland 1994	Poland 1994
Best (100)	4	7	4	2	2
(84)	3	6	3	1	1
(67)	9	8	8	3	4
(50)	15	18	12	7	13
(33)	22	10	12	17	28
(17)	13	15	14	16	21
Terrible (0)	35	38	49	54	31
	100%	100%	100%	100%	100%
Mean	30	31	23	17	25
Standard Deviation	28	32	29	23	23
Cases	1393	1998	1439	1595	1965

Australian trends. The mean rating from the IsssA survey for 1994 (31) was not significantly different from that for 1993 (30). Since then, opinion has turned against complete self provision in Australia. The mean has dropped to 23 points out of 100. Moreover, the portion of respondents choosing the bottom rating has risen from 35 per cent to 49 per cent.

International comparisons. In 1994, the distribution of attitudes in Finland was much more concentrated in the lower ratings than was the corresponding distribution in Australia. 70 per cent chose one of the bottom two ratings in the Finnish sample, compared to 53 per cent in Australia. A good summary of these attitudes is available from the mean. The mean rating of complete self-provision of retirement income was 31 points out of 100 in Australia and 17 points in Finland. Interestingly, although Poland has an even more socialist history than Finland, support for complete self-provision of retirement income was higher in Poland than Finland: the mean score was 25 points out of 100 in Poland compared to 17 in Finland. Australians began the period with attitudes that were more favourable than either the Finns or the Poles in 1994, but by the end of the period (2001), Australians attitudes were midway between the Polish and Finnish attitudes of 1994. In terms of significance tests, the Finnish mean is significantly below the Australians, but the Polish mean is not.

Poverty relief only

Baseline: Australia 1993. In 1993, when these questions were first asked in Australia, 6 per cent gave the highest rating to the option offering some government funded age pension, but limiting recipients to the poor (Table 1.3), and another 8 per cent gave it the second highest rating. 21 per cent chose the third highest rating. The neutral point, the fourth highest rating, was chosen by 18 per cent. 22 per cent chose the fifth highest rating, and 9 per cent chose the sixth highest rating. 17 per cent, chose the lowest possible rating. The mean was 45, a bit below the neutral point of 50.

Australian trends. In Australia, opinion held steady, or became very slightly more favourable towards poverty-relief-only pensions from 1993 to 1994 at 45 to 47 points on average. Since then, opinion has shifted slightly against such pensions: The mean has declined to 40 points out of 100.

Table 1.3. Attitudes toward age pensions only for the poor: Australia 1993-2001, Finland and Poland. Percentages read down.

	Australia 1993	Australia 1994	Australia 2001	Finland 1994	Poland 1994
Best (100)	6	11	9	8	3
(84)	8	11	6	6	4
(67)	21	13	13	15	18
(50)	18	22	19	22	22
(33)	22	14	17	24	33
(17)	9	12	12	13	12
Terrible (0)	17	18	24	12	9
	100%	100%	100%	100%	100%
Mean	45	47	40	45	42
Standard Deviation	29	32	32	28	23
Cases	1392	2043	1435	1596	1921

International comparisons. In 1994, the distribution of attitudes towards the poverty-relief-only-old-age pension in Finland was no more concentrated in the lower ratings than was the corresponding distribution in Australia. For example, 25 per cent chose one of the bottom two ratings in the Finnish sample, compared to 30 per cent in Australia. A good summary of these attitudes is available from the mean. The mean rating of a poverty-relief-only pension was 47 points out of 100 in Australia and 45 points in Finland. Support was fractionally lower in Poland than in Finland: the mean score was 42 points out of 100 in Poland compared to 45 points in Finland. Australians began the period with attitudes similar to the Finns in 1994, but by the end of the period (2001), Australians attitudes were fractionally more opposed to poverty-relief only pensions than were the Poles of 1994. Compared to the Australian average of 44 points (pooled over years), the Finnish and Polish means are not significantly different.

Contributory Pensions

Baseline: Australia 1993. In 1993, when these questions were first asked in Australia, 11 per cent gave the highest rating to the option offering a government funded age pension for people who had contributed to it by working for 10 years, a bit under one quarter of their potential working life⁶ (Table 1.4).

⁶ For this purpose, let working life be defined as age 20 to age 65.

Another 11 per cent gave it the second highest rating. 21 per cent chose the third highest rating. The neutral point, the fourth highest rating, was chosen by 20 per cent. 19 per cent chose the fifth highest rating, and 7 per cent chose the sixth highest rating. 12 per cent chose the lowest possible rating. The mean was 51, almost on the neutral point of 50.

Australian trends. In Australia, opinion held steady, or became very slightly more favourable towards contributory pensions from 1993 to 1994, with the mean rising from at 51 to 55 points on average. Since then, opinion has subsided to its 1993 position on contributory pensions: The mean has fallen to 52 points out of 100. These are not large changes.

Table 1.4. Attitudes toward age pensions only for those who have contributed: Australia 1993-2001, Finland and Poland. Percentages read down.

	Australia 1993	Australia 1994	Australia 2001	Finland 1994	Poland 1994
Best (100)	11	16	18	4	18
(84)	11	15	11	6	17
(67)	21	16	15	14	38
(50)	20	20	20	19	15
(33)	19	11	11	24	9
(17)	7	10	9	17	2
Terrible (0)	12	12	16	16	2
	100%	100%	100%	100%	100%
Mean	51	55	52	39	68
Standard Deviation	30	32	34	27	22
Cases	1389	2045	1438	1582	1958

International comparisons. In 1994, the distribution of attitudes in Finland was substantially more concentrated in the lower ratings than was the corresponding distribution in Australia. For example, 33 per cent chose one of the bottom two ratings in the Finnish sample, compared to 22 per cent in Australia. A good summary of these attitudes is available from the mean. The mean rating of a contributory pension was 55 points out of 100 in Australia in 1994 and 39 points in Finland. Support for a contributory pension was substantially higher in Poland than in Finland: the mean score was 68 points out of 100 in Poland compared to 39 points in Finland. Australians began and ended the period with attitudes intermediate between the Finns and Poles of 1994. Comparing the pooled Australian mean to the other countries shows that the Finns have a significantly lower mean than the Australians, but the Poles have a significantly higher mean.

Universal Pensions

Baseline: Australia 1993. In 1993, when these questions were first asked in Australia, 22 per cent gave the highest rating to the option offering a universal government-funded age pension (Table 1.5). 11 per cent gave universal pensions the second highest rating. 20 per cent chose the third highest rating.

Table 1.5. Attitudes toward age pensions to all: Australia 1993-2001, Finland and Poland. Percentages read down.

	Australia 1993	Australia 1994	Australia 2001	Finland 1994	Poland 1994
Best (100)	22	28	31	39	13
(84)	11	15	11	13	10
(67)	20	13	15	23	27
(50)	18	19	17	11	23
(33)	15	8	10	7	20
(17)	7	6	8	3	3
Terrible (0)	8	10	9	4	3
	100%	100%	100%	100%	100%
Mean	59	63	63	74	59
Standard Deviation	31	33	33	27	25
Cases	1399	2092	1450	1636	1934

The neutral point, the fourth highest rating, was chosen by 18 per cent. 15 per cent chose the fifth highest rating, and 7 per cent chose the sixth highest rating. 8 per cent chose the lowest possible rating. The mean was 59, somewhat above the neutral point of 50.

Australian trends. In Australia, opinion grew slightly more favourable towards universal pensions from 1993 to 1994, with the mean rising from 59 to 63 points on average. Since then, opinion has held steady at its 1994 position on universal pensions: The mean is 63 points out of 100 in both 1994 and 2001.

International comparisons. In 1994, the distribution of attitudes in Finland was substantially more concentrated in the higher ratings than was the corresponding distribution in Australia. For example, 52 per cent chose one of the top two ratings in the Finnish sample, compared to 43 per cent in Australia. A good summary of these attitudes is available from the mean. The mean rating of a universal pension was 63 points out of 100 in Australia in 1994 and 74 points in Finland. Support for a universal pension was substantially lower in Poland than in Finland: the mean score was 59 points out of 100 in Poland compared to 74 points in Finland. Australians began the period holding views similar to the Poles of 1994, and ended the period with attitudes intermediate between the Finns and Poles of 1994. Expectations that the countries representing of Eastern Europe and Scandinavia would have higher means than Australia on this issue are half-right: The Scandinavians do, on average, but the Poles do not.

Size of Pensions

Asking about the size of pensions internationally requires some method of standardising the questions. Our question was a compromise, with the answer categories given in terms of percentages of the average wage, and amplified with a currency amount approximating what that would mean in current money in that particular place, so, for example, our question for Australia in 2001 was:

4a. If there is a government pension paid from taxes, how large should it be?

>> For comparison, the average wage of people who are still working is about \$40,000 a year.

<i>No government pension at all</i>	1
<i>25 percent of the average wage -- about \$10,000 a year</i>	2
<i>Half the average wage -- about \$20,000 a year</i>	3
<i>75 percent of the average wage -- about \$30,000 a year</i>	4
<i>An average wage -- about \$40,000 a year</i>	5
<i>Half again the average wage -- about \$60,000 a year</i>	6

Baseline: Australia 1993. In 1993, when these questions were first asked in Australia, 2 per cent said that government-funded old age pensions should be half as much again as the average wage (Table 1.6). 16 per cent said that government-funded age pensions should be equal to the average wage. 37 per cent thought that three-quarters of the average wage was the ideal level for government-funded age pensions. 34 per cent thought that half the average wage would be right. 10 per cent said that one quarter of the average wage would be the right level for government-funded age pensions, and two percent thought that the ideal amount was zero. We scaled these fractions as percentages to make the means more readily interpretable. When scored in this way, the average opinion was that 66% of the average wage was the ideal level for the age pension. The standard deviation of 26 percentage points shows that there is considerable diversity on the issue.

Table 1.6. Attitudes toward the proper size of age pensions: Australia 1993-2001, Finland and Poland.
Percentages read down.

	Australia 1993	Australia 1994	Australia 2001	Finland 1994 [1]	Poland 1994
Half again the average wage	2	2	2	0	0
Equal to average wage	16	15	10	4	5
Three-quarters average	37	38	33	11	43
Half average wage	34	35	42	46	49
Quarter of average wage	10	9	13	38	3
None	2	1	1	1	1
	100%	100%	100%	100%	100%
Mean	66	66	61	45	62
Standard Deviation	26	25	25	20	17
Cases	1369	2171	1412	1663	2010

[1] Finnish answers were in currency figures without any further specification, unlike the answer categories for other nations, and hence of uncertain comparability.

Australian trends. In Australia, the populace's ideal size for pensions held steady from 1993 to 1994, at 66% of the average wage on average. Since then, opinion has drifted towards a relatively smaller pension: The mean is has fallen five percentage points to 61 per cent of the average wage in 2001.

*International comparisons*⁷. In 1994, the distribution of attitudes in Poland was substantially more concentrated in the half-average to three-quarters-average zone than in the corresponding distribution in Australia. Indeed, 91 per cent chose answers in this zone in the Polish sample, compared to 71 per cent in Australia. A good summary of these attitudes is available from the mean.

The mean pension ideal was 62 per cent of the average wage in Poland, and 66 per cent of the average wage in Australia in 1994. Australians began the period favouring a slightly (relatively) higher pension than did the Poles of 1994, and ended the period with an ideal pension of 61 per cent of the average wage, virtually the same figure as for the Poles of 1994. The hypothesis that the Poles would favour larger pensions than the Australians (**Nations_A**, see below in prior research and derived hypotheses section), is not supported here, and the hypothesis that the Finns would, likewise favour larger pensions cannot be tested, because of uncertainties about the comparability of the question wording.

Prior research and Derived Hypotheses

Time Differences

Abroad, expectations of increasingly generous governmental provision of retirement incomes seem to have been common during the expansionary phase of the welfare state (Groskind 1988; Holzmann 1989), so if opinion is shaped by policy it is possible that the current emphasis on mutual obligation and financial autonomy at earlier stages of the life course will

⁷ We restrict the international discussion to an Australian-Poland comparison, because the Finnish questionnaire mentioned explicit currency amounts only, rather than giving both the currency amount and its relation to the average wage as the Polish and Australian questionnaires did.

lead Australians to reduce their expectations of governmental financial support in old age in future generations.

In support of this expectation, note that frequency distributions of the Isssa Australian editions of the ISSP's "Role of Government" module reveal several useful results. In 1985, Australians warmly endorsed the view that it is government's responsibility to provide "a decent standard of living for the old."

- The citizenry's support for this position declined rather strongly between 1985 and 1990.
- Attitudes then stabilised between 1990 and 1996 (Smith 2000, p 4; Zentralarchiv 1986, 1992, 1998; see also Zagorski 1988 on Australians attitudes towards government spending generally in the middle 1980s).

If the populace see the Australian age pension as a system in transit from a nearly universal pension to a poverty-relief-only pension (as plausible increases in personal wealth move the middle classes over non-indexed asset thresholds), then the hypothesis that policy-leads-opinion implies that the universal pension should be declining in appeal, and the poverty-relief-only pension increasing in appeal.

Australians have found some attractions in a wide variety of strategies for providing old age income, but current policies were among the least popular alternatives in the late 1990s (Evans 1999b). A universal age pension was more popular.

Summary of hypotheses to test

Time_A: Public opinion will track government policy with some lag. For the 1990s, this means that support for a poverty-relief only age pension will increase, and support for complete self-provision and for a universal pension decrease over time.

Time_B: Public opinion will not track government policy, and may, when there is a persisting gap between policy and opinion, move more strongly against policy.

Time_C: Trust builds over time. For the 1990s and the turn of the century, this means that support for all the age-pension arrangements should not be growing because people will have felt that much change was in the wind.

Age Differences

The effect of age on attitudes towards governmental provision of old age programs and towards levels of spending on the elderly is probably the most heavily studied of causal variables. There are basically two points of view: a self-interest hypothesis and a low-salience hypothesis. There are also hints of an inductively derived altruism hypothesis.

The self-interest hypothesis posits that elderly people will be more supportive of programs that benefit seniors (e.g. Foner 1971; Riley 1987) with some arguing that opposition of interests of young and old will lead to political struggles for resources (Rosenbaum and Button 1992: 395; Forni 2001: 487), what we might call the "age wars" hypothesis. A more specific subhypothesis is that there should be a large, self-interest based effect of age on the size of the age pension (Turner 1998). To date, virtually no empirical research supports this hypothesis, but it needs to be investigated because it is so influential.

Many analyses on the topic either began with the self-interest hypothesis, or simply included age in their models as part of the standard sociological tool-kit. But the results reported to date almost never support the self-interest hypothesis. Contrary to the “age wars” hypothesis, a multivariate analysis found no effect of age on attitudes about its being the government’s responsibility to provide an acceptable minimum income for elderly people in the US (Hamil-Luker 2001: 393).

Multivariate analysis also finds no age effect on whether government should spend more on vaguely worded “retirement benefits” (Hamil-Luker 2001: 393). Another multivariate analysis shows that the elderly are significantly less likely than young and middle aged adults to endorse further government spending on an array of senior-oriented programs, all else equal (Logan and Spitze 1995: 360). Looking at a wide array of surveys in the US, MacManus (1995) finds rather mixed and inconsistent results, but for the most part, age effects are either not statistically significant or are significant and not in the direction anticipated by the self-interest perspective. In Australia, multivariate analysis of data from the mid-1990s showed that age (defined as a linear term in years) had several effects consonant with the age wars hypothesis: a significant negative age effect on support for fully self-funded retirement and a significant positive age effect on support for universal pension schemes (Evans 1999b: 65). But several results from this same analysis fail to support the “age wars” hypothesis: no significant age difference in support for a poverty-relief-only government age-pension scheme or for a contributory pension scheme⁸, and a significant negative age effect on ideal size of government old-age pensions .

This growing collection of null and mixed results is especially striking because age is associated with many welfare related attitudes (Brint et al. 1997).

