4 Do we need to be worried by Australian fertility levels?

Key points

- People often advocate policies to stimulate fertility. This reflects concerns about sustaining a viable population, the future care for the old, the demographic effects of population ageing (including on workforce participation and economic growth) and the implications for Australian society.
- However, Australia's fertility has increased in the last six years and is not low compared with other developed economies. It is far in excess of the low rates observed in Southern Europe, the former Eastern bloc economies and the advanced economies of Asia.
- Moreover, many of the concerns about the economic effects of Australia's current level of fertility are not well-founded:
  - At current levels of fertility and net overseas migration, Australia's population will continue to grow strongly. Indeed, with current fertility rates, Australia's population is projected to grow at the third highest rate among developed countries to 2051.
  - Feasible increases in fertility would make little difference to population ageing and, perversely, would depress labour supply per capita over the next 50 years — precisely the period when the baby boom generation are withdrawing from the labour market.
  - Higher fertility would actually aggravate the fiscal pressures of an ageing population since the costs associated with extra children occur upfront, whereas the fiscal benefits are deferred for a long period.
  - An increase in fertility would be a blunt way of dealing with the intergenerational implications of the pressures on government budgets resulting from ageing.
- Concerns about the social implications of very low fertility (a total fertility rate below 1.4 babies per woman) have more validity. Such low fertility rates could alter the nature of society, as it would entail an older age distribution; a much lower visibility of children; and, to make up the numbers, a significantly bigger proportionate representation of migrants in the Australian population.
  - However, Australia does not have current or likely impending fertility levels that should prompt these concerns.
- The gap between desired and expected fertility of people may be a symptom of failures in institutions supporting families, but equally at least some of that gap will reflect the inevitable tradeoffs that people make when weighing up having children with their other aspirations.
- Overall, Australia is in a 'safe zone' of fertility, with little grounds for current policy concern.

Like other factors that affect the demographic structure of a population, most governments see fertility levels as a potentially important policy concern. If they are high, as is sometimes the case in developing countries, then they can inhibit development, spread investments in human capital too thinly and place strains on finite resources, such as land and water. However, for Australia and more particularly, many European and developed Asian countries, the concern is that fertility levels may be too low or that long-term trends will lead to excessively low rates. (All OECD countries except the United States, Turkey and Mexico have fertility rates below replacement levels so that, absent sufficient net immigration, their population levels would begin to decline).

Many such countries have devised pro-natalist policies to promote rising, or at least to maintain, fertility rates. In addition to the common use of social welfare incentives, countries have, at various times applied novel measures. Singapore has used subsidies to encourage childbearing for educated women and sterilisation of poorly educated women (Yap 2002). More recently, it has introduced a baby bonus for all women, which escalates with three or more children (Loke and Sherraden 2007). Russia has considered re-introducing a tax on childless people that was previously used in the Stalinist era (Pletneva 2006). France supports families with a plethora of conventional measures (childcare, maternity leave, family allowances and tax deductions), but also still awards the 'Medal of the French Family', a gold medal in honour of women who have eight or more children.[1]

While Australian governments have usually avoided an explicitly pro-natalist policy stance, recently fertility levels have been seen as too low and as an appropriate target of policy. For example, in 2007, the United Nations (2008) characterised government policy this way,[2] while Heard (2006) also claims that support for pro-natalist policy has more generally increased in policy circles in Australia.

Against this background and the current (and impending) levels of fertility in Australia, this chapter considers whether fertility levels are worryingly low, and, therefore, the urgency of any policy intervention.

Generally, views about the appropriateness of fertility rates involve two interlinked stages. The first is an (objective) assessment of the long-run demographic, economic and social implications of different fertility scenarios. The second is a judgment about the desirability of such impacts. This chapter concentrates on the first stage, but also explores some aspects of the second.

1 *The Economist*, 19-25th April 2008, p. 61.

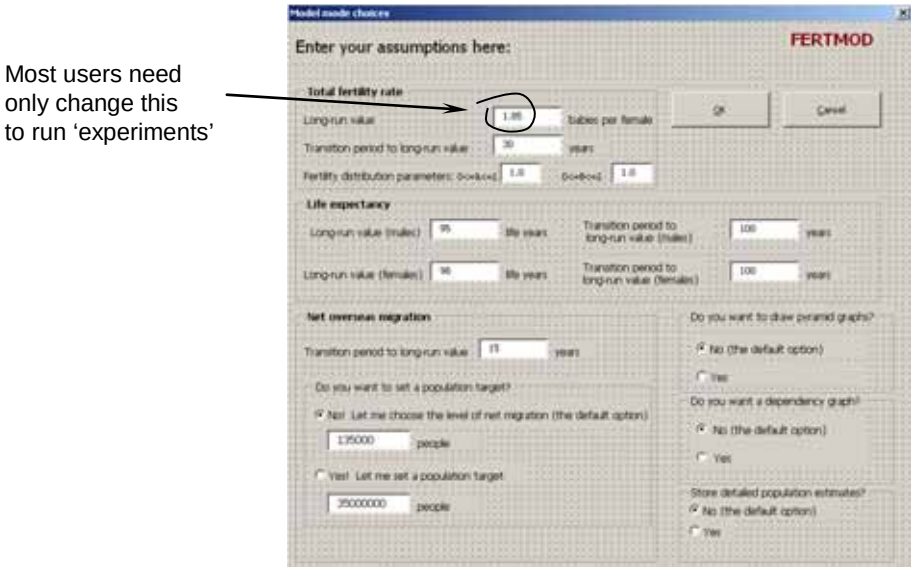
2 In previous years — 1976, 1986 and 1996 — in which the UN has canvassed government views, fertility was seen as 'satisfactory' with no required policy response.

4.1 Demographic impacts

The demographic impacts of fertility rates are straightforward because the outcomes are deterministic for given assumptions about future fertility, mortality and net migration (PC 2005c) (box 4.1). For given mortality and migration patterns, lower fertility rates result in lower long-run populations, increased population ageing and mixed effects for young and aged dependency ratios. However, there are subtleties in these effects that belie conventional wisdom.

Box 4.1 **A model for analysing fertility**

An Excel-based demographic model was developed for this study, taking account of ABS data released up to the end of 2007. Readers of this report can easily model different scenarios from those considered here by nominating different fertility or other demographic assumptions using a simple model interface:



The model and its documentation is available for free use on the Commission's website.

First, while reduced fertility rates are associated with decreased population growth (table 4.1), long-run populations stabilise even when fertility rates are well below replacement levels (so long as there is some net migration). As an extreme example, with a 30 year transition to a zero total fertility rate and annual net migration of 135 000 people (less than current levels), Australia's population would stabilise at around 9.3 million around 2150.[3] That may well be undesirable, but it does not represent extinction.

[3] With a long-run life expectancy for females and males of 98 and 95 years respectively — similar to those used by Kippen and McDonald (2004). We assume a 100 year transition to this state —

Table 4.1 **Demographic impacts of different fertility rates**[a]
2007-2251

	2007	*2051*	*2151*	*2251*
TFR=2.1				
Population (million)	21.0	33.8	64.3	95.8
65+ (%)	13.1	24.9	29.8	30.6
0-14 (%)	19.4	17.8	16.7	16.4
Working age to dependent population ratio[b]	2.08	1.34	1.15	1.13
TFR=1.85 (base case)				
Population (million)	21.0	32.4	49.2	59.5
65+ (%)	13.1	26.0	32.8	33.5
0-14 (%)	19.4	16.1	14.5	14.3
Working age to dependent population ratio	2.08	1.38	1.11	1.09
TFR=1.73				
Population (million)	21.0	31.7	43.3	48.1
65+ (%)	13.1	26.5	34.3	34.8
0-14 (%)	19.4	15.2	13.5	13.4
Working age to dependent population ratio	2.08	1.39	1.09	1.08
TFR=1.4				
Population (million)	21.0	29.9	30.7	28.9
65+ (%)	13.1	28.1	38.2	37.7
0-14 (%)	19.4	12.9	10.9	11.1
Working age to dependent population ratio	2.08	1.44	1.03	1.05
TFR=1.0				
Population (million)	21.0	27.8	20.6	18.2
65+ (%)	13.1	30.3	42.4	40.3
0-14 (%)	19.4	9.9	8.1	8.5
Working age to dependent population ratio	2.08	1.49	0.98	1.05