The response to this has been a reconsideration. Some suggest that the expansion of old age programs has been prompted more by policy entrepreneurs than by demand from the elderly. For example, a detailed look at the history of policy development for the US suggests that development and expansion of government spending on old age programs has been basically an initiative of governments and of careerist policy entrepreneurs, rather than a response to grass-roots demand (e.g. Binstock 1972). Other researchers have emphasized that age effects are likely to be small because age groups are highly diversified in experiences and identities likely to influence policy attitudes (Achenbaum 2000). This could be described as the low-salience hypothesis, that age is a sufficiently unimportant aspect of people’s lives that they do not organise their attitudes around it.

By contrast, some studies above found, contrary to their expectations, that on some questions older people were less supportive of expanded government spending on elderly programs than were younger people. This suggests the altruism hypothesis that seniors would like the government to exercise fiscal restraint on elder-oriented programs.

An additional possibility is that older people might favour lower pension sizes because they know from experience that their expenditures are rather low, whereas younger people project from their current experience and so anticipate greater needs than they will actually experience.

⁸ Age has a negative effect on thinking the government stints on contributory pension programs in the US, net of many other causes (Hamil-Luker 2001: 393).

Note that all of the literature described here was based on (a wide variety of) cross-sectional data so there is no sensible way for the researchers to separate out “age” effects whereby people’s attitudes change as they age from “cohort” effects, in which the distinctive experiences of people born at different times differentiate their attitudes and behaviour (Davis 2001). In Ryder’s classic formulation, the cohort’s experience during childhood and adolescence shapes attitudes and behavioural patterns that people carry with them throughout the rest of their adulthood (Ryder 1965).

Summary of hypotheses:

Age_A: Self-interest of the aged: *The aged will want more benefits for the elderly.*

Age_B: Low salience of age: *Age will not have statistically significant effects on attitudes towards diverse pension systems.*

Age_C: Altruism: *The elderly will prefer to orient government spending towards areas other than old age income.*

Age_D: Experiential knowledge: *Young and middle-aged people will project their income needs into old age, but the elderly will realise that their income needs are more modest, so they will favour smaller pensions than will their younger peers.*

Gender Differences

On gender differences, there are three key hypotheses, two of which generally agree on the outcome and so require some elaboration to test properly. (1) The gender self-interest hypothesis holds that the vulnerability of women in old age will make women of all ages more supportive than men of government provision of old age programs.

(2) The female altruism hypothesis that women are generally somewhat more supportive of welfare programs of all kinds and so are more supportive of governmental provision of old age income. (3) The gender non-salience hypothesis that gender does not affect these attitudes.

The gender self-interest hypothesis draws on facts such as women’s intermittent labour force participation (Evans 2000a; Evans and Kelley 2001a), high risk of divorce (with very low remarriages rates among those who divorce after age 50 [Evans 2001a:90]), and high risk of widowhood in old age (e.g. Borowski and Hugo 1997; Evans 2001a: 89) to infer that it is in their interest to support universal age pensions, probably in their interests to support poverty-relief targeted pensions, and against their interests to support contributory pensions (Hill and Tigges 1995; Orloff 1996; Wolf 1995). In this view, because older women are especially dependent on age pension, self-interest should make them keener on large amounts of age pensions (Rosenman and Winocur 1990).

Research that tends to support the female altruism hypothesis includes the finding from a multivariate analysis with multiple dependent variables that women have generally most positive attitudes towards a variety of social welfare programs than do men (Kaufmann and Petrocik 1999).

Research that could be taken to support the female self-interest hypothesis or the female altruism hypothesis includes the result that women were found in a multivariate analysis to be significantly more supportive than men of increasing government spending on an array of senior-oriented programs (Logan and Spitze 1995: 360). Supporting evidence also includes a multivariate analysis showing that women are significantly more likely than men to think the government is spending too little on contributory pension programs in the US (Hamil-Luker 2001: 393).

Research supportive of the gender non-salience hypothesis includes a multivariate analysis finding that the effect of gender on attitudes about its being the government's responsibility to provide an acceptable minimum income for elderly people in the US is not statistically significant (Hamil-Luker 2001: 393). Similarly, a multivariate analysis revealed no significant difference between men and women on whether government should spend more on vaguely worded "retirement benefits" (Hamil-Luker 2001: 393). In Australia in the mid 1990s, multivariate analysis found null gender effects on support for fully self-funded retirement and on support for universal pension schemes (Evans 1999b:65).

A factor contributing to non-salience could be that women and men do not differ significantly in their perceptions of personal economic risk (Dominitz and Manski 1997), a fact which might undermine gender differences in support for old age programs. Another possibility is that women's economic interests and cultural values relevant to old age provision are so diverse that gender per se has no impact on attitudes towards old age income systems.

Summary of hypotheses to test:

Gender_A: Female self-interest: *Compared to men, women will be more supportive of universal pension programs, but less supportive of restricted pension systems, contributory pension systems, and especially less supportive of the elimination of the age pension. Women will also favour large pensions.*

Gender_B: Low salience of gender: *Gender will have no effect on attitudes towards pension program.*

Gender_C: Female altruism: *Compared to men, women will especially favour age pension programs likely to help people with few resources, will favour high levels of government responsibility, and will favour high pensions.*

Education

The inclusion of education in models of attitudes towards retirement has rarely been formally justified, but rather inclusion seems to be more on the basis of the standard-tool-kit approach. Nonetheless, one can group the research as corresponding to four hypotheses: that the educated are self-interested; that education enhances compassion with a collectivist flavour; that educated people misperceive the world by casually assuming that their levels of self-mastery and way of life are typical of the population as a whole; and that education is not salient to attitudes on old age income systems.

If self-interest plays a role in assessing pension programs (Forma 1997), then education should have a negative effect on support for all non-contributory age pension schemes. Supportive findings include a multivariate analysis showing that education has a small negative effect on attitudes about its being the government's responsibility to provide an acceptable minimum income for elderly people in the US (Hamil-Luker 2001: 393). It is difficult to sort out evidence for self-interest of the educated from the hypothesis that the educated are more likely to endorse incentive-based interpretations of economics.

Evidence on overgeneralisation comes from a variety of angles. For example, education has a positive effect on health (Ross and Wu 1996), so it might be that highly educated people, generalising from their own healthier state expect everyone to be relatively healthy – and hence not in need of much governmental assistance – in old age. Similarly, by generalisation from their position in their own social microcosm, people tend to think that they are more centrally located in the social hierarchy than they actually are (Evans, Kelley and Kolosi 1992; Kelley and Evans 1995).

Some evidence could be read as supporting either the self-interest or the overgeneralisation hypotheses. For example, other research suggests that because educated people save more even in the absence of compulsion (Attanasio 1998; Laibson, Repetto, and Jeremy Tobacman 1998: 191-195), they will be less supportive of superannuation, tending to see the compulsory element as unnecessary. Education has a strong negative effect on perceptions of personal economic risk (Dominitz and Manski 1997), so that might lead to a negative effect of education on support for old age income programs.

On the other hand, there is mounting evidence that education effects may be null in many cases, and such effects as exist may vary among societies. For example, in a multivariate model predicting support for increasing government spending on an array of senior-oriented programs, the education effect fails to reach statistical significance (Logan and Spitze 1995: 360). In terms of different kinds of pensions, in Australia in the mid 1990s, multivariate analysis showed that education (defined as years of education, a linear term) did not have a significant effect on support for fully self-funded retirement nor did it have a significant effect on support for contributory pension schemes, nor on support for universal pensions schemes, nor on ideals about the size of government old-age pensions (Evans 1999b:65). However, there may be substantial cross-national variation in attitudes towards programs for the aged, because education is associated with many welfare-related attitudes, but the direction varies among societies (Brint et al. 1997).

Summary of hypotheses about direct effects of education, net of occupation and income

Education_A: Self-interest of the highly educated: *The more educated the respondent, the more they will favour self-responsibility for old age income, because their experience of long-term investment in education will prepare them to undertake long-term savings and financial investments.*

Education_B: Non-salience of education: *Education will have no impact on attitudes towards old age income provision.*

Education_C: Altruism of the highly educated: *The more educated the respondent, the more they will favour old age income provision arrangements that are likely to favour people on low incomes and others perceived as unfortunate.*

Education_D: Over-generalisation by the highly educated: *The highly educated tend to project their own way of life onto the world at large, in particular assuming that others have their skills at saving.*

Occupational status

The effects of occupational status have been less intensively studied, and occupational status appears usually to be included as part of the “standard tool kit” or “standard assay” rather than in connection with a formal hypothesis. The only discernible hypothesis in the literature is that of self-interest, suggesting that people working in high status occupations should have negative attitudes towards government-funded programs for the elderly.

Several findings support the occupational self-interest hypothesis. Occupational status (as defined by the Duncan SEI score) has a negative effect on feeling that government is spending too little on payouts to (partially) contributory old age pension programs in the US (Hamil-Luker 2001: 393). Multivariate analysis also shows that occupational status has a negative effect on feeling that government should spend more on “retirement benefits” in the US (Hamil-Luker 2001: 393).

However, other findings do not support the occupational self-interest hypothesis. A multivariate analysis of US data found that the occupational status (as defined by the Duncan SEI score) effect is not statistically significant on governmental responsibility to provide minimum standard of living for the old (Hamil-Luker 2001: 393). In terms of different kinds of pensions, multivariate analysis of Australian data from the mid-1990s showed that occupational status (defined as the Kelley Worldwide Status Score) did not have a significant effect on support for any of four alternative age pension systems or on people’s ideal pension sizes (Evans 1999b:65).

Summary of hypotheses

Occupation_A: Self-interest: *People on high incomes will support self-responsibility for old age income and oppose governmental solutions and oppose increases in government spending on old age income.*

Occupation_B: Non-salience of income: *People’s attitudes on the provision of old age income are not influenced by their current income.*

Income

The main hypothesis in the literature concerning income is that of economic self-interest, suggesting that people with high incomes should have negative attitudes towards government-funded programs for the elderly, both because progressive taxation means that they will feel their costs outweigh their potential benefits and because they have good opportunities to save and invest (e.g. Forma 1997).

In support of the economic self-interest hypothesis, a multivariate analysis of many surveys pooled finds that income has small negative effects on support for many, but not all, social welfare programs in the US, in many cases effects too small to find in the small samples typical of attitudinal research (Brooks and Brady 1999).⁹

But there is rather more evidence against an income effect on attitudes towards old age income systems. Thus multivariate analysis shows that the family income effect is not statistically significant on governmental responsibility to provide minimum standard of living for the old (Hamil-Luker 2001: 393). Moreover, it has been found that the effect of family income is not statistically significant on feeling that government is spending too little on payouts to (partially) contributory old age pension programs in the US (Hamil-Luker 2001: 393). Further, the family income effect is not statistically significant in a model predicting feeling that government should spend more on “retirement benefits” in the US (Hamil-Luker 2001: 393).

Turning to the Australian scene, in terms of different kinds of pensions, in the mid-1990s, multivariate analysis showed that family income (defined as the earned and unearned income of the respondent plus their spouse if they had one) did not have a significant effect on support for fully self-funded retirement (Evans 1999b:65). On the issue of a poverty-relief-only government age-pension scheme, family income did not have a statistically significant effect in a multivariate model (Evans 1999b:65). Multivariate analysis did not detect a significant income effect on support for contributory pension schemes (Evans 1999b:65). Multivariate analysis found no significant effect of family income on support for universal pension schemes (Evans 1999b:65).

In terms of pension sizes, multivariate analysis found that the effect of income on ideal size of government old-age pensions was not statistically significant (Evans 1999b:65).

There are two obvious explanations for these null findings: (1) there really is no income effect, (2) there really is an income effect, but it is so small that the usual statistical tests cannot find it in the standard size multi-purpose surveys (which tend to have about 1,000 to 1,500 cases).

In favour of the hypothesis that there really is no income effect it is worth considering evidence that income is highly volatile over the life course (Prus 2000: 235), so long term interests may not be closely connected with current income, in which case occupation effects should dominate. Moreover, predicting who will support superannuation or other contributory pensions on the basis of self-interest is difficult, because it depends not only on the fine details of the pay-out formulas (Johnson 1996; Leimer 1999), but on people's perceptions of them. It is also possible that attitudes on old age income provision are more strongly linked to workforce participation per se than to income, so we will also investigate this possibility in supplementary models.

⁹ This is one of the reasons we pool the Australian surveys in the subsequent analysis: because the larger sample size allows us better to detect small but significant effects.

Summary of hypotheses

Main hypotheses:

Income_A: *Self-interest: People on high incomes will support self-responsibility for old age income and oppose governmental solutions and oppose increases in government spending on old age income.*

Income_B: *Non-salience of income: People's attitudes on the provision of old age income are not influenced by their current income.*

Supplementary hypotheses:

LFP_A: *Self-interest: Workforce participants will prefer individual self-provision of old age income and will oppose expansion of governmental programs and spending.*

LFP_B: *Non-salience of participation: Workforce participants will have views no different from their peers without jobs.*

Prior benefit receipt

Another aspect of socioeconomic position is receiving social provision benefits. Qualitative research suggests the hypothesis that getting welfare reduces inhibitions about accessing government benefits in the future (Schneider 1999). If so, then it is reasonable to expect a history of benefit receipt to have a positive effect on attitudes towards a large role of government in old age pensions and enhanced government spending on them. This hypothesis implicitly assumes a kind of generalisation/ projection socio-psychological mechanism whereby personal experience of welfare receipt encourages people to see the world as an insecure place, and to see governmental provision as a desirable response to that insecurity.

There is not much research in this area, so it is rather a speculative hypothesis, but it is worth testing in light of concerns about whether benefit receipt inculcates a kind of learned helplessness, or whether it simply helps people past rough spots leaving little lasting legacy in their outlook. It is possible that income receipt in connection with programs that oriented towards short-term problems is less consequential than receipt in programs more oriented towards enduring conditions. For these reasons, the hypotheses distinguish between unemployment-related benefits on the one hand and disability and single-parent-related benefits on the other. Much has been changing in welfare reform in recent years, so these distinctions might not be so useful in looking at a recent cross-sectional survey without retrospective information, but they were pertinent in the past (when the vast majority of our respondents were growing up) and have been pertinent for some large fraction of the careers of many of our respondents. Moreover, separating the programs like this does not pre-judge the issue – it allows the effects to be different, but does not require them to be so.

Summary of hypotheses:

Receipt_A: Parental receipt of unemployment benefits will make their offspring more favourable towards government having a large role in the provision of old age income, will lead them to oppose contributory systems and will make them favour larger benefits.

Receipt_B: Parental receipt of disability or single parent benefits will make people more favourable towards government having a large role in the provision of old age income, will lead them to oppose contributory systems and will make them favour larger benefits.

Receipt_C: Receiving income support from the government in connection with being unemployed one's self will make people more favourable towards government having a large role in the provision of old age income, will lead them to oppose contributory systems and will make them favour larger benefits.

Receipt_C: Receiving income support from the government in connection with being disabled or a single parent one's self will make people more favourable towards government having a large role in the provision of old age income, will lead them to oppose contributory systems and will make them favour larger benefits.

Ideology/ Culture links

Governmental programs for and spending on less affluent people have long been contentious issues in electoral politics. Existing evidence suggests that people tend to follow their party's lead on low-salience issues (Richardson 1991), such as old age programs will be for many, so it is reasonable to posit that party preference influences attitudes towards old age programs rather than the reverse. This has been assumed in all the existing literature; there are no tests for reciprocal causation.

Governmental programs for the elderly are a form of redistribution, so it has been argued that the right-wing parties will always favour smaller pensions (Kangas 1995).

The evidence suggests that support for elderly programs has a strong party-political component in Europe (Richardson 1991; Kangas 1995). Similarly, in the US people who favour the Left party would like more spending on a range of elderly programs (Logan and Spitze 1995). In Australia in the mid 1990s, multivariate analysis showed that support for the Coalition parties (defined as the average of feeling thermometer scores respondent gave to the National Party and the Liberal Party) did not have a significant effect on support for fully self-funded retirement, nor on support for a poverty-relief-only government age-pension scheme, nor on support for contributory pension schemes (Evans 1999b: 65). However, supporters of the Coalition Parties favoured significantly smaller government old-age pensions (Evans 1999b: 65).