a Under the base assumptions, it is assumed that there is a 30 year smooth transition from the present TFR to the long-run TFR, and a 15 year smooth transition from the present net migration level to long-run net migration of 135 000 people. It is also assumed that there is a 100 year transition to a life expectancy of 95 and 98 years for males and females respectively. The gain in life expectancy is 0.153 and 0.145 years per year for males and females respectively, which is within historical bounds. The life expectancy for males is slightly less than in Kippen and MacDonald (2004). Both male and female life expectancies are greater than those in the 2006 ABS series A projections. **b** The working age to dependent population ratio is the ratio of people aged 15 to 64 to those 'dependents' aged 0 to 14 and 65+ years. This is the inverse of the total dependency ratio.

Data source: FERTMOD (PC fertility model 2007 to 2251).

again roughly in line with Kippen and McDonald. This implies average life expectancies of around 87.8 and 91.5 by 2051 for males and females respectively. The latest ABS projections assume rather less significant increases to 84.9 and 88 years respectively.

Second, while changes in fertility levels can accentuate or impede long-run population ageing,[4] it would take significant changes in the TFR to alter the proportions of young people relative to aged cohorts:

- With a long-run TFR of 1.73 (the value in 2001 and the lowest in Australia's history), the share of the population aged 65+ would increase from 13.1 per cent in 2007 to 34.8 per cent of the population by 2151 (an increase of 21.7 percentage points).[5]
- With a TFR of 1.85 (roughly the TFR expected in 2007), the long-run share of the old would increase by 20.4 percentage points to 33.5 per cent of the population by 2151. This increase would only be a little less than if the TFR were to remain at 1.73.
- It would require a TFR of around 3.8 in order to maintain the current share of the old in the population — completely outside realistic expectations and Australia's demographic history, and involving an unsustainable population burden (with a population of more than 430 million by 2151). Even TFRs as high as 2.4 (last experienced in 1973) would not prevent the doubling of the long-run share of people aged 65 years or over (and around a six fold increase in the share of people aged 85 years or more).
- However, were the TFR to fall as low as 1.0, the share of the old rises by nearly 30 percentage points to around 40 per cent by 2151 — revealing the large structural ageing effects of profound reductions in fertility.

Third, the ratio of the potential workforce to young and old 'dependents' move in contrary directions. Lower fertility rates presage fewer potential workers[6] for every person aged 65 or more years, but more potential workers for every person aged less than 15 years. Since the fiscal implications of young dependents are about the same as old dependents (PC 2005b, p. 318), the most important measure is the ratio of potential workers to the young and the old combined (the 'support' ratio shown in figure 4.1). The support ratio can be interpreted in several ways. It gives an indicator of:

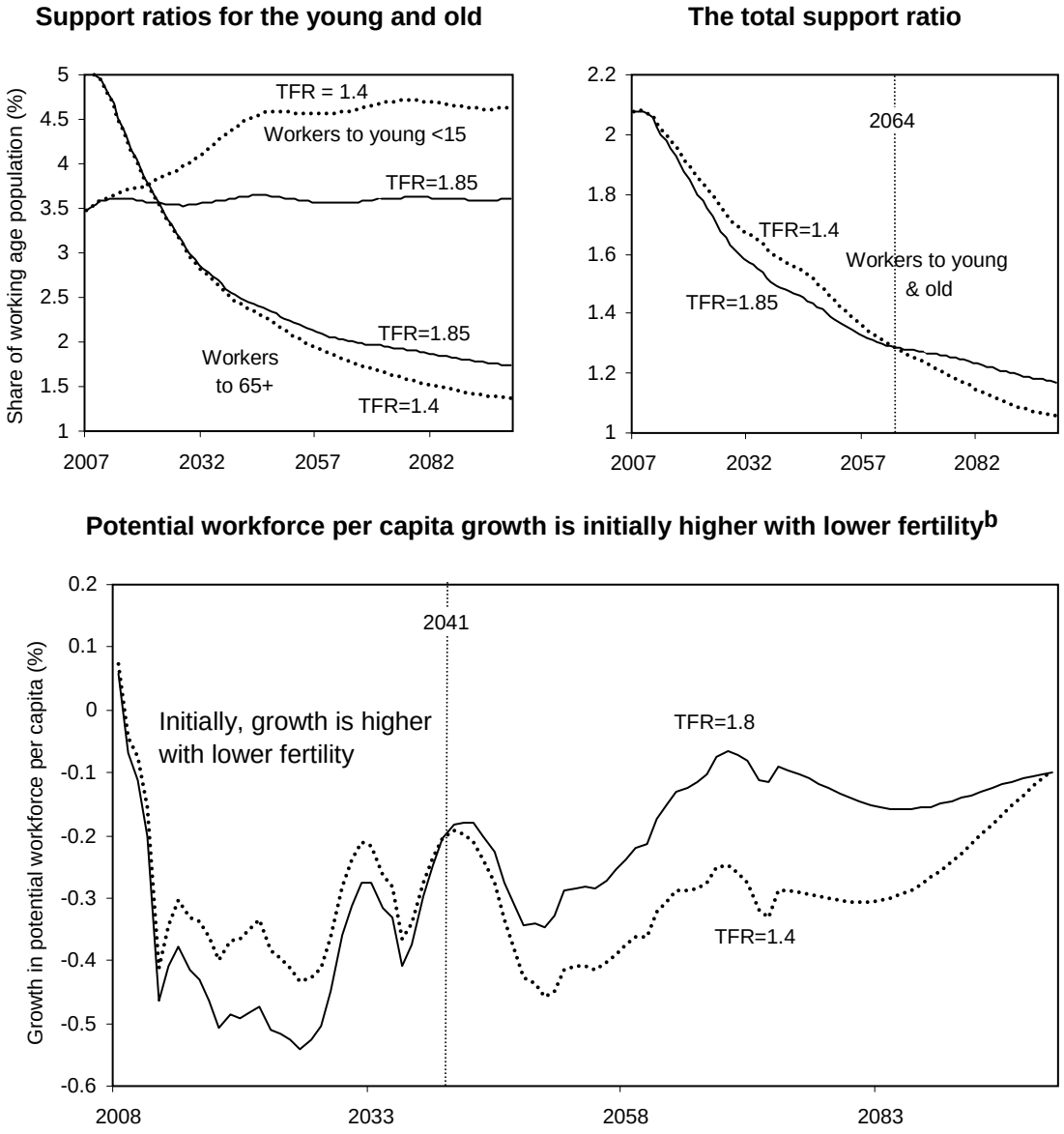
- the relative availability of people for work, and for fixed labour-capital ratios, the level of per capita GDP for future generations (the babies being born now)
- the extent of tax burdens borne by the next generation of main taxpayer groups aged between 25 and 65 years (again the babies being born now).

4 This does not hold in the long run if fertility levels are below replacement and there is no net migration. In that instance, any variations in fertility rates make no long-term difference, as the population will slowly head to extinction.

5 With annual net migration of 135 000 and the mortality assumption described in table 4.1.

6 Those aged 15 to 64 years.

Figure 4.1 **Low fertility has countervailing effect on support ratios**
2007 to 2100[a]



a There is a 15 year transition to the long-run TFR (1.85 or 1.4) from 2007. **b** The potential workforce (W) is those aged 15 to 64 years. The measure shown for each TFR is: $LFGROW=\{(W_t/POP_t)/ (W_{t-1}/POP_{t-1}) -1\}*100$ where POP is the total population. It is important to note that at a given time, the low fertility support ratio can *exceed* that for high fertility, but at the same time, the percentage growth rate in the support ratio (and the potential workforce per capita) associated with low fertility can be *less* than that for high fertility. This explains why labour force per capita growth rates are higher for low versus high fertility only until around 2041 compared with 2064 for the *level* in the support ratio. The implication is that GDP per capita would be likely to be greater with low than high fertility until 2064, but that the gap begins to close around 20 years earlier.