Political party identification may not capture all the relevant elements of ideological/ cultural variation. Even aside from party loyalties, people who favour additional government spending in other welfare areas, favour it also on a variety of programs for the elderly (Logan and Spitze 1995). That suggests that one should examine the impact of other elements of economic ideology as well as political party identification.

For this reason, we will also include attitudes towards general consumer subsidies in the model, as well as political party identification.

There should be positive associations among welfare support items, rather than competition among them, because welfare programs' clients are vulnerable in one way or another and taxpayers will have a generally benevolent or a generally indifferent attitude towards them (Adams and Dominick 1995). Multivariate analysis for the US shows that, even aside from party loyalties, people who favour additional government spending in other welfare areas, also favour increasing spending on a variety of programs for the elderly (Logan and Spitze 1995).

Prior research has not, to our knowledge, explored the degree to which people who value self-reliance as an important part of their identity will take themselves as a standard and feel that others should emulate them. Fortunately the IssssA data contain a good multiple-item index of the importance of financial self-reliance to identity, so we can begin to investigate whether this aspect of identity influences preferences for governmental or individual responsibility for old age income provision.

Summary of hypotheses:

Culture_A: *Liberal supporters will tend to favour individual responsibility for old age income provision.*

Culture_B: *People who favour consumer subsidies in general will favour governmental responsibility for old age income provision.*

Culture_C: *People who want government to take a large role in welfare provision in general will favour governmental responsibility for old age income provision.*

Culture_D: *People for whom financial autonomy is an important part of identity will tend to favour individual rather than government responsibility for old age income provision.*

National Differences

There are pronounced national differences in actual levels of spending on the elderly compared to children (e.g. Pampel 1994). In terms of attitudes towards spending on old age programs, national differences loom much larger than class differences in small samples of nations (Brint et al. 1997; Forma and Kangas 1999).

In general, Anglo-Celtic countries tend to have an ethos of self-responsibility, that those who can take care of themselves should do so, and only turn to public assistance in distress (Shaw and Shapiro 2002).

Scandinavian countries (where the argument has just taken the form of rolling back the welfare state or not) have been less successful in introducing welfare reforms than countries where the emphasis has been on the alternative, on the transition to individual responsibility (Schmidt 2002). Universal benefits in a variety of policy areas are more popular than targeted ones in Finland (Forma 1997; Kangas 1995). It is reasonable to speculate that Scandinavians may see universal social provision as an important element of community, of mechanical solidarity, because cross-national research has found that the perceived success of the nation's social security system is much more important to national pride in the Scandinavian countries than elsewhere (Evans and Kelley 2002a).

This suggests that the Scandinavian countries will have more positive attitudes towards universal pensions, towards larger benefits, towards uniform benefits from superannuation, and generally towards government responsibility for the elderly, than will denizens of the Anglo-Celtic societies. Public opinion in post-Communist societies may be expected to take an even more strongly redistributive and centralist view than the Scandinavians will. T

These considerations lead to several hypotheses about national differences, net of social and economic composition.

Summary of hypotheses

Nations_A: *Australians will have a more favourable attitude towards old-age-income systems that are oriented towards individual responsibility and towards strong links between individual contribution and benefit than will Finns and, especially, Poles.*

Nations_B: *Australians will have a more favourable attitude towards old-age-income systems that are oriented towards individual responsibility and towards strong links between individual contribution and benefit than will Finns or Poles.*

MODELS

Introduction

After this introduction, this section gives the equations representing the models estimated in this report. Next, the links between these models and the hypotheses set forth in the “Prior Research” section – the detailed predictions about specific coefficients in particular equations. The models are implicit in the regression tables, so the equations are presented for readers who prefer them, but readers accustomed to inferring models from tables may wish to skip the “Equations” subsection.

The equation numbering links the equations to the tables in which their estimates appear. For example, estimates of coefficients for equations 1.7.1 through 1.7.5 all appear in Table 1.7. This means that there are gaps in the numbering of equations, because there are tables in the body of the paper devoted to purposes other than hypothesis testing (some of them for purely descriptive purposes, some for the groundwork necessary to index-construction, and the like).

In the discussion following the equations, when we refer to the predicted sign of a coefficient, we mean that the coefficient is expected to be statistically significant and to have that sign. The phrasing indicates the direction of scoring of attitudinal variables.

For example, “Supports_contributory_age_pension” means that support for a contributory age pension is scored high (and, correspondingly, that opposition is scored low). Details on the scorings are given elsewhere.

A supplementary analysis of the effects of workforce participation is given in equations 1.8.1 through 1.8.5. This supplementary analysis was conducted separately for men and women because of the possibility of very substantial differences in effects (an alternative, equivalent strategy would have been to enter interaction terms allowing differences in effects between men and women). Equations 3.4 and 3.8 also include labour force participation, but do not include either income or occupation because the expenses of data preparation of these variables for the variety of countries available in the ISSP data would be unreasonably large for an exploratory project, although it could certainly be done as a follow-up project, if desired.

Equations 1.11.1 through 1.11.5 introduce the self-reliance index. This is a variable of strong theoretical interest, but it is only available in the most recent data, so we take the estimates of the effects of the other variables involved in these models from equations 1.7.1 through 1.7.5 which omit the self-reliance index and hence make use of the much larger multi-year database to provide more precise estimates.

Equations 1.12.1 through 1.12.5 explore the possibility that benefit receipt may encourage preference for government-based solutions and for relatively loose connections between contributions and receipts when it comes to systems of old age income provision. These variables, too, are only available in the most recent data.

Where possible our hypotheses involve multiple predictions. Testing multiple implications of a hypothesis is a classic strategy for strengthening theoretically-based claims for causality. Thus, many of our hypotheses concern regression coefficients in a variety of models.

All the equations will be estimated by OLS as this is a highly useful tool for exploratory analysis. The dependent variables all have at least five answer categories, and several are multiple-item indices which are, for practical purposes, continuous. For more refined future work in the areas that prove to warrant future research, one also might want to use methods such as multinomial probits or multinomial logits for those variables which are formally ordinal (although, in our experience, the results are unlikely to differ in substance from these, because the predicted values from these models correlate at over 0.99 with the OLS estimates in the kinds of dependent variables we use here). More important would be to extend the measurement by providing multiple measures in all the areas of interest, because these enable one to build reliable multiple-item indices and to correct estimates for attenuation due to random measurement error, which demonstrably causes major distortions in many social science estimates.

Equations

```
Supports_no_age_pension =
f(Time, Gender, Age_Dummies, Education, Occupational_status,
Family_income, Political_party_preference,
Support_for_consumer_subsidies, Migrant, Catholic, Church-attendance)
Eq. 1
```

```
Supports_poverty-relief-only_age_pension =
f(Time, Gender, Age_Dummies, Education, Occupational_status,
Family_income, Political_party_preference,
Support_for_consumer_subsidies, Migrant, Catholic, Church-attendance)
```

Eq. 2

*Supports_contributory_age_pension =
 f(Time, Gender, Age_Dummies, Education, Occupational_status,
 Family_income, Political_party_preference,
 Support_for_consumer_subsidies, Migrant, Catholic, Church-attendance)*

Eq. 3

*Supports_universal_age_pension =
 f(Time, Gender, Age_Dummies, Education, Occupational_status,
 Family_income, Political_party_preference,
 Support_for_consumer_subsidies, Migrant, Catholic, Church-attendance)*

Eq. 4

*Ideal_size_of_age_pension =
 f(Time, Gender, Age_Dummies, Education, Occupational_status,
 Family_income, Political_party_preference,
 Support_for_consumer_subsidies, Migrant, Catholic, Church-attendance)*

Eq. 5

*Supports_no_age_pension =
 f(Same variables as Eq. 1, plus Labour_force_participation,
 Cumulated_workforce_experience, Spouse's_labour force_participation)*

Eq. 6

*Equations 7, 8, 9, and 10 replicate Eq. 6, on the dependent variables of
 Eqs 2-5*

*Supports_no_age_pension =
 f(Same variables as Eq. 1, plus Self_reliance)*

Eq. 11

*Equations 12, 13, 14, and 15 replicate Eq. 11, on the dependent
 variables of Eqs 2-5.*

*Supports_no_age_pension =
 f(Same variables as Eq. 1, plus Father_unemployed, Father_disabled,
 Self_unemployed, Self_disabled)*

Eq. 16

*Equations 17, 18, 19, and 20 replicate Eq. 16, on the dependent
 variables of Eqs 2-5.*

METHODS

We propose causal models predicting various attitudes on old-age pensions. Causality is a concept that prompts continuing philosophical debates, but we simply use it in the sense that is usual in empirical sociology. “X causes a rise in Y” means that a rise in X, independently of other influences, increases the chances that Y will also change. The magnitude of the induced change is less often hypothesized in advance, because we are only beginning to assemble enough evidence in this field to make reasonably reliable directional predictions (with a few exceptions that will be noted in connection with the appropriate variables). Although some have proposed statistical tests for causality, these are not widely accepted (Bollen 1989: Chapter 3). Rather, the plausibility of causality rests on a number of criteria: (1) the theoretical plausibility of the explanation, compared to alternatives, (2) complexity – that the theory incorporating the causal linkage makes a number of predictions which are all correct, (3) that the finding is replicated in multiple settings, and (4) [when possible] that the change in the causal variable precedes the change in the dependent variables (e.g. Bollen 1989: Chapter 3; Rosenbaum 1994, 1996).

None of the articles described in the prior research section is able to produce a good model fit (a high r-squared or equivalent). The hypotheses developed in the section elucidating prior research are hypotheses about distributions and hypotheses about parameter estimates of effects, not hypotheses about model fit. Researchers in the area are not concerned that this suggests that their estimates of effects are misspecified, because omitted effects are only a problem to coefficient estimates to the degree that the omitted variables are correlated with the included ones and that the shared variance should properly be attributed to the omitted ones. Because researchers have striven to include a range of correlates of focal causal variables over time, it seems reasonable to adopt, as a working hypothesis, the view that omitted variables are not distorting coefficient estimates in these models. Aside from the omitted variables issue, there is nothing of particular interest in the fact of low R²s, because low R²s do not constitute evidence against a model (Goldberger, 1991: 177).

Estimation of equations with continuous dependent variables in this report is by ordinary least squares. OLS estimates tend to be highly robust across datasets and so are strongly preferred as exploratory methods in general. Nonetheless, the estimates from OLS (and logistic regression) do not correct for random measurement error which can produce biased and inefficient coefficient estimates. Future research should pursue structural equation methods that correct for random measurement error

Social Differentiation: Multivariate Analysis

Effects of time

Completely self-funded retirement. The regression analysis shows that -- even net of social, cultural/ideological, and economic compositional changes there is a statistically significant decline in support for completely self-funded retirement (Table 1.7, column 1). This amounts to an annual decline of about 1.1 points out of 100 (see the metric coefficient in Panel A). It is a moderately important effect, as shown by the standardised regression coefficient of -0.11 – having about the same level of importance as admiration for the Coalition parties or as family income (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics).

Time has a slightly more important impact on support for completely self-funded retirement than does support for consumer subsidies, and is almost twice as important as education (Panel B).

A government pension limited to poverty-relief. The regression analysis shows that -- even net of social, cultural/ideological, and economic compositional changes -- there is a statistically significant decline in support for a government old age pension limited to poverty-relief (Table 1.7, column 2). This amounts to an annual decline of about 0.9 points out of 100 (see the metric coefficient in Panel A). This effect is on the small side of moderate importance, as shown by the standardised regression coefficient of -0.08 – being tied with gender for most important variable in the model (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics). Few of the many variables we examined affect attitudes towards a government old-age pension limited to poverty relief, so the significant, negative effect of time is striking (Panel B).

A contributory pension. The regression analysis detects no statistically significant change in support for a contributory pension, net of the effects of the other variables in the model (Table 1.7, column 3).

A universal pension. The regression analysis finds no statistically significant change in support for a universal pension, net of the effects of the other variables in the model (Table 1.7, column 4).

Table 1.7 Social differences in attitudes toward age pensions: Ordinary least squares regression results. Only statistically significant effects at $p < .01$ are shown. Equation numbering refers to equations in the Models section. Australia 1993, 1994 and 2001; $n=4,830$ varying slightly due to missing data.

	No pension (eq. 1.7.1)	Poor only (eq. 1.7.2)	Contributors only (eq. 1.7.3)	Universal pension (eq. 1.7.4)	Size of pension (e.q. 1.7.5)
Panel A: Metric coefficients					
Male		4.8	3.1		
Migrant (1st generation)			4.3	4.8	
Catholic					
Church attendance (ln)					
Married					
Age 18-24					
Age 25-34					8.7
Age 35-44					7.5
Age 45-54		-4.9	-5.9		8.4
Age 56-64					
Education (years)	-0.60			-0.65	
Occupational status (0-100)					
Family income	0.00006				
Consumer subsidies (0-100)	-0.11			0.16	0.16
Liberal/National Party (0-100)	0.07		0.04		
Year	-1.1	-0.9			-0.7
(Constant)	50.7	55.3	61.2	56.8	63.2
R-squared	0.04	0.02	0.02	0.03	0.05
Panel B: Standardised coefficients					
Male		0.08	0.05		
Migrant (1st generation)			0.05	0.06	
Catholic					
Church attendance (ln)					
Married					
Age 18-24					
Age 25-34					0.13
Age 35-44					0.13
Age 45-54		-0.06	-0.07		0.13
Age 56-64					
Education (years)	-0.06			-0.06	
Occupational status (0-100)					
Family income	0.10				
Consumer subsidies (0-100)	-0.08			0.10	0.13
Liberal/National Party (0-100)	0.11		0.06		
Year	-0.11	-0.08			-0.08

Size of pension. The regression analysis shows that -- even net of social, cultural/ideological, and economic compositional changes there is a statistically significant decline in the ideal relative size of the government old-age pension (Table 1.7, column 5). This amounts to an annual decline of about 0.7 of a percentage point of the average wage, equivalent to a decline of 7 percentage points in ten years (see the metric coefficient in Panel A).

This effect is on the small side of moderate importance, as shown by the standardised regression coefficient of -0.08 (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics). That makes it somewhat over half as important as the effects of support for consumer subsidies and half as important as the effect of being age 25 to 34, age 35 to 44, or age 45 to 54 (with the reference category being age 65 and over [Panel B]).

Model fit. The R-squares on these models are very small. This casts no doubt on the accuracy of the pattern of effects we have found, and indeed there is no particular expectation in the classic regression model that R-squares will be high (Goldberger 1991: 177).

Summary. Time is significantly eroding support for completely self-funded retirement and for a government old-age pension limited to poverty relief, but not for a contributory pension or for a universal pension, *ceteris paribus*. The ideal size of the government old-age pension is declining over time relative to the average wage, all else equal.

Effects of age

Completely self-funded retirement. The regression analysis shows that net of social, cultural/ideological, and economic compositional changes there is no statistically significant difference by age in support for completely self-funded retirement (Table 1.7, column 1).

A government pension limited to poverty-relief. In this model, the only statistically significant difference by age (net of social, cultural/ideological, and economic compositional variables) in support for a government pension limited to poverty-relief is that people age 45 to 54 are significantly less supportive of it. (Table 1.7, column 2). That is not linked in to any systematic pattern of effects, and is not consistent with any of the predictions from the hypotheses, so it could well be an anomaly that does not replicate in future research.

A contributory pension. The regression analysis shows that the only statistically significant difference by age (net of social, cultural/ideological, and economic compositional changes) in support for a government pension limited to poverty-relief is that people age 45 to 54 are significantly less supportive of it. (Table 1.7, column 3). An isolated effect at that age was not predicted by any of the hypotheses and is not linked in to any systematic pattern of effects, and so it could well be an anomaly that does not replicate in future research..

A universal pension. The regression analysis detects no statistically significant change in support for a universal government old age pension, net of the effects of the other variables in the model (Table 1.7, column 4).