Data source: FERTMOD.

Initially, the support ratio falls less rapidly with lower fertility rates. Associated with this is a higher growth rate in the potential workforce per capita (the bottom panel of figure 4.1).[7]

These patterns reflect the fact that fewer babies reduce population growth, while not affecting the population of workforce age. Figure 4.1 does not take into account the fact that women with children work fewer hours in formal labour markets. This would magnify the initial negative effects of higher fertility on labour inputs per capita. Collectively, the evidence implies that, all things being equal, per capita income would grow more rapidly with lower fertility until around 2040.

This pattern then reverses, with lower implied labour resources per capita when fertility rates are low, implying a protracted period of relative stagnation in the level and growth of per capita output after the middle of the 21st century. Over the very long run,[8] changes in fertility rates have little effect on the total support ratio or labour inputs per capita.

Fertility and migration interact

The above scenarios are associated with very different population outcomes — some of which involve potentially unrealistic population sizes (table 4.1). For example, with the TFR set at the replacement rate of 2.1 (and net migration of 135 000), the Australian population reaches about 95 million by 2251.

In contrast, a TFR of 1.4 is associated with populations for the same years of around 30 million for both years. In this context, an alternative way of analysing Australia's demographic future (Kippen and McDonald 2004) is to consider the various combinations of fertility and net migration levels that lead to long-run population stability (for given mortality rates). A population target of, say, 40 million people can be achieved with low fertility rates and high net migration levels, or vice versa.

In these circumstances, falling fertility rates have weaker impacts on population ageing (table 4.2 compared with table 4.1) while their impacts on the long-run total dependency ratio are negligible. For example, were the population impacts of a fall in the TFR from 2.1 to 1.4 to be offset by increases in migrant intakes, then the ratio of the working age population to dependents would fall from 1.09 to 1.06. Indeed, there would be a small *increase* in the share of prime age workers, which would

7 The growth rate in the potential workforce per capita is not equal to the growth rate in the support ratio, though the two are related. If g is the percentage growth rate in the support ratio (S_t) then LFGROW $\approx g/(1+S_{t-1})$.

8 Not shown in figure 4.1.

raise the available labour resources per capita (and economic output) (table 4.2). With the exception of a TFR of 1.2, the changes in migrant intakes needed to achieve these outcomes are within historical norms.

Table 4.2 **Fertility changes matter less with a fixed target population**[a]
Target population is 40 million by 2251

Demographic outcome	*TFR (number of babies per woman)*				
	2.1	*1.85*	*1.6*	*1.4*	*1.2*
Net migration level (number)	17 640	76 538	139 679	192 508	246 641
Working age to dependent population ratio	1.09	1.07	1.06	1.06	1.06
Share of population aged 65+ years (%)	31.8	34.0	36.0	37.4	38.8
Share of population aged 25-55 years (%)	32.3	32.4	32.6	32.8	33.0
Share of population born overseas (%)	3.0	13.2	24.0	33.1	42.4

a The other demographic assumptions are as described in table 4.1.

Source: FERTMOD.

The key policy implication is that analysis of demographic outcomes associated with different fertility levels needs to take account of the ultimate limits to population growth in Australia and the capacity of policy to vary net migration levels. These factors mitigate the ageing effects of lower fertility (and the population effects of higher fertility). However, there may be social issues associated with using migration as a compensating policy tool in the event of profoundly low fertility — an issue considered later.