Size of pension. The regression analysis detects several statistically significant contrasts between age groups (net of the social, cultural/ideological, and economic forces captured in the model) in the ideal relative size of the government old-age pension (Table 1.7, column 5). More specifically, compared to people age 65 and over, people at ages 18 to 24 do not differ significantly in their ideal relative size of the age pension; people age 25 to 34 see a significantly larger pension as ideal; people age 35-44 see a significantly larger pension as ideal, people age 45 to 54 see a significantly larger pension as ideal; and people at ages 55 to 64 do not differ significantly in their ideal relative size of the age pension. For example, people age 25 to 34 see as ideal an age pension that is about 9 per cent of the average wage higher than is seen as ideal by people age 65 and over (see the metric coefficient in Panel A). This importance of this effect is on the large side of moderate, as shown by the standardised regression coefficient of 0.13 (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics). That makes it equally important as the effect of support for consumer subsidies and more than half again as important as the effect of time (Panel B).

Summary. In this model, the effects of age on support for completely self-funded retirement are not statistically significant. Of the five potential effects of age on attitudes towards a government old age pension limited to poverty relief, only one was statistically significant. Of the five potential effects of age on attitudes towards a contributory old age pension, only one was statistically significant. Moreover, the regression analysis did not detect any statistically significant effect of age on support for a universal age pension. By contrast, there are fairly substantial differences in the ideal size of the government age pension, with people age 25 to 34, 35 to 44, and 45 to 54 seeing as ideal significantly larger pensions than do people aged 65 and over.

Effects of gender

Completely self-funded retirement. The regression analysis shows that net of the social, cultural/ideological, and economic compositional forces measured in the model, there is no statistically significant difference by gender in support for completely self-funded retirement (Table 1.7, column 1).

A government pension limited to poverty-relief. The effect of gender in the regression analysis predicting support for government pension limited to poverty-relief is statistically significant (Table 1.7, column 2). Compared to women (the reference category), men are significantly more inclined to support a government pension limited to poverty-relief, by about 4.8 points out of 100 (see the metric regression coefficient in Panel A). This effect is on the small side of moderate importance, as shown by the standardised regression coefficient of -0.08 (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics).

A contributory pension. Compared to women, men are significantly more supportive of contributory pensions, by about 3.1 points out of 100, net of the various social, cultural/ideological, and economic effects in the model (Table 1.7, column 3). This effect is of only small importance, as shown by the standardised regression coefficient of .05 (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics).

A universal pension. The regression analysis detects no statistically significant gender difference in support for a universal government old-age pension, net of the effects of the other variables in the model (Table 1.7, column 4).

Size of pension. The regression analysis finds no statistically significant gender difference in support for a universal pension, net of the effects of the other variables in the model (Table 1.7, column 5).

Summary. In this model, gender does not have a statistically significant effect on support for completely self-funded retirement. Men are significantly more supportive than women of government age pensions limited to poverty relief. Similarly, men are significantly more supportive than women of contributory age pensions. Men do not differ significantly from women in support for a universal age pension or in the size of the government age pension that they think is ideal.

Effects of education

Completely self-funded retirement. The regression analysis shows that net of the social, cultural/ideological, and economic compositional forces measured in the model, education has a statistically significant negative effect on support for completely self-funded retirement (Table 1.7, column 1). Each year of education decreases support for completely self-funded retirement by 0.6 of a point out of 100 (Panel A). That means, for example, that an early school leaver who exited the education system after year 10 would be about 3 points out of 100 more supportive of completely self-funded retirement than an otherwise similar person who had completed a three-year university degree. The standardised regression effect of -0.06 shows that the impact of education, although statistically significant, is of small importance (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics).

A government pension limited to poverty-relief. The effect of education in the regression analysis predicting support for government pension limited to poverty-relief is not statistically significant (Table 1.7, column 2).

A contributory pension. The effect of education in the regression analysis predicting support for a contributory pension is not statistically significant (Table 1.7, column 3).

A universal pension. The regression analysis detects a statistically significant negative effect of education on support for a universal government old-age pension, net of the effects of the other variables in the model (Table 1.7, column 4). The metric regression coefficient indicates that each year of education beyond the minimum decreases support for a universal age pension, by about 0.65 of a point, on average, and all else equal. That means, for example that the average graduate of a three year university course could be expected to be 3.25 points less favourable towards a universal age pension than the average otherwise similar early school leaver who exited the education system after Year 10. The standardised regression effect of -0.06 shows that the impact of education, although statistically significant is of small importance (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics).

Size of pension. The regression analysis finds no statistically significant effect of education on support for a universal pension, net of the effects of the other variables in the model (Table 1.7, column 5).

Summary. In this model, education has a statistically significant, but very small, negative effect on support for completely self-funded retirement. There is no statistically significant effect of education on support for government age pensions limited to poverty relief. Similarly, there is no statistically significant effect of education on attitudes towards contributory age pensions. In this model, education has a statistically significant, but very small, negative effect on support for a universal age pension. The model does not detect a statistically significant effect of education on the ideal size of pension.

Effects of occupational status

Completely self-funded retirement. The regression analysis shows that net of the social, cultural/ideological, and economic compositional forces measured in the model, occupational status does not have a statistically significant effect on support for completely self-funded retirement (Table 1.7, column 1).

A government pension limited to poverty-relief. The effect of occupational status in the regression analysis predicting support for government pension limited to poverty-relief is not statistically significant (Table 1.7, column 2).

A contributory pension. The effect of occupational status in the regression analysis predicting support for a contributory pension is not statistically significant (Table 1.7, column 3).

A universal pension. The regression analysis detects no statistically significant negative effect of occupational status on support for a universal government old-age pension, net of the effects of the other variables in the model (Table 1.7, column 4).

Size of pension. The regression analysis finds no statistically significant effect of occupational status on support for a universal pension, net of the effects of the other variables in the model (Table 1.7, column 5).

Summary. In this model, occupational status does not have a statistically significant effect on support for completely self-funded retirement. Moreover, there is no statistically significant effect of occupational status on support for government age pensions limited to poverty relief. Similarly, there is no statistically significant effect of occupational status on attitudes towards contributory age pensions. In addition, in this model, occupational status does not have a statistically significant effect on support for a universal age pension. The model does not detect a statistically significant effect of occupational status on ideal size of pension.

Effects of income

Completely self-funded retirement. The regression analysis shows that net of the social, cultural/ideological, and economic compositional forces measured in the model, family income has a statistically significant positive effect on support for completely self-funded retirement (Table 1.7, column 1). The standardised regression effect of -0.10 shows that the impact of family income is of middling importance (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics).

A government pension limited to poverty-relief. The effect of family income on the regression analysis predicting support for a government pension limited to poverty-relief is not statistically significant (Table 1.7, column 2).

A contributory pension. The effect of family income in the regression analysis predicting support for a contributory pension is not statistically significant (Table 1.7, column 3).

A universal pension. The regression analysis detects no statistically significant effect of family income on support for a universal government old-age pension, net of the effects of the other variables in the model (Table 1.7, column 4).

Size of pension. The regression analysis finds no statistically significant effect of family income on the respondent's ideal size of the government funded age pension, net of the effects of the other variables in the model (Table 1.7, column 5).

Summary. In this model, family income has a statistically significant, moderately important, positive effect on support for completely self-funded retirement. By contrast, there is no statistically significant effect of family income on support for government age pensions limited to poverty relief. Similarly, there is no statistically significant effect of family income on attitudes towards contributory age pensions. In this model, family income does not have a statistically significant effect on support for a universal age pension. The model does not detect a statistically significant effect of family income on ideal size of pension.

Effects of political party identification

Completely self-funded retirement. The regression analysis shows that net of the social, cultural/ideological, and economic compositional forces measured in the model, political party identification has a statistically significant effect on support for completely self-funded retirement, with Liberal and National party identifiers having more positive attitudes (Table 1.7, column 1). The standardised regression effect of 0.11 shows that the impact of political party identification is of middling size, indicating moderate importance (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics). Thus, in terms of its effects on attitudes towards completely self-funded retirement, political identification is approximately as important as family income and the time trend.

A government pension limited to poverty-relief. The effect of political party identification in the regression analysis predicting support for a government pension limited to poverty-relief is not statistically significant (Table 1.7, column 2).

A contributory pension. The effect of political party identification in the regression analysis predicting support for a contributory pension is statistically significant, and indicates that supporters of the Liberal and National Parties are more supportive of contributory pensions (Table 1.7, column 3). The standardised regression effect of -0.06 shows that the impact of political party identification, although statistically significant is of small importance (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics).

A universal pension. The regression analysis detects no statistically significant effect of political party identification on support for a universal old-age government pension, net of the effects of the other variables in the model (Table 1.7, column 4).

Size of pension. The regression analysis finds no statistically significant effect of political party identification on the ideal size of the government old-age pension, net of the effects of the other variables in the model (Table 1.7, column 5).

Summary. In this model, family income has a statistically significant, moderately important, positive effect on support for completely self-funded retirement. By contrast, there is no statistically significant effect of family income on support for government age pensions limited to poverty relief. Similarly, there is no statistically significant effect of family income on attitudes towards contributory age pensions. In this model, family income does not have a statistically significant effect on support for a universal age pension. The model does not detect a statistically significant effect of family income on ideal size of pension.

Effects of attitudes towards consumer subsidies

Completely self-funded retirement. The regression analysis shows that net of the social, political, and economic compositional forces measured in the model, attitudes towards consumer subsidies have a statistically significant effect on support for completely self-funded retirement, with people who favour subsidies having more negative attitudes towards completely self-funded retirement (Table 1.7, column 1). The standardised regression effect of 0.08 shows that the impact of political party identification is towards the small end of moderate importance (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics).

A government pension limited to poverty-relief. The effect of attitudes towards consumer subsidies in the regression analysis predicting support for a government pension limited to poverty-relief is not statistically significant (Table 1.7, column 2).

A contributory pension. The effect of attitudes towards consumer subsidies in the regression analysis predicting support for a contributory pension is not statistically significant (Table 1.7, column 3).

A universal pension. The regression analysis detects a statistically significant effect of attitudes towards consumer subsidies on support for a universal government old-age pension, net of the effects of the other variables in the model, such that respondents who favour consumer subsidies tend also to have positive attitudes towards universal pensions (Table 1.7, column 4). The metric regression coefficient indicates that, for example, all else equal, people who are 20 points out of 100 more favourable towards consumer subsidies can be expected to be 3.2 points out of 100 more favourable towards a universal pension. The standardised regression effect of 0.10 shows that the impact of consumer subsidies is of moderate importance (see the standardised coefficients in Panel B which allow us to compare the importance of causal factors in different metrics).

Size of pension. The regression analysis finds a statistically significant effect of attitudes towards consumer subsidies on the ideal size of the government old-age pension, net of the effects of the other variables in the model, such that respondents who favour consumer subsidies tend to favour larger government old age pensions than do respondents who are less favourable towards consumer subsidies (Table 1.7, column 5). The standardised regression effect of 0.13 shows that the impact of attitudes towards consumer subsidies is of moderate to large importance (see the standardised coefficients in Panel B which allow us to compare the importance of the effects of causal factors in different metrics).

Summary. In this model, attitudes towards consumer subsidies have a statistically significant, positive effect of small to moderate importance on support for completely self-funded retirement. By contrast, there is no statistically significant effect of attitudes towards consumer subsidies on support for government age pensions limited to poverty relief. Similarly, there is no statistically significant effect of attitudes towards consumer subsidies on attitudes towards contributory age pensions. In this model, attitudes towards consumer subsidies have a positive statistically significant effect of moderate importance on support for a universal age pension. Moreover, the model reveals that attitudes towards consumer subsidies have a positive statistically significant effect of moderately large importance on ideal size of pension. These results suggest connections in public opinion of some pension issues to more general issues of redistribution.

Effects of marital status

Completely self-funded retirement. The regression analysis shows that net of the social, cultural/ideological, and economic compositional forces measured in the model, people who are currently married do not differ significantly from the non-married in their propensity to support for completely self-funded retirement (Table 1.7, column 1).

A government pension limited to poverty-relief. The effect of current marital status on the regression analysis predicting support for a government pension limited to poverty-relief is not statistically significant (Table 1.7, column 2).

A contributory pension. The effect of current marital status in the regression analysis predicting support for a contributory pension is not statistically significant (Table 1.7, column 3).

A universal pension. The regression analysis detects no statistically significant effect of current marital status on support for a universal government old-age pension, net of the effects of the other variables in the model (Table 1.7, column 4).

Size of pension. The regression analysis finds no statistically significant effect of current marital status on the respondent's ideal size of the government funded age pension, net of the effects of the other variables in the model (Table 1.7, column 5).

Summary. In this model, current marital status does not have a statistically significant effect on support for completely self-funded retirement. Nor does marital status have a statistically significant effect on support for government age pensions limited to poverty relief. Neither does marital status have a statistically significant effect of family income on attitudes towards contributory age pensions. Moreover, in this model, current marital status does not have a statistically significant effect on support for a universal age pension. In addition, the model does not detect a statistically significant effect of current marital status on ideal size of pension.

Effects of religion

Completely self-funded retirement. The regression analysis shows that net of the social, cultural/ideological, and economic compositional forces measured in the model, neither church attendance nor religious denomination has a statistically significant effect on support for completely self-funded retirement (Table 1.7, column 1).

A government pension limited to poverty-relief. The effects of church attendance and religious denomination in the regression analysis predicting support for a government pension limited to poverty-relief are not statistically significant (Table 1.7, column 2).

A contributory pension. The effects of church attendance and religious denomination in the regression analysis predicting support for a contributory pension are not statistically significant (Table 1.7, column 3).

A universal pension. The regression analysis detects no statistically significant effect of church attendance or religious denomination on support for a universal government old-age pension, net of the effects of the other variables in the model (Table 1.7, column 4).

Size of pension. The regression analysis finds no statistically significant effect of effects of church attendance or religious denomination on the respondent's ideal size of the government funded age pension, net of the effects of the other variables in the model (Table 1.7, column 5).

Summary. In this model, neither church attendance nor religious denomination has a statistically significant effect on support for completely self-funded retirement. Similarly, the effects of church attendance and religious denomination on support for government age pensions limited to poverty relief are not statistically significant. Neither does either church attendance or religious denomination have a statistically significant effect on attitudes towards contributory age pensions. Moreover, in this model, church attendance and religious denomination do not have a statistically significant effect on support for a universal age pension. In addition, the model does not detect a statistically significant effect of church attendance or religious denomination on ideal size of pension.

Effects of migration

Completely self-funded retirement. The regression analysis shows that net of the social, cultural/ideological, and economic compositional forces measured in the model, first generation migrants in Australia do not differ significantly from the longer-established Australians in their propensity to support completely self-funded retirement (Table 1.7, column 1).

A government pension limited to poverty-relief. The effect of being a migrant in the regression analysis predicting support for a government pension limited to poverty-relief is not statistically significant (Table 1.7, column 2).

A contributory pension. The effect of being a migrant in the regression analysis predicting support for a contributory pension is statistically significant and positive (Table 1.7, column 3). The metric regression coefficient shows that first generation migrants on average are 4.3 points out of 100 more favourable towards contributory pensions than are other wise comparable longer-established Australians (Panel A). The standardised regression effect of 0.05 shows that the impact of being a migrant on attitudes towards contributory pensions is of small importance (see the standardised coefficients in Panel B which allow us to compare the importance of the effects of causal factors in different metrics).

A universal pension. The regression analysis detects a positive statistically significant effect of being a migrant on support for a universal government old-age pension, net of the effects of the other variables in the model (Table 1.7, column 4). The metric regression coefficient shows that first generation migrants on average are 4.8 points out of 100 more favourable towards contributory pensions than are other wise comparable longer-established Australians (Panel A). The standardised regression effect of 0.06 shows that the impact of being a migrant on attitudes towards contributory pensions is of small importance (see the standardised coefficients in Panel B which allow us to compare the importance of the effects of causal factors in different metrics).

Size of pension. The regression analysis finds no statistically significant difference between migrants and longer established Australians in the respondent's ideal size of the government funded age pension, net of the effects of the other variables in the model (Table 1.7, column 5).

Summary. In this model, there is not a statistically significant difference between migrants and longer established Australians in support for completely self-funded retirement. Nor does migration status have a statistically significant effect on support for government age pensions limited to poverty relief. By contrast, migrants have significantly more positive attitudes towards contributory age pensions than do longer established Australians, but the difference is small. Moreover, in this model, migrants have significantly more positive attitudes towards a universal age pension than do longer established Australians. In addition, the model does not detect a statistically significant effect of being a migrant on ideal size of pension.

Effects of labour force activity

Turning next to the effects of workforce engagement on attitudes towards various systems for provision of old age income, we hold all the prior variables constant (the baseline model) and add into it the labour force variables (the labour-force augmented model). We estimated the labour-force augmented model separately for men and women, thereby allowing, in effect, for all possible interactions of gender with labour force activity.

Table 1.8. Labour force variables and attitudes toward age pensions. Metric coefficients from ordinary least squares regression. Other variables in equations 1.81 through 1.85 of the Models section are controlled but not shown. Statistically significant effects (at $p < .05$) are shown in bold face. Australia 1993, 1994 and 2001.

	No pension (eq. 1.8.1)	Poor only (eq. 1.8.2)	Contributors only (eq 1.8.3)	Universal pension (eq 1.8.4)	Size of pension (eq. 1.8.5)
Panel A: Men (n=2,403)					
Workforce participation	-0.6	-8.0	0.9	4.5	7.5
Years worked	-0.2	-0.3	0.1	0.1	0.1
Spouse workforce participation	0.5	0.6	1.8	0.7	-0.3
R-squared	0.04	0.02	0.02	0.04	0.05
Panel B: Women (n=2,365)					
Workforce participation	-2.2	-4.4	-0.1	2.6	2.8
Years worked	0.0	-0.1	0.2	-0.1	0.0
Spouse workforce participation	2.7	0.1	3.1	0.8	3.6
R-squared	0.05	0.02	0.02	0.02	0.05

Labour force participation among men does not have a statistically significant effect on support for a “no pension” system (Table 1.8, Column 1). But men who are in the workforce are significantly less favourable towards poverty-relief old age pensions than are otherwise similar men who are not in the workforce, by about 8 points out of 100 (Column 2). Labour force involvement among men does not have a statistically significant effect on support for a contributory pension system (Column 3), nor does it have a statistically significant effect on support for a universal pension (Column 4).

Somewhat surprisingly, men who are in the workforce favour significantly larger government old age pensions than do men who are outside the workforce.¹⁰

Among women, labour force participation has no significant effects on pension attitudes. In detail, for women, being in the work force does not have a statistically significant effect on attitudes towards a “no pension” system of completely self-funded retirement (Column 1). Nor is the effect of women’s workforce involvement on a poverty-relief targeted pension statistically significant (Column 2). More strikingly, neither does women’s workforce participation have a significant effect on their views about contributory pensions (Column 3). In addition, the effect of women’s labour force participation on a universal age pension is not statistically significant (Column 4). Further, the model does not detect a significant effect of women’s workforce participation on their views about the ideal size of the age pension (Column 5).

Men’s years of workforce experience does not have a statistically significant effect on attitudes towards a no-pension, completely self-funded system for old age incomes (Column 1). By contrast, the effect of men’s years of workforce experience on their attitudes towards a poverty-relief targeted pension is statistically significant (Column 2). The metric regression effect of -0.3 implies that, all else equal, each additional decade that men work inclines their opinions about 3 points out of 100 against a poverty-relief –only age pension on average. Perhaps surprisingly, men’s years of workforce experience do not have a statistically significant effect on their attitudes towards contributory pensions (Column 3).

¹⁰ Note that this cannot be a proxy effect for age, as that is controlled in the model.

Nor do men's years of workforce experience have a statistically significant effect on their attitudes towards universal pensions (Column 4) nor towards the ideal size of government pensions in this model (Column 5).

Women's workforce experience does not have a statistically significant effect on attitudes towards a no-pension, completely self-funded system for old age incomes (Column 1). Nor in this model does experience have a statistically significant effect on their attitudes towards a poverty-relief targeted pension (Column 2), nor on their attitudes towards contributory pensions (Column 3), nor on their attitudes towards universal pensions (Column 4) nor on their attitudes towards the ideal size of government pensions (Column 5).

Wives' workforce participation does not have a significant effect on their husbands' attitudes towards any of the four pension systems we assessed (Columns 1 through 4) nor on their husbands' attitudes towards the ideal size of the pension (Column 5). Similarly, in this model, husband's workforce participation does not have a significant effect on their wives' attitudes towards any of the four pension systems we assessed (Columns 1 through 4) nor on their wives' attitudes towards the ideal size of the pension (Column 5).

All in all, workforce participation and experience have no significant effect on women's attitudes, and only a few effects on men's attitudes.

Effects of self-reliance

The IsssA measures of financially self-reliant identities may be less familiar, and are worth delineating in some detail. They are also of interest, because they suggest that, on average, people see financial self-reliance as important to their identity. They are newly available for the 2001 survey¹¹. These questions are part of a large battery of potential self-identities introduced with the common stem, "In describing who you are, how important are..." followed by a list of potentially important social identities, including the three discussed here (more details in the variables appendix). Note that the answer categories are intentionally not balanced, because the answers on questions like these are highly concentrated among the highly positive answers, so the maximum differentiation is among degrees of warm endorsement.

Description of self-reliance items

Let us begin with "Providing for my own retirement" which is the closest to the immediate concerns of this paper. 20 per cent give "providing for my own retirement" the top rating (Table 1.9), indicating its high salience to them.¹² 40 per cent chose the next highest rating "Extremely important". 30 per cent reported that providing for their own retirement as "Fairly important" in describing who they are. 7 per cent said that providing for their own retirement was "Not very important" and 2 per cent said it was "Not important at all."

¹¹ Because they are not available in earlier years, the sample size for the analysis using them is 1,481.

¹² The wording of the top rating should not be taken literally, because people will often nominate a number of items as "The most important thing", as is normal in rating scales of this kind. Perhaps a useful translation is "This is among the really crucial things about me."

On a points-out-of-100 basis with the answers scored at equal intervals, the average rating is 68 points out of one hundred, just over two thirds of the way towards maximum salience. A degree of diversity of salience to identity of providing for one's own retirement is indicated by the standard deviation of 23 points out of 100.

Table 1.9 Frequency distributions on self-identification as someone who (i) provides for retirement; (ii) is not dependent on government handouts; and (iii) takes care of self and family financially.[1] Percentages read down. Australia 2001; n=1,481 varying slightly due to missing data.

	Provides for retirement	No government handouts	Takes care financially
The most important (100)	20	20	34
(75)	40	38	47
(50)	30	26	17
(25)	7	13	2
Not important at all (0)	2	4	1
	100%	100%	100%
Mean	68	64	78
Standard Deviation	23	27	20

[1] Question wording: "In describing who you are, how important are ...Being able to take care of yourself and your family financially? Not being dependent on government handouts? Providing for my own retirement?" Answer categories were "The most important single thing; Extremely important; Fairly important; Not very important; Not important at all"

Following normal survey research practice of using, when possible, quite different wording to reduce the likelihood that the response we are analysing is response to a particular rhetoric rather than an underlying attitude, we also included in the battery of self-identity items one that focuses on avoiding government aid. Verbatim, the item is: "Not being dependent on government handouts." 20 per cent of respondents gave this the top rating in importance to identity and another 38 per cent gave it the second rating (Table 1.9, Column 2). 26 per cent chose the middle answer "fairly important". 13 per cent feel that "Not being dependent on government handouts" is "not very important" to their identity, and 4 per cent feel it is "not important at all". The mean is 64 points out of 100, again about two thirds of the way toward the maximum. There is some diversity of salience to identity of "Not being dependent on government handouts," as shown by the standard deviation of 27 points out of 100.

The third item concerning financial self-reliance is a little different, because it explicitly extends to responsibilities to the rest of one's family: "Being able to take care of yourself and your family financially." 34 per cent of respondents gave this the top rating in importance to identity and another 47 per cent gave it the second rating (Table 1.9, Column 3). 17 per cent chose the middle answer "fairly important". 2 per cent feel that

"Being able to take care of yourself and your family financially" is "not very important" to their identity, and 1 per cent feel it is "not important at all". The mean is 64 points out of 100, again about two thirds of the way toward the maximum. The degree of diversity of salience to identity of "Being able to take care of yourself and your family financially," is indicated by the standard deviation of 20 points out of 100.

An index of identity as financially self-reliant

Although these items were designed to be a three item-index of salience of financial self-reliance, the suitability even of pre-tested items for indexing cannot be taken for granted, and must be tested for. To justify a multiple item index, the items concerned need to measure the same underlying dimension or concept. Several conditions must be met: (1) the items must have some face validity as being closely related; (2) the items must be highly correlated among themselves, (4) the items must have high factor loadings and all load on the same factor and (3) the items must have similar correlations with criterion variables (e.g. Bollen 1989: 179-184).

The face validity question is clearly answered: All three items meet the test – financial responsibility and autonomy are central to all three. The statistical issues are addressed in Table 1.10.

Table 1.10 presents the inter-item correlations, the factor analysis and the correlations with criterion variables. For comparison, we include a slightly more distantly related item, the salience to one's identity of "having a paid job."

Beginning with the correlations among the potential index items, respondents' views on the salience of "Providing for my own retirement" to their identities are correlated 0.55 with the salience to their identity of "Not being dependent on government handouts" (Table 1.10, upper left hand corner). Correlations range in absolute value between 0 and 1. Researchers vary in the stringency with which they define an acceptable correlation for an index: some would take 0.3 and over as acceptable, others would see 0.4 as a minimum. The correlation between "Providing for my own retirement" and "Not being dependent on government handouts" clearly meets the higher standard, as does the correlation of 0.52 between "Providing for my own retirement" and "Being able to take care of yourself and your family financially". The correlation of 0.45 between "Providing for my own retirement" and "Being able to take care of yourself and your family financially" also meets the higher standard.

The correlations with the comparison item "Having a paid job" would meet the lower standard, but most of them would not meet the higher standard.

Table 1.10. Correlations and maximum likelihood factor analysis of self-identification as someone who (i) provides for retirement; (ii) is not dependent on government handouts; (iii) takes care of self and family financially; and (iv) has a paid job.[1] Australia 2001; n=1,481 varying slightly due to missing data.

	Provides for retirement	No government handouts	Takes care financially	Has paid job	Factor loading
Provides for retirement	1.00				0.77
No handouts	0.55	1.00			0.69
Takes care financially[2]	0.52	0.45	1.00		0.69
Has paid job[2]	0.34	0.31	0.41	1.00	0.49
<i>Criterion variables:</i>					
Male	0.06	-0.03	0.10	0.11	
Age	0.04	-0.02	0.09	-0.11	
Education	-0.01	-0.01	-0.17	-0.02	
Family income	0.16	0.16	0.02	-0.01	
Liberal/Nationan Party	0.09	0.11	0.02	-0.04	

[1] Question wording: "In describing who you are, how important are ...Being able to take care of yourself and your family financially? Not being dependent on government handouts? Providing for my own retirement? Having a paid job?" Answer categories were scored as shown in Table 1.9.

[2] Item not included in final scale, which consists of the mean of the first two items.

The factor analysis (Table 1.10, far right), casts further light on the degree to which the items could legitimately be used to form one index. The maximum likelihood factor loadings presented here can range between 0 and 1 in absolute value, those with loadings under 0.6 are not sufficiently concentrated on the dimension/concept in question to be worth including in a index and can actually weaken its performance. The loadings in Table 1.10 show that the three candidate items all have loadings well over 0.6, so they meet this test. The loading on the comparison item, 0.49 is below the 0.6 threshold, so one would reject it on this basis (unless there was some other compelling reason to keep it).

On the correlations with criterion variables (Table 1.10, lower block), few are very large. Looking first down the first two columns of correlations, it is clear that the pattern of linkages of “Providing for my own retirement” and “Not being dependent on government handouts” with criterion variables are very similar indeed. The correlation of both with gender, age, and education are tiny, they both have very small positive correlations of the same size with political party identification, and both have small positive correlations with family income. By contrast, “Being able to take care of yourself and your family financially” is more correlated with age and gender, substantially more correlated with education, and substantially less correlated with family income and political party identification.

These are strong indications that “Being able to take care of yourself and your family financially” does not belong in the index. Accordingly, we create a two-item index of “Providing for my own retirement” and “Not being dependent on government handouts”: we sum the answers and divide by two, to preserve the 0 to 100 metric.

Self-reliance in the multivariate analysis

No government age pension. Controlling for all the variables in the core analysis from Table 1.7, above, the self reliance scale (or index) has a statistically significant positive effect on attitudes towards a completely self-funded retirement income system with no government age pension (Table 1.11, Column 1). Although statistically significant, the effect is not huge. The metric regression coefficient of 0.11 implies, for example, that people who are 20 points out of 100 higher on the self-reliance identity scale would, on average, be 2.2 points more favourable towards a completely self-funded old age income system.

A poverty-relief targeted old age pension. The self reliance scale (or index) has no statistically significant effect on attitudes towards a poverty-relief targeted government old age pension.

A contributory old age pension. The self reliance scale (or index) has no statistically

Table 1.11. Self-reliance and attitudes toward age pensions. Metric coefficients from ordinary least squares regression. Other variables in the equations 1.11.1 through 1.11.5 in the Models section are controlled but not shown. Statistically significant effects (at $p < .05$) are shown in bold face. Australia 2001; $n=1,481$ varying slightly due to missing data.

	No pension (eq. 1.11.1)	Poor only (eq. 1.11.2)	Contributors only (eq. 1.11.3)	Universal pension (eq. 1.11.4)	Size of pension (eq. 1.11.5)
Self-reliance scale[1]	0.11	-0.04	0.10	0.09	0.04
R-squared	0.03	0.01	0.02	0.01	0.01

[1] Scale constructed as the mean of the first two self-reliance items in Table 1.10, so equivalent to a Likert scale with the items equally weighted.

significant effect on attitudes towards a contributory government old age pension.¹³

A universal old age pension. The self reliance scale (or index) has no statistically significant effect on attitudes towards a universal government old age pension.

Size of pension. Moreover, the self reliance scale (or index) has no statistically significant effect on the ideal size of the government old age pension.

The scale of importance of financial self-reliance to self-identity is well-measured (see Table 1.10), so the small and mostly non-significant effects of it on attitudes towards different pension systems (Table 1.11) are likely to be real, rather than an artifact of random measurement error. This suggests that when thinking about old age income systems, people are much less likely to generalise from their own experience than, say, on questions of subjective social location where projection seems to play a much larger role (Kelley and Evans 1995).

Effects of Unemployment and Disability

The IsssA collects measures of respondent's father's¹⁴ and respondent's own experience of unemployment and disability. They were brought into the model on the grounds that people who had experienced unemployment or disability might be more inclined to favour old age income systems with more government involvement. Note that the IsssA collects information on the experience of father's unemployment (rather than about benefit receipt), but asks about father's disability benefit receipt, because the qualitative question-development phase had indicated that these phrasings were close to the ways that Australians discuss these matters in natural language. Future research could systematically investigate the degree to which the specific phrasing of question in this domain yields different distributions of responses and different correlations with criterion variables.

The experience of paternal unemployment¹⁵ is clearly a minority one, but it is by no means a tiny minority: 81 per cent report their father never being unemployed, 7 per cent report his being unemployed for a few months, 3 percent report his being unemployed for about half a year, 3 per cent report his being employed for about a year, and the remaining 6 per cent report paternal unemployment spells longer than a year. Because there is, as yet, little research using data on paternal unemployment, it is not known whether the experience of any paternal unemployment or the duration of paternal unemployment tends to be more crucial. Accordingly, we present results using both specifications, below.