4.2 The social impacts of low fertility

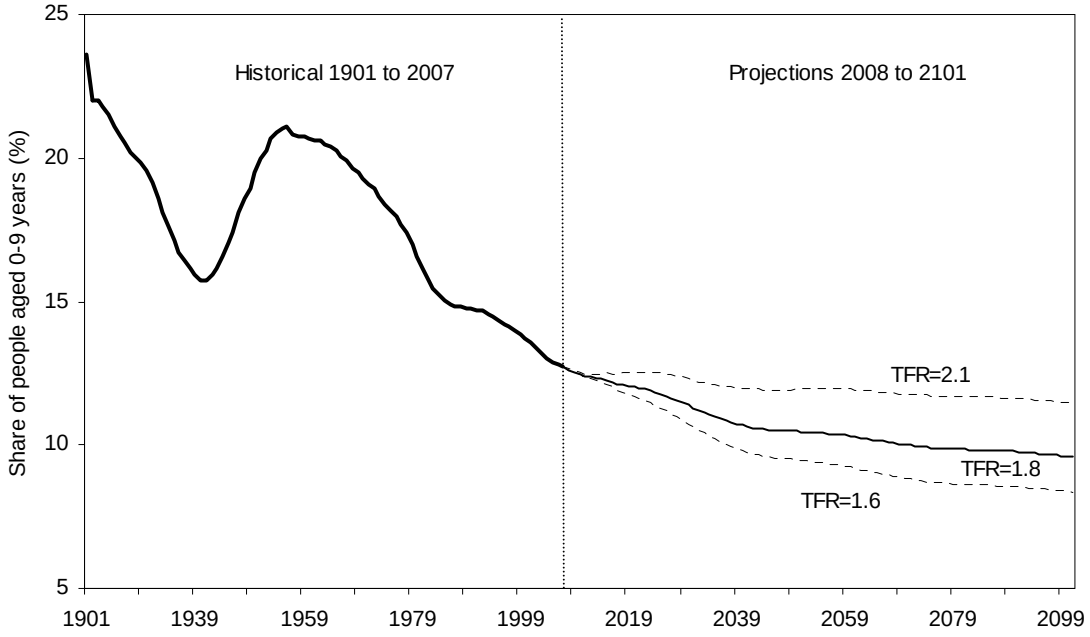
Population ageing will reduce the presence of children (and young people generally) in our society, perhaps to society's detriment.

A significant reduction in the presence of young children has already occurred (figure 4.2). For realistic fertility futures, that trend will continue. With a total fertility rate of 1.85, the number of young children (aged under 10 years) would fall from around one in eight to one in eleven, and the number of young people generally (aged under 25 years) would fall from around one in three to one in four. It is hard to judge how Australian society would change over the next 100 years because of this. However, several features of this impending change should be noted.

First, the change will occur very gradually, which increases our social capacity to manage it.

Figure 4.2 **The diminishing role of the young**

Children aged under 10 years old (share of population) 1901 to 2101



Data sources: The historical data are from ABS *Australian Historical Population Statistics*, (Cat. no. 3105.0.65.001) and *Population by Age and Sex, Australian States and Territories* (Cat. no. 3201.0), while projections are from FERTMOD.

Second, the projected change over the next 100 years is much less than the historical transformation that occurred from the peak of the baby boom years to the present.

Third, the issue for policy is not the decline in the presence of children (and other young people) per se, since some decline is probably inevitable. (The total fertility rate would have to rise to around 2.4 babies per woman to maintain the current share of young children, and to about 3.5 babies per woman to re-create the relative abundance of young children evident during the peak of the baby boom years.[9]) The issue is the extent to which policy could realistically *alter* the future relative presence of children. Table 4.3 illustrates the impacts of various scenarios. It reveals that the difference in the relative presence of young children from a change in the long-run TFR from 1.85 (roughly Australia's current fertility level) to 2.1 is about one child per 100 people (table 4.3). This is not trivial, but it is only about one third of the projected reduction in the relative presence of children were the fertility rate of 1.8 babies per woman to be sustained.

9 This was 1956, when children under 10 years of age comprised 21.1 per cent of the population.

Table 4.3 **The reduced presence of children**[a]

	Children per 100 people		
TFR	*2007*	*2051*	*2151*
	%	%	%
2.1	12.7	11.9	11.2
1.85	12.7	10.7	9.6
1.6	12.7	9.5	8.2
1.4	12.7	8.5	7.1
1.2	12.7	7.4	6.1
1.0	12.7	6.4	5.2

a This is for children aged under 10 years. The other demographic assumptions are as described in table 4.1.

Source: FERTMOD.