¹³ Although not statistically significant, this effect was quite robust in exploratory sensitivity tests, so it might be significant in a larger sample. Even if it turns out to be significant in larger samples, the point estimate is for a small effect – approximately a one point gain in approval of contributory pensions per ten point gain in the importance of financial self-reliance to identity.

¹⁴ The IsssA has asked only about father's unemployment and disability because extensive employment of their mothers was rare among the cohorts born before 1960. The IsssA is planning to phase in questions about these issues concerning respondents' mothers in the coming years.

¹⁵ The accuracy of people's recall of these matters is unknown. Matching records across generations has shown that respondents and their parents provide very similar reports of the parents' educational and occupational attainments. Periods of unemployment during the respondent's life before his or her memory begins will

The reported experience of paternal disability is even more rare, but when it occurs, it tends to last longer. 94 per cent of respondents report that their father never received the disability pension while they were growing up, but more than three quarters of those reporting that their father did receive it report that he received it for a period of 4 years or more. As with paternal unemployment, we specify the effects of paternal disability in two ways – once as a continuous variable giving the amount of time, and once as a dichotomous variable contrasting no receipt with any receipt.

Turning to retrospective reports of their own unemployment, 70 percent of respondents report that they have never been unemployed and looking for work, and another 18 percent report unemployment experience totalling less than one year, 4 per cent report around one year of unemployment, and another 4 percent report around two years, with the remaining 4 percent experiencing even longer unemployment. Because there is, as yet, little research exploring the effects of cumulative unemployment experience on social and economic attitudes, it is not known whether the experience of any unemployment or the duration of unemployment tends to be more crucial. Accordingly, we present results using both specifications, below.

Total experience of receipt of single parent and disability benefits is also reported to be relatively rare, with just 12 per cent reporting any receipt. The reported durations are very widely scattered. 88 per cent report no receipt, 2 per cent report less than one year's receipt, 1 per cent report about 1 year's receipt, 2 per cent report 2 year's receipt, 1 per cent report 3 years, 1 per cent report 4 years, 1 per cent report 5 years, 1 per cent report 6 years, and then the distribution begins to tail off. Because there is, as yet, little research exploring the effects of cumulative disability pension and single parent pension receipt on social and economic attitudes, it is not known whether the experience of any receipt or the duration of receipt (if either) tends to be more crucial. Accordingly, we present results using both specifications, below.

To explore the effects of these variables on attitudes towards different old age pension systems in the regression analysis, we used two different augmented models. To the core model of Table 1.7, we added the continuous versions of the reported paternal unemployment, reported paternal disability, reported own unemployment, and reported own receipt of disability or single parent benefit (Table 1.12, Panel A), and we then removed these continuous measures and replaced them with dichotomous versions of the same variables (Table 1.12, Panel B).

Father's reported unemployment specified as a continuous variable has no significant effect in this model of attitudes towards any of the four pension systems, nor towards the ideal size of the government age pension (Table 1.12, Panel A). Nor does the model detect a significant effect of the dichotomous version of father's reported unemployment on ratings of any of the pension systems or on ideal size of the government age pension. (Table 1.12, Panel B).

probably be underreported unless they were sufficiently traumatic or long-lasting as to become one of the topics that their family continued to refer to long after the experience was past.

Table 1.12. Unemployment and disability variables and attitudes toward age pensions. Metric coefficients from ordinary least squares regression. Other variables in equations 1.12.1 through 1.12.5 of the Models section are controlled but not shown. Statistically significant effects (at $p < .05$) are shown in bold face. Australia 2001; $n=1,455$ varying slightly due to missing data.

	No pension (eq. 1.12.1)	Poor only (eq. 1.12.2)	Contributors only (eq. 1.12.3)	Universal pension (eq. 1.12.4)	Size of pension (eq. 1.12.5)
Panel A: Continuous measures (years)					
Father unemployed	0.6	1.5	0.3	-1.3	0.5
Father disabled	-1.0	-0.5	0.1	0.1	-0.2
Respondent unemployed	-0.3	0.0	-0.4	0.2	-0.4
Respondent disabled	0.1	0.0	-0.2	0.2	-0.2
Panel B: Dichotomous measures [1]					
Father unemployed	0.0	2.1	-1.6	-2.7	-0.2
Father disabled	-1.9	3.1	3.9	1.4	-0.7
Respondent unemployed	-3.8	4.2	-1.0	2.3	-3.4
Respondent disabled	0.2	-2.1	-6.8	4.4	-2.1

[1] Scored 1 for those experiencing it for 1 year or more, and zero for everyone else.

Father's reported disability specified as a continuous variable has no significant effect in this model of attitudes towards any of the four pension systems, nor towards the ideal size of the government age pension (Table 1.12, Panel A). Nor does the model detect a significant effect of the dichotomous version of father's reported disability on ratings of any of the pension systems or on ideal size of the government age pension. (Table 1.12, Panel B).

Respondent's reported unemployment specified as a continuous variable has no significant effect in this model of attitudes towards any of the four pension systems, nor towards the ideal size of the government age pension (Table 1.12, Panel A).

Nor does the model detect a significant effect of the dichotomous version of respondent's reported unemployment on ratings of any of the pension systems or on ideal size of the government age pension. (Table 1.12, Panel B).

Respondent's reported receipt of disability or single parent pension specified as a continuous variable has no significant effect in this model of attitudes towards any of the four pension systems, nor towards the ideal size of the government age pension (Table 1.12, Panel A). Nor does the model detect a significant effect of the dichotomous version of Respondent's reported receipt of disability or single parent pension on ratings of any of the pension systems or on ideal size of the government age pension. (Table 1.12, Panel B).

Thus, there is no sign in these models that reported benefit receipt predisposes respondents to government-based provision of old age income.

DISCUSSION

This article has explored Australians' attitudes towards a diversity of age pension systems. For the most part, the hypotheses are organised by explanatory (or independent) variable. Note also that the effects described here are from multivariate analyses and so can differ from those that would be found in bivariate descriptions. For example, the models contain both age and education. In the bivariate case, it is often difficult to tell the effects of these variables apart, because of the historical circumstance that more and more people have been drawn further into the education system over the post-World War II decades, so older people are on average less educated than younger people.

The multivariate approach works as a filter separating out the pure, “independent” effects of each of these variables. Thus, for example, this section discusses the effects of both age and time, and the application of multivariate analysis to replicated surveys over time allows distinct estimates of the effects of these often confounded variables.

Time

In terms of time effects, we have found that, at least over the limited time span of data available for this analysis, opinion does not, in general swiftly track public policy¹⁶.

The actual pattern of opinion change over time is somewhat closer to the view that long – established policies would be the most approved, and that opinion would converge towards them over the long run of about 40 or 50 years.¹⁷ But neither of these expectations is as close to the facts as the hypothesis that posited that over the short run opinion would not converge to government policy and might actually turn against government policy when there was a persistent gap.¹⁸

The working hypothesis to be drawn from these results is that it cannot be taken for granted that public attitudes will align themselves with government policy. Moreover, there is some risk that persisting with policies that are contrary to public attitudes will swing opinion against the policies, by around 1 point out of 100 per year, to the extent that the results of Table 1.7 generalise.

A policy option that might be considered that would accommodate the decreasing popularity of the poverty-relief-only pension, the continuing popularity of the universal pension, and the budget, would be a program of gradual, inexorable rise in the age at access to the age pension until it once again only covers a relatively short part of life on average and to provide that pension universally.

Age

We began with four hypotheses on the effects of age on attitudes towards old age income provision, all grounded in prior research or expert opinion.

Age_A, the self-interest hypothesis, holds that the elderly will be seeking increased benefits. In terms of the data available to this project that would imply, in particular, support for universal age pensions, larger age pensions, more governmental responsibility for welfare, and more government spending on old age programs, and opposition to eliminating the age pension and to a poverty-relief-only age pension. This has probably been the most influential hypothesis about the effects of age in prior research, although it is noteworthy that evidence to support it is relatively rare. The results in this analysis, too, contribute to the growing body of evidence against this hypothesis.

Age_B, the non-salience hypothesis, claims that people’s attitudes about systems of old age income provision are largely uninfluenced by a person’s current age, being rather shaped by other aspects of culture and experience.

¹⁶ This is directly contrary to hypothesis **Time_A**.

¹⁷ This is the prediction of hypothesis **Time_C**.

¹⁸ This is hypothesis **Time_B**. Remember also that there is ambiguity about the causal order here, because the data come from less than a decade, so it could also be that the policies that survive a long time are those that best fit public opinion.

Concretely, this hypothesis leads to the prediction that there will be no significant age differences in attitudes towards any of the aspects of age pension that we investigated. This hypothesis has been gaining ground in the literature, originally largely in light of tests of the self-interest hypothesis turning up null age effects. In the data available used here, the non-salience hypothesis is clearly much more strongly supported by the data than is the self-interest hypothesis, although its record is not perfect.

Age_C, the altruism hypothesis, asserts that the elderly will be generally favourable towards government spending and towards a large role for government in social provision, but will want this oriented towards other target groups. According to this line of reasoning, they should be more inclined to take responsibility for the provision of their old age income, to want lower pensions, and to want less government spending on old age income. Every prediction from this hypothesis was wrong, in this analysis.

Age_D, the experiential knowledge hypothesis, suggested that the elderly will approve of smaller age pensions and will be less favourable towards additional spending on old age income because they know from experience that a fairly modest budget is compatible with a normal lifestyle for elderly people. In the event, none of the predictions from this hypothesis matched the results from the empirical analysis.

All in all, the balance of the evidence strongly favours the non-salience hypothesis. This is important, because it suggests that the ageing of the population will not necessarily be accompanied by demands for increased per capita levels of services and benefits for elderly people.

Gender

Gender has been included in previous analyses of items in this domain, sometimes as part of the standard sociological tool-kit, sometimes associated with more formal hypotheses. As the “Prior Research” section showed, the specific hypotheses can be grouped into three relatively general hypotheses: gendered self-interest, low salience of gender, and female altruism. These are not the only hypotheses that are possible in this domain, but they are the ones that have attracted prior research attention, so they make reasonable tools for this exploratory analysis.

The first of these hypotheses, **Gender_A**: Gendered self-interest, holds that people are essentially self-interested, so women will be seeking extra government spending on old age income programs that benefit them directly (and men will be less supportive of these programs because they do not live so long and, as a result, do not benefit so much from these programs). In particular, the gendered self-interest hypothesis posited that women would be less supportive than men of self-funded retirement, of age pension programs targetted to the poor, and less supportive of contributory age pensions, but more supportive of universal pension programs. The evidence on this hypothesis is mixed, but more results undermine it than support it.

The second hypothesis in the gender area, “**Gender_B**: Low salience of gender”, predicted that gender would have no effect on attitudes towards pension programs, towards superannuation, towards government spending, or towards the ideal scope of the role of government. The principal rationale for this hypothesis is that the diversity of women’s (and men’s) social class positions and the diversity of their cultural orientations mean that within genders people have so little in common that gender will not shape attitudes concerning the provision of old age income. This hypothesis receives more support empirically, than did the self-interest hypothesis **Gender_A**, but still far from a perfect record.

The female altruism hypothesis (**Gender_C** in Table D3) proposes that women generalise their traditional caring responsibilities to a pervasive desire to help people who have few resources and people who are otherwise perceived as unfortunate. In the zone of old age income provision, this yields the predictions that compared to men, women will especially favour age pension programs likely to help people with few resources and will favour high pensions. Turning to the empirical results, the data bear out a minority of the predictions from this hypothesis.

All in all, the hypothesis that gender is not salient to attitudes concerning the provision of old age income receives more support than the gendered self-interest hypothesis or the female altruism hypothesis. These mixed results suggest that there may be elements of all these influences present to varying degrees. This could be disentangled in future research by including the existing items together with new items explicitly measuring perceived self-interest in this domain and perceived benefits of various potential policies to various target groups.

It may also help inform future research to note that the gender differences studies here all pertain to the (government) old age pension, and that results could be different on attitudes towards superannuation.

Education

The education effects that are represented in our models are the direct effects on attitudes net of the effects of occupation and income (which education partly causes).

The self-interest hypothesis, **Education_A**: Self-interest, about these direct effects of education stems from the observation in prior research that at any level of income, more highly educated people save more, and so will generally see government assistance in old age as being something from which they will not benefit, but to which they will be required to contribute. Accordingly, it was expected that the educated have attitudes more favourable towards the elimination of the governmental old age pension, attitudes more favourable towards contributory pensions, attitudes less favourable toward universal pensions, and would favour smaller governmental old age pensions. The estimates from our model support none of those predictions, so the evidence here is firmly against the hypothesis positing self-interest of the educated.

Education_B is the hypothesis predicting that education will have no impact on attitudes towards old age income provision. According to this hypothesis, people's interests and values are so diverse at all levels of education that education has no effect on attitudes towards systems of old age income provision or on attitudes about spending on old age income. The empirical results are mixed, so non-salience appears, at least in part, to characterise the role of education in the attitude formation process concerning income for the elderly.

The hypothesis that education inculcates altruism, “**Education_C**: Altruism of the highly educated” posits that the longer the exposure to the educational system, the more altruistic one becomes. This suggests that, all else equal, more highly educated respondents will favour collectivist rather than individualist solutions to the provision of old age income. The only effect that supported these predictions was the negative effect of education on support for eliminating the government old age pension.

Finally, hypothesis “**Education_D**: Generalisation/ projection by the highly educated” claims that the highly educated tend to project their own way of life onto the world at large, in particular assuming that others have their skills at saving, and so there is little or no need for government to intervene. None of the findings support this hypothesis.

This makes an interesting contrast to subjective social class where generalization/ projection is clearly evident (Evans, Kelley and Kolosi 1992; Kelley and Evans 1995; Evans and Kelley 2003).

Economic position 1: Occupation, income, workforce participation, and superannuation holding

The basic self-interest hypothesis here is that people in stronger economic positions will see themselves as net donors to programs for provision of old age income by government, and will, accordingly, want to reduce the scope and generosity of such programs. Conversely, the hypothesis implies that people in weaker economic positions will be more favourable towards expanding both the reach and level of governmental old age income provision, because they expect to benefit more from non-individualised programs. Following most of the prior literature, we will phrase this discussion largely in terms of the self-interest of people in stronger economic positions, but it should be remembered that the hypothesis also posits self-interested attitudes on the part of people in weaker economic positions.

The main competing hypothesis is of non-salience. According to this line of reasoning, people's evaluations of alternative systems for the provision of old age income develop largely independently of their own economic situation. The self-interest hypothesis and the non-salience hypothesis do not exhaust the range of logically possible alternatives, but they are the possibilities that have been explored in prior theory and research, so we have restricted our attention to them.

Economic position is represented by a variety of measures in our models. Following prior research, we examined the roles of occupational status (the most stable indicator of economic position over time), current income (more volatile), and workforce participation (rough, but widely available). For all of these, the "A" hypothesis of self-interest predicts that those in strong economic positions will be more favourable than their peers in weak economic positions to old age income provision systems that emphasize individual responsibility and private sector solutions.

Of the self-interest hypothesis's predictions (**Occupation_A**), not one receives empirical support in our models. In light of this result, it seems fair to say that self-interest based on the long-run strength of one's economic position does not appear to exert much causal force on attitudes concerning the provision of old age income.

By contrast, the non-salience hypothesis (**Occupation_B**) receives solid support, with all of its specific predictions matching the empirical results in these models.

With respect to current income, the self-interest hypothesis, **Income_A** performs a little better than it did with respect to occupational status, with one of the five predictions – that of a positive effect of income on support for completely-self-funded retirement – being supported empirically. Here, too, self-interest is out-performed by non-salience. The **Income_B** predictions of the non-salience hypothesis concerning current income are echoed in the findings of our models 80% of the time.

Because workforce biographies have traditionally been so different for Australian men and women, we examined the effects of labour force engagement separately for them. To allow for a variety of possible effects, we examined the impact of current workforce participation, of cumulative workforce experience, and of spouse's workforce participation. None of the effects of any of these variables on support for any type of pension system was significant for women, and only two were significant for men.

Thus, the predictions of **LFP_A** of self-interest were rarely supported, but the predictions of **LFP_B** of non-salience were supported in a large majority of tests.