Finally, a simple population share may not be an adequate measure of the *social* presence of particular age groups. A better measure might weight population numbers by the degree and diversity of social interactions (for example, between different aged people, in groups, at work, and so on). The reduction in the apparent 'visibility' of the young is not due to falling numbers, but to the greater growth in numbers of older people, and particularly the very old. The share of those 80 years and over grows from under 4 per cent to about 17 per cent by 2151 under the base assumptions (with around one million people aged 100 or more years in the same year). There is evidence that the very old have less diverse social interactions than other age groups (though this may change in the future). They currently engage in significantly fewer group social activities than younger people,[10] are less physically mobile and usually do not work.[11] A relatively large number are in aged care institutions. Accordingly, the rising share of the very old may somewhat overstate their social visibility, and because of this, understate the inherent social visibility of the young.

Profoundly low fertility rates could have adverse social consequences

While it is hard to diagnose the social consequences of the diminishing share of the young associated with *likely* fertility scenarios, the consequences may well be

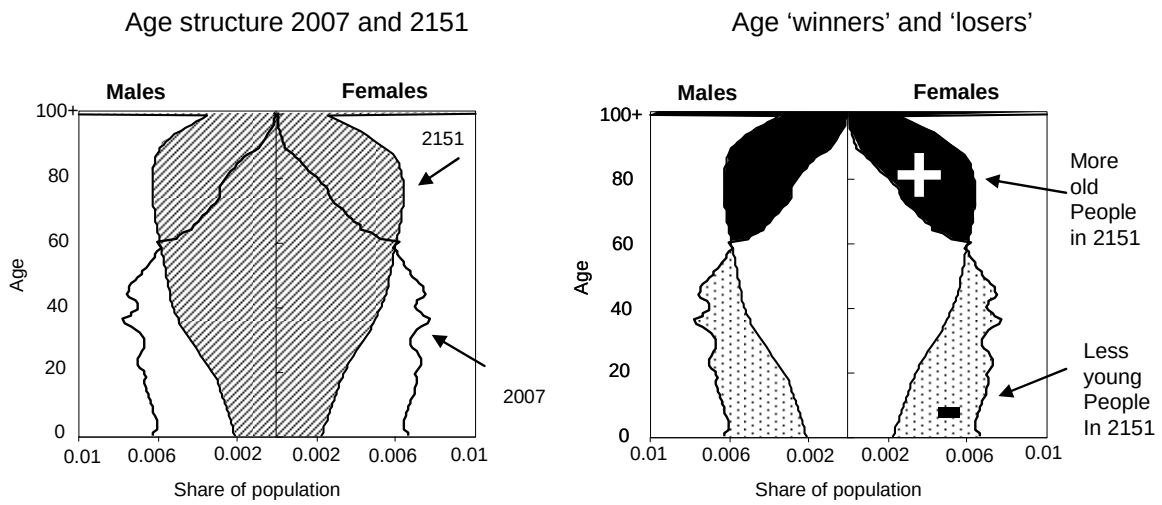
10 AIHW (2007, p. 91).

11 The ABS *General Social Survey 2006* (2007, pp. 22-23, Cat. no. 4519.0) reveals much lower labour force participation and capacity for physical mobility than the average population. However, people aged 65 years or more had only a slightly smaller likelihood of meeting a friend or family face-to-face daily in the past week than other age groups, but this excludes the (significant) institutionalised population. Likewise, it does not weight social interactions by the number of group members in any interaction, or include interactions with work colleagues or customers.

significant were there to be large reductions in fertility rates. Profoundly low fertility rates would have large impacts on the age structure of the Australian population (table 4.3 and figure 4.3). With a long-run TFR of 1.0, for example, the conventional diagram of the age structure of the population would begin to resemble a balloon or mushroom cloud — a thin bottom base and a thick top — almost the opposite pattern to that observed now. Were the TFR to drop to 1.0, then in the long run only around one in 20 Australians would be young children — a much lower presence of children in our society (table 4.3).

Figure 4.3 **The impacts of profound fertility reductions on Australia's age structures**

Long-run TFR of 1.0[a]



[a] With a 30 year smooth transition from the present TFR to the long-run TFR.

Source: FERTMOD.