To sum up, on these various dependent variables the predictions of self-interest based on economic position have proven correct less than half the time, and the predictions of non-salience of economic position have proven correct more than half the time in these models.

Another aspect of economic position that warrants consideration is whether the experience of benefit receipt shapes people's attitudes towards old age income systems. In particular, the experience-shapes-attitudes hypothesis.

Economic position 2: Benefit receipt

This article has examined one main hypothesis about the effects of benefit receipt: that having received government benefits in one instance would encourage people to favour governmental solutions to old age income provision. Our models estimate the effects of four different types of receipt (or of experiences that proxy receipt): paternal unemployment , paternal disability pension, respondent's own receipt of the disability or single parent pension, and respondent's own unemployment).

All the models were estimated twice: once with the focal variable scored continuously representing the duration of exposure to the condition, and the second time as a dichotomy contrasting any exposure with none. Not one of the coefficients in either formulation matched the prediction.

That makes a considerable body of evidence in favour of a non-salience hypothesis concerning benefit receipt: that benefit receipt does not shape people's evaluations of old age income systems. There are, of course, many improvements to measurement that are possible – corrections for attenuation due to random measurement error, alternative question wording, and the like. But these preliminary indications of no connection between benefit receipt and opinion on retirement income systems suggest that research resources might better be invested in areas where there are clear signs of relationships, and suggestions of strong causal forces at work (notably in the ideology/culture area described elsewhere).

If we think of these benefit receipt hypotheses as representing an underlying claim that people generalise/ project from their own experiences of benefit receipt to believing that the hazards of fortune make individual provision necessarily inadequate, then the comprehensive non-support of these hypotheses can be counted also as evidence against that generalisation/ projection is not an important mechanism whereby people form their views about old age income systems. This evidence is consonant with the evidence against generalisation/ projection in the finding that the evidence did not support hypothesis **Education_D** that people would generalise about others' savings behaviour from their own.

Ideology/ Culture

This article has also investigated the linkage of a number of aspects of ideology/ culture to attitudes about the provision of old age income, both government pensions and superannuation. The basic causal issue here is to what degree various broad attitudes or orientations translate into the specific issue of provision of old age income, a process sometimes described as deductive moral reasoning.

Because this is an exploratory project, we have not undertaken an analysis of reciprocal causation (allowing the specific attitudes on old age income also to influence the general attitudes and orientations), so there is room legitimately to disagree with the causal models. Even if one disagrees with the causal models, the regression coefficients (which we will describe, in the usual way as “effects”) are of interest as indicating the magnitude of the connection.

The first of our ideology/culture hypotheses, “**Culture_A**”, posits that on policy issues of low salience, people tend to take their cues from the general orientation of the political party they support, all else equal. In terms of the specific issues of this report, this suggests that Liberal/National coalition supporters will be generally more favourable towards individualised and marketised systems of retirement income provision than will otherwise similar people who oppose the Coalition.¹⁹

Interestingly, Liberal/ National coalition supporters are keener on the more individualise systems – completely self-funded retirement and contributory pensions – than are their opponents, but they are no less supportive of collectivist solutions – the universal pension and the poverty-relief pension – than their opponents are. Thus, the influence of political party preference is limited.

Hypothesis “**Culture_B**” proposes that people who favour consumer subsidies in general will favour governmental responsibility for old age income provision in particular, and will favour benefit systems in which levels of income received are not closely connected to contributions.²⁰ In terms of the data to hand, those who support general consumer subsidies are especially keen on a universal age pension, and are especially opposed to completely self-funded retirement. They also prefer larger government old age pensions, whereas subsidy opponent prefer rather small age pensions. Supporters and opponents of general consumers subsidies do not significantly differ in their views of poverty-relief-only age pensions and of contributory age pensions. All in all, Hypothesis “**Culture_B**” about the effects of consumer subsidy attitudes on views about old age pension and superannuation arrangements has a 60% success rate on these questions.

By contrast, the socio-psychological hypothesis, “**Culture_D**” that valuing financial self-reliance as a part of one’s own identity would lead one to favour systems of old age income provision that emphasise individual responsibility led to 5 clear predictions, only one of which proved correct, for a success rate of 20%.

We have an excellent index of financial self-reliance, so it seems likely that the four non-significant effects are not an artifact of measurement problems, but are genuine.

Moreover, the paucity of effects of valuing financial self-reliance provides further evidence that people do not generalise or project in this attitudinal domain.

¹⁹ Note that the ratings measure for the Liberal/ National coalition is too highly correlated with the parallel ratings measure for the Labor Party to include them both in the same models. The choice of which to enter is somewhat arbitrary, but we chose the Coalition because, as the party of government in recent times, they have had especially good opportunities to communicate their views.

²⁰ We will phrase the discussion in terms of support for subsidies, because it saves unnecessary repetition, but it should be remembered that the explanatory variable in question is a nearly continuous multiple-item scale encompassing opinions on consumer subsidies ranging from stout opposition to strong support. So it should be remembered that when the discussion “subsidy supporters favour X”, one could equally well have phrased the discussion in terms of “subsidy opponents oppose X” or “the more one favours subsidies, the more one also favours X”.

Note that this is the third topic in which the analysis has revealed failure of a projection/generalisation hypothesis in explaining attitudes on old age provision. It would seem reasonable on the basis of this evidence to take as a working hypothesis the view that generalisation/projection from one's own personal values and behaviour is not a major social force shaping attitudes towards old age provision.

Thus, there appear to be some links of attitudes on old age income provision to general ideology/ culture, but little or no links to identity, at least as measured in these existing data.

National Differences

The hypotheses under this heading are to some considerable degree cultural hypotheses, too, but the evidence here is mostly indirect rather than direct, because there are two few different countries in the ISEA data for the contrasts to be more than suggestive. The data provide Australia with contrasts on to a Scandinavian country (Finland) and an Eastern European country (Poland), both of which culture areas are very much more supportive in general of a wide-ranging role for government in welfare and the economy (e.g. Kelley and Evans 1993; Kelley and Zagorski 2002).

Hypothesis **Nations_A** posits that Australians will favour tend to favour age pension systems that emphasise self-provision over governmental provision of old age income more than Eastern Europeans, represented here by the Poles, do. The results are mixed. In terms of completely self-funded retirement, Australians were more enthusiastic than the Poles in the early 1990s, but Australian support for this policy option has dropped sharply. In support of the hypothesis, Australians are more supportive of a poverty-relief-only pension and a contributory pension than are the Poles. Contrary to the hypothesis, Australians are more supportive of a universal age pension than are Poles, and Australians also favour a larger age pension (relative to local average wages) than do Poles.

The results and interpretation on Hypothesis **Nation_B** are simpler. Australians nearly uniformly show more support for self-provision-oriented systems of old age income than do denizens of Scandinavian, represented here by Finland.

All in all, there are some quite substantial national differences in attitudes towards collective or individual responsibility for the provision of old age income. Australians are not enthusiasts of entirely individual solutions – recall that respondents rated an old age income system that is entirely individualised with no age pension at 28 points out of 100 compared to 44 points for a poverty-relief-only age pension and 62 for a universal age pension. But it does imply that people from other cultures, especially Scandinavia, appear to be even less inclined towards self-provision.

SUMMARY

This article began by assessing Australians views on alternative old age pension systems and found that a no-pension system is very unpopular (28 points out of 100, on average), and a universal pension system fairly popular (62 points, on average), with other systems in between. The current catchment of the current system was not asked about directly in the existing data, but forecasts of its likely rating, based on interpolation between the ratings of the other systems suggest that it would draw ratings of around 55, on average.

The existing data do not include any variations in age at access, which ought to be inquired about in future research, because varying that might accommodate goals of containing or reducing spending with public preference for widespread access. The temporal analysis found no trends between 1993 and 2000 in ratings of any of the alternative pension systems.

In terms of how the various attitudes on old age income provision might vary over time, this report has investigated a variety of hypotheses. The specific hypotheses in each domain are assessed above, so we do not repeat that here, but rather draw attention to some broad patterns

One key finding was that, over the short run, there is no sign that government policy shapes opinion, at least on the particular aspects of old age income provision investigated here. Another potentially important finding that emerges from the report's analyses of time is that long-established policies seem to do rather well in opinion, but whether this is because opinions adapt to policies in the long run or whether those policies that conform to opinion are the ones that survive is a question that future research will need to explore.

Another family of hypotheses the report investigated concerned self-interest, specifically the question of whether narrow self-interest is an important determinant of attitudes towards systems of old age provision.

This hypothesis has been very prominent in the literature, although much empirical evidence fails to support it. The available data enabled us to test hypotheses about self-interest with respect to age, gender, education, occupational status, current income, workforce participation, and benefit receipt. Over all, we tested 50 predictions that the hypothesis generated about effects of self-interest on attitudes towards old age provision, and of these just 13 were supported by the data, for a 26% success rate. It should be noted that the hypotheses we tested were rather weak ones about the signs of coefficients, so even very weak effects in the anticipated direction are counted as successes. In other words, the testing strategy was looking for any sign of self-interest (not just looking for strong or dominating self-interest), but found relatively few such signs. In light of this result, it seems reasonable to propose as a working hypothesis that self-interest does not play a large role in attitudes towards old age income provision.

Another family of hypotheses that was tested in this report posited a socio-psychological mechanism such that generalisations/projections from their own experience shape people's attitudes towards retirement-income systems. Such a mechanism has been demonstrated by research in some other attitude domains, but it does not appear to be relevant here. Out of 36 predictions from this hypothesis that could be tested in the existing data, just 4 were supported by the results of the data analysis, for a 9% success rate. This, too would not seem to be a very promising avenue for future research.

By far the most promising area in explicating the sources of Australians' attitudes towards alternative arrangements for providing income for the elderly would seem to be culture/ideology. There are abundant signs that specific attitudes on old age income systems are strongly linked into broader issues of collective and individual responsibility. Extending and enriching measurement in the general ideological/cultural zone would seem likely to bear fruit, and assessing in panel data the interplay of attitudes on government versus private responsibility in general with attitudes on old age income provision in particular would provide another approach to testing the causal linkage in the hypothesis.

Taken together, the facts that (1) Australian respondents' attitudes are already towards the individualist end of the spectrum of opinion among the developed countries for which we have data and (2) they display limited enthusiasm for contracting the age pension into a poverty-relief-only system

(as is likely to happen given reasonable scenarios about economic growth unless the means-tests thresholds rise) suggest that searches to reduce outlays of government expenditure on old age income provision should explore some new possibilities. For example, one possibility that might warrant future exploration that takes into account the budget constraints, the existing system of substantially individualised superannuation, and the fact that a universal age pension elicits more support than any of the other alternatives canvassed here, would be a “package deal” that offers individualised superannuation and a universal pension that becomes available only later, gradually reducing the span of life covered by the pension.

Naturally, people will also want to know when they will have access to the age pension, if it is set at different ages for different cohorts. Without undue hardship, the age at access to the age pension could be gradually raised over 10 or 15 years towards the average onset of old-age debilities. Thereafter, age at access could track the average age at onset of debilities. People’s desire to know and plan could reasonably be accommodated by providing readily available tables of age at access by birthdate, and fixing these as each cohort reaches age 50. That would enable people at younger ages to make reasonable guesses about the trend, so they could incorporate that in their tentative plans, but would not bind the government excessively far ahead.

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Appendix A

Data Sources

The analyses in this project are largely based on data from the International Social Science Surveys Australia (Isssa). The Isssa regularly collects extensive and detailed survey data on large, representative national samples of Australians, beginning in 1984 and repeated most years since then.²¹ There are now over 26,000 cases and many hundreds of variables. Some of the analyses also include aggregate data at the postcode-level from the ABS which we shall discuss below.

The Isssa

The Isssa surveys' particular strengths are that they offer:

- o Individual level data on a very large number of variables simultaneously, facilitating multivariate analysis and enabling one explicitly to control for many sources of selectivity.
- o Extensive measurement of public policy preferences, attitudes, and values, based on carefully pretested multiple-item scales for more reliable measurement.
- o Extensive information on family background and on current labour force involvement.
- o Cross-national comparisons on many variables, allowing one to discover what is unique to Australia; what is common to culturally similar nations such as Britain and the USA; and what holds for industrial nations generally.
- o Historical depth, with many items appearing regularly since 1984.
- o Panel components with some measures available for the same respondents at several points in time.

Population sampled

The population sampled by the Isssa consists of citizens of Australia who reside at the address which they have provided to the Electoral Office, who can read English sufficiently well to answer a self-completion questionnaire, and who are not too cognitively impaired to answer a self-completion questionnaire. For simplicity, we refer to this population as “Australians”.

²¹ The first survey, then called the National Social Science Survey, was supported primarily by the Australian Research Grants Committee and research funds kindly provided by Don Aitkin, now vice-chancellor of the University of Canberra. Most, but not all, subsequent surveys through 1997 were mainly supported by the Research School of Social Sciences at the Australian National University. The Isssa's home is in the International Survey Centre which is now core-sponsored by the Melbourne Institute of Applied Economic and Social Research, the University of Melbourne, being designed as an omnibus the survey episodically includes modules sponsored by other organisations. Merging all the surveys into a pooled, user-friendly file with consistent variable definitions was sponsored by an ARC-Research Infrastructure and Equipment grant to the Melbourne Institute.

The selection on citizenship should have little effect, since prior research shows that non-citizen immigrants differ from citizen immigrants principally in their duration of residence, with few or no differences in issues that would be more relevant to this report, namely marital status and stratification characteristics (Evans 1988).

A note on sample size

The IsssA, unlike most social surveys, is based on a simple random sample. This is the optimal type of sample for most purposes, and the type of sample implicitly assumed by most statistical packages, so ordinary standard errors based on it are correct and do not require the inflating factors that cluster samples do. Simple random samples such as the IsssA are more efficient than the cluster samples used in almost all face-to-face surveys.²²

A reasonable rule of thumb for high quality cluster designs is that they are worth approximately two-thirds as much as simple random samples (NORC 1987: 435). Thus an IsssA sample of about 2,200 would provide as reliable information as a good cluster sample of around 3,300 cases.

Data collection procedures: IsssA

The IsssA surveys are from simple random samples of Australian citizens²³ drawn by the Electoral Commission from the compulsory electoral roll, a public document.²⁴ They are conducted by mail²⁵ using a minor modification of Dillman's (1993) Total Response Method. First, a personally-addressed preliminary letter announces the survey; offers a free telephone contact number for queries; and provides information on how to decline to participate²⁶. Then the survey booklet itself arrives in the post about two weeks later (together with its pre-paid return envelope and a further cover letter). These average around 64 pages, ranging from 32 to 84 pages, are attractively laid out, and are printed in black and white.

²² Travel costs make simple random samples unaffordable for most face-to-face surveys.

²³ For the exact definition, see the section on "Population sampled", above.

²⁴ Most of the early surveys are repeated cross-sections (ie new samples drawn each time) but a few are panels (re-contacting previous respondents). Our current design is a permanent panel, augmented with some fresh respondents in each wave.

²⁵ The first survey was mainly face-to-face interviews, with only the most rural quarter of the sample contacted by mail. Comparison of the face-to-face interviews with mail samples suggests that there are no systematic differences (Bean 1991), and similar results have been reported for the US (Goyder 1985). Mail surveys may be better than face-to-face or telephone surveys for sensitive issues, such as income, since there is no interviewer to create embarrassment (e.g. Babbie 1995: 272). Moreover, non-governmental surveys are more likely to detect participation in the grey economy and income derived from it. Probably the chief drawback to postal questionnaires is that because they are self-administered they are not suitable for questions requiring complex skip patterns (e.g. Babbie 1995: 272).

²⁶ For our surveys of 1984-85 through 1996-97, we did not use a preliminary letter, but rather a cover letter. The transition to a preliminary letter was at the suggestion of Malcolm Mearns, principal of Datacol Research on the grounds that it would be likely to boost response rates and that it would make refusals cheaper (because the preliminary letter costs only ordinary letter postage, and people who refuse at that stage are excised from the mailing list before the higher cost mailing of the questionnaire). Research is now in progress systematically to evaluate the impact of the preliminary letter.

The covers feature a map of Australia and are usually glossy white, with the map in a colour that varies from year to year²⁷. For non-respondents, this is typically followed by four follow-up mailings, two with fresh copies of the questionnaire, over a 6 to 12 month period.²⁸

The data entry process is too elaborate to cover in detail here, because it changes over time²⁹, but it is worthwhile giving a sketch of current practices. Because the Isssa relies almost entirely on closed-ended questions (because of their superior analytic properties), data processing is relatively straightforward. Upon receipt, the answers from the survey booklets are entered into a specialised computer program that flags out-of-range codes (usually keypunching errors), and has column location checks at the end of every page to guard against the keypuncher missing a question and thus punching answers to subsequent questions in the wrong fields, a problem sometimes known as “off-column” errors. Double answers (respondent circles two adjacent answer categories) are randomly assigned to one or the other answer (with special arrangements for a few unusual items). Experienced coders work with an automated occupation-coding program to transform open ended occupation questions into ABS 4-digit occupational codes. Experienced coders also convert open ended questions on industry and educational qualifications into standard ABS codes. Throughout the data entry process, coders and data-entry personnel flag all confusing or unclear cases which are subsequently dealt with in problem-resolution sessions with experts. All personnel are carefully trained and supervised³⁰ to maintain high standards of data-quality. With these procedures, we estimate that the data entry errors are substantially less than one per thousand questions (based on a sample of questionnaires that were entered twice, with different personnel performing the two entries).

Non-response bias in surveys

Representativeness

A very important feature of samples is their representativeness, for it is on this basis that one can make generalisations to the large population which is a key goal of most survey research. Indeed, modern survey research textbooks generally emphasise that completion rates/response rates are only of interest because a very low completion rate may be a symptom of non-representativeness (e.g. Babbie 1995: 262). The representativeness of Isssa achieved samples has been clearly established in prior research (Bean 1991; Sikora 1997), and analyses using Isssa data appear regularly in the world’s leading sociology journals.³¹

²⁷ Our assessment indicates that colour makes no difference to response rates, but varying the colour helps to keep track of multi-year surveys and was an important mnemonic device for questionnaire designers trying to locate questions from earlier survey booklets. The electronic age has made the last issue less relevant, so if one were starting a survey today, one might well prefer to choose one permanent “signature” colour-scheme.

²⁸ In some years we have experimented with telephone follow-ups and various other alternatives for the last contact, which proved neither demonstrably better nor demonstrably worse than standard practice. .

²⁹ The data from the first survey were coded and entered by Rreak Research, the data from the 1986-87 and 1987-88 surveys were coded by research assistants at the Australian National University and entered by data processing personnel at the Australian National University’s (former) Data Processing Unit, and the data from subsequent surveys are coded and entered by personnel at Datacol Research. Datacol Research also provides the foundational SPSS locating, identifying, and labelling variables.

³⁰ Including random checks.

³¹ For example: Evans, Kelley, and Kolosi (1992); Kelley and De Graaf (1997); Kelley and Evans (1993, 1995).

Here, we take two approaches to the issue of representativeness (also sometimes known as survey response bias): (1) comparisons of IsssA survey results with the Australian Census, and (2) comparisons of prompt respondents with tardy respondents (who would have been non-respondents if not for our extensive follow-up procedures).

Results for IsssA surveys conducted around the time of the 1991 Australian census show that the survey samples (1989-1993; 8234 cases) are representative of the population (Table A1).³² Similar comparisons with the 2001 Census will be conducted in due course.

The IsssAs around 1990 do find 7 per cent more people employed than does the nearby Census (65 per cent versus 58 per cent). There are two possible sources of this difference, one being that the Census is “true” and the IsssA unrepresentative, the other being that people engaged in grey and black employment are more ready to report it to a non-governmental survey. With the information to hand, there is no solid evidence for preferring one of the interpretations to the other.

³² More extensive comparisons show this as well (Bean 1991; Sikora 1997).

Table A1: Comparison of IsssA surveys with the census.

<i>Census 1991 IsssA 1989-93</i>		
Gender		
<i>Male</i>	49%	51%
<i>Female</i>	51%	49%
Age Groups		
18 - 24	15%	11%
25 - 34	22%	21%
35 - 44	21%	23%
45 - 54	15%	17%
45 - 64	12%	14%
65+	16%	14%
Education: Age Left School		
<i>Under 15/none</i>	18%	18%
15	24%	23%
16	22%	23%
17	19%	21%
18	11%	11%
<i>19 and over</i>	7%	3%
Employment Status		
<i>Employed</i>	58%	65%
<i>Unemployed</i>	7%	2%
<i>Not in labour force</i>	36%	33%
Occupation of employed persons		
<i>Managers & admin</i>	14%	13%
<i>Professionals</i>	14%	19%
<i>Para-professionals</i>	8%	11%
<i>Tradespersons</i>	14%	12%
<i>Clerks</i>	16%	16%
<i>Sales, service</i>	13%	12%
<i>Plant & mchn operators</i>	8%	7%
<i>Labourers</i>	13%	10%

Another line of insight into the representativeness question comes from comparisons of prompt respondents, who complete and return their questionnaires shortly after receiving them, with tardy respondents (who would be non-respondents had they not been contacted on multiple occasions). Note that our preliminary letter invites sample members to refuse if they do not wish to participate, and we do not re-contact anybody who refuses. So the non-respondents are people who have not indicated a desire not to participate. An analysis of characteristics of non-respondents compared to respondents is given below in the section on “Non-response”.

Survey non-response

Completion rates

Among the data quality issues that concern survey researchers are completion rates, because of the possibility that non-respondents may differ systematically from respondents, yielding an unrepresentative achieved sample, and thereby violating the assumptions that justify generalization from a sample to a population (e.g. Donald 1960; Brownlee 1975; Miller 1991: 145-155; Babbie 1995: 262). Completion rates (defined as completions divided by eligibles, where eligibles = refusals plus completions) range between 60 and 65 per cent on Isssa surveys. Potential respondents are defined as "eligible" if they are currently living at the address given in the electoral roll, able to read English, and not seriously ill. The main uncertainty has to do with the addresses, a proportion of which are out of date, erroneous, or unoccupied and so ineligible. Following van Dijk, Mayhew and Killias (1990) we define as ineligible addresses from which we have heard nothing after 5 or 6 contacts. The Isssa completion rate compares favourably with recent experience in Australia, the USA, and many other industrial nations. For example, the well-regarded International Crime Victim Survey averaged 41 per cent in 14 nations using a similar definition (van Dijk, Mayhew and Killias 1990).³³

However, diligent pursuit of non-respondents is expensive. In the Isssa, as in other mail surveys (Dillman 1993), the great majority of the completions come within a month or two of entering the field³⁴. But then things begin to get expensive. The Isssa typically sends a second questionnaire (expensive both in printing and in postage), followed by another reminder letter, followed by a third questionnaire, and often a final desperation contact of some sort. All this obtains relatively few responses. Much of the follow-up mail goes to “bad” addresses, mostly because the person we are seeking has moved house. So, much is spent, for little gain. At a rough guess, we spend two or three times more per completed questionnaire at this stage than at the first stage.

But is all this is worthwhile? Since the budget is fixed, an attractive alternative is to draw a bigger sample in the first stage, but then cut the pursuit of non-respondents short, dropping the third questionnaire (and possibly even the second). That would produce a larger sample within the same budget – of course, bigger samples are unequivocally better.

³³ The ICVS is an appropriate benchmark because it offers the same definition of response rate in all the countries taking part, whereas in many other international surveys each country defines the response rate in a way that is customary for them, so the reports are not comparable.

³⁴ For example, the University of Hawaii estimates that on its impressive panoply of student surveys, 40 percent of responses are returned within two weeks of receipt (Babbie 1995: 280).

The danger is that the “difficult” respondents who initially refuse our requests to participate and only complete the questionnaire months later are different from the “good” respondents who answer right away. So by giving up on those who initially refuse, we might get an unrepresentative sample. That would be unequivocally bad.

So a key question is whether “good” (and inexpensive) respondents differ systematically from “difficult” (and expensive) respondents and, by extension, from non-respondents (who are presumably like “difficult” respondents, but even more extreme). Good arguments can easily be made on both sides of this question,³⁵ but in the end the question is an empirical one, and is an important tool in the assessment of sample representativeness (Babbie 1995).

Are those who initially fail to complete the questionnaire, eventually answering only after many reminders, in fact different from “good” respondents? The logistic regression analysis in Table A2 suggests that, in the main, they are not. At a simple descriptive level, nothing we have measured is strongly correlated with initially not answering the survey (column 1), a finding confirmed by the logistic regression (columns 2 and 3).³⁶ Demographic differences are minimal; status and political differences even smaller; and attitudinal differences negligible. There is only one statistically significant difference: younger people are very slightly more likely initially not to complete the questionnaire, all else equal.

Table A2. Analysis of non-response. Panel 1: Respondents who initially refused to complete the survey but eventually answered after many reminders (=1, all others=0). Panel 2: Item non-response (=number of individual questions not answered). Correlations (r), logistic regression coefficients (b), standardized partial regression coefficients estimated by OLS (beta), and significance tests. Australia Isssa 1994-95. N=1503.

	1. Initially refused to answer survey			2. Item non-response		
	r	logistic b	Wald χ^2	r	OLS beta	t
Male	-0.034	ns	0.45	-0.10	-0.07	-2.24
Age	-0.123	-0.02	12.91	0.11	ns	1.63
Parents' party	-0.014	ns	2.04	-0.04	ns	-1.12
Born in Australia	-0.026	ns	1.51	-0.05	ns	-1.35
Urban	0.012	ns	0.23	-0.01	ns	0.47
Education	0.017	ns	0.91	-0.13	-0.07	-2.08
Family income	0.001	ns	0.72	-0.07	ns	-0.40
Liberal or National Party	-0.013	ns	1.34	0.02	ns	1.33
In labor force	0.031	ns	0.01	-0.11	ns	-1.11
Catholic	0.023	ns	0.23	0.01	ns	-0.20
Christian belief (scale)	0.056	ns	1.23	0.04	ns	0.42
Pro-union (scale)	-0.003	ns	2.11	-0.01	ns	0.55
Govt regulate business (scale)	0.072	ns	0.99	0.00	ns	-0.43
Knowledge of science	-0.001	ns	1.04	-0.11	ns	-1.21
For genetically engineered food	0.001	ns	1.32	-0.08	ns	-1.59
Govt pay more on superannuation	0.036	ns	2.10	0.06	ns	1.23
Initially refused to answer survey	--	--	--	0.03	ns	1.20

ns – Not significantly different from zero, p<.05, two-tailed.

³⁵ It might be that poorly educated respondents find our lengthy questionnaire daunting; or that the rich have no time for it; or that housewives find the focus on work uninteresting; or that right-wingers find it intrusive, or left-wingers find it threatening. Alternatively, it could be that none of these matter – that filling out a questionnaire depends on random things (such as happening to have some free time that week) or on things uncorrelated with the variables we are interested in (such as mood, personality, or co-operativeness).

³⁶ There are also statistical ways of getting some empirical leverage even on permanent non-response and adjusting for any resulting biases in the multivariate analysis (see Heckman 1979 and the literature flowing from that). But the cure often seems more dangerous than the disease, so conventional wisdom has generally turned against such corrections – a view with which we concur.

Item non-response

Item non-response is also a long-standing concern for survey analysts (Hyman 1972; Sudman and Bradburn 1974). Respondents' typically do not answer all the questions in a survey, and the concern is that those skipping an item are systematically different from those who do answer. On a few topics (for example, income) 10 percent or more may not answer, although generally item non-response tends to be closer to 5 percent in Isssa surveys. There is a large statistical literature how to handle item non-response, with implications that turn largely on how distinctive the non-responders actually are (e.g. Joreskog and Sorbom 1988, chapter 1: 12-17; Little 1992:1229-31). If they are very different, serious difficulties can arise in the analysis; conversely, if item non-response is more or less random with respect to the variables of interest, it is relatively easy to deal with.

So again it is an empirical question: how distinctive are those who do not answer particular questions? To get some insight on this, we selected some widely used items and counted how many each respondent failed to answer. A typical count, for eight demographic and background items in the 1994-95 Isssa is:³⁷

<i>No missing data, answered all</i>	74%
<i>Missed 1 question</i>	21%
<i>Missed 2 questions</i>	4%
<i>Missed 3 questions</i>	1%
<i>Missed 4 questions</i>	0.4%
<i>Missed 5 questions</i>	0.1%
<i>Missed 6 or more questions</i>	0%
	100% (1503 cases)

Thus, most people answered all these questions but 21 per cent skipped one, four per cent skipped two and a handful skipped more. We made similar counts for other sorts of questions, with similar results.

Who, then, are not answering? In all, there are no substantial differences between those who skip questions and those who do not,³⁸ at least for the variables we have measured (see Table !!!, panel 2):

The tendency not to answer is not strongly correlated with anything we have measured (first column of panel 2). Most of the correlations are near zero.

Multivariate analysis suggests that there are, however, a couple of significant, but small, differences (see the second and third columns of panel 2). Men are a little less likely than women to skip questions, and the well-educated less likely than the poorly educated. Both differences are small, with a standardised effect of only -.07. Interestingly, there is no relation between skipping questions and being a tardy respondent – that is, no statistically significant link between item non-response and survey nearly-non-response.

³⁷ Sex, age, parents' political party, place of birth, urban residence, education, family income, and party preference.

³⁸ Results on earlier Isssa data are similar Bean 1991

Instead, we suspect that doing a survey involves a two-stage decision process: first one decides whether or not to do the survey, then after that and quite independently, whether or not to answer each particular question.

There seems to be a general tendency toward skipping questions in a survey, although not a strong one (Table A3). For example, those who tended to skip background items also tended to skip political attitude questions ($r=.32$), questions on science ($r=.21$), attitudes toward retirement income provisions ($r=.31$) and religious matters ($r=.19$). All these links are clear, but only moderately strong.

In some analyses, we have estimated the effects of item nonresponse using a variation of Heckman's (1979) method suggested by Kelley and Evans (1993:118-20) which uses nonresponse on related questions elsewhere in the questionnaire to give an independent indicator of the underlying propensity not to respond. However, our experience thus far is that these adjustments rarely make any practical difference.

In practice, we therefore generally use the pair wise present method for missing data, without any further adjustment. It is statistically preferable to the usual simple alternatives (Joreskog and Sorbom 1988, chapter 1: 12-17; Little 1992:1229-31).

Table A3. Correlations between initial refusal to complete the survey and non-response to particular items in the survey. Australia IsssA 1994-95. N=1503.

	Initially refused to complete the survey	Item non-response on:				
		Background items	Political attitudes	Attitudes to science	Attitudes toward retirement	Religious issues
Background items	0.06	1.00	0.32	0.21	0.31	0.19
Political attitudes	0.01	0.32	1.00	0.15	0.20	0.16
Attitudes to science	0.02	0.21	0.15	1.00	0.40	0.07
Attitudes to retirement	0.03	0.31	0.20	0.40	1.00	0.10
Religious issues	-0.03	0.19	0.16	0.07	0.10	1.00

General matters of question design

In general, scale types and formats matter little to the psychometric quality of questionnaire items, so long as the substance of the question is clear and respondents can tell which end is high and which is low (Sheatsley 1983; Milkovich and Wigdor 1991: 3), although the reliability of ratings drops if there are under 3 answer categories or more than 9 answer categories (Milkovich and Wigdor 1991: 3). As a result, 5 to 7 answer categories are often treated as ideal, although one may need to vary this for specific purposes, such as replication. Some degree of balance of topics is ideal to maintain respondent concentration (Sheatsley 1983). Comparisons of survey data with formal records indicate that factual questions tend to obtain more accurate answers when the questions are clear and not terribly complex (Dykema and Schaeffer 2000), so the IsssA routinely assesses new factual questions qualitatively in terms of respondents' experience of their clarity and complexity.