Changes of this magnitude are likely to have significant social impacts. On the positive side, the prevalence of poverty among families may fall with diminishing average family sizes (Keilman 2003). Society would gravitate more towards the old and their needs. That may not be bad, but it would be different. Average family sizes would fall and with them, the extended networks that they foster — both at any one time and over the generations. Peter McDonald has identified this as the 'low fertility trap':

> Sustained very low fertility will change cultures. In particular, the place of children in the culture will be minimised and social institutions will adapt to the relative absence of children. A subsequent reversal of the trend would be difficult and slow. (McDonald 1998)

People generally may regret the diminishing presence of children in society. Many see children as having a value in society beyond that expressed by their parents

alone. Grandparents often derive substantial pleasure from their grandchildren (Relationships Australia 2001). It is likely that this would extend outside immediate family members.[12] A recent Australian survey found that around three quarters of childless people were willing to support provision of maternity leave — close to the share of people with children (Perry 2008). Survey evidence from comparable overseas countries also corroborates the 'public' value of children. For example, a UK study of childless women found that, despite their own choices, they were broadly favourable to supporting children through taxes (McAllister & Clarke 1998). A more general Connecticut (US) survey of public attitudes to children found that people were willing to pay more taxes or support other measures for children, revealing a high value for children in society (Cunningham 1995). This value was as high for non-parents as parents.

On the other hand, a few commentators acknowledge significant social change associated with low fertility, but disagree that it will be bad:

> … what is happening in Australia is part of a worldwide tendency which is actually desirable, though it creates policy challenges and will lead to a society that may seem strange to many of us, since traditional assumptions about the centrality of children to people's lives will be weakened, with pervasive social consequences (Blackford 2003).

Remarkably little analysis has been undertaken of the likely social impacts of lower fertility on which to reach a clear judgment about its desirability. However, while there is a gap in the available information about the broader social value of children, it is likely that many people would perceive the relative scarcity of children associated with profoundly low fertility levels as adverse to a society's identity and functioning. It is notable that those countries experiencing low fertility generally perceive it as a serious social issue.

The significance of migrants to Australia

An associated social dimension of lower fertility is its implications for the migrant structure of the population and national identity. Currently, about one in four Australians were born overseas. Were fertility levels to fall significantly, and net overseas migration to be commensurately increased, then the share of overseas-born would rise appreciably. For example, with a TFR of 1.2 and net migration intakes of around 180 000 (which is sufficient to achieve a steady state population of around 30 million), over 40 per cent of the population would have been born overseas by

[12] It is hard to obtain empirical evidence on Western attitudes about the value and role of children Most attitude surveys in countries focus on parents' own children or on children that they may have in the future.

2251.[13] Moreover, the cultural heterogeneity of migration intakes might increase as the traditional sources of migrants expand to a broader group of countries (reflecting, if nothing else, the greater competition for migrants as developed countries collectively seek younger labour forces). Both of these factors would likely have cultural and social implications for Australia. Those implications may be desirable or not, but regardless it is at least appropriate for governments to take account of them when devising fertility policy.

Of course, the existing Australian prognosis is for continued relatively high fertility levels — so the above social risks of profoundly low fertility outcomes are currently small.

The gap between fertility goals and achievement

A commonly cited social concern is the mismatch between people's fertility goals and their achievement. Three differences between various measures of fertility outcomes are usually used to assess such gaps:

- the personally *ideal* number of children (what, in ideal circumstances, a parent would like)
- the realistically *expected* number of children (what, given the nature of social constraints, individual circumstances and tradeoffs, a person expects to achieve)
- the *achieved* fertility level (the completed fertility level of a woman).

The gap between expected and achieved fertility

It is difficult to establish the gap between expected and actually realised fertility because objective measures can only be produced after the childbearing years of a woman have been completed. In the absence of sufficient longitudinal evidence, it is therefore only possible to make conjectures based on projecting aggregate demographic data about the possible average gap between expected and achieved fertility.

Were a TFR of around 1.8 to persist — for example, as projected by Hugo (2007) and the United Nations (2007) — it also implies a completed fertility rate for currently young women of 1.8. This would be below their expected fertility levels (as discussed later and in appendix G). Evidence from other countries also suggests

[13] Were the TFR to be 1.85 and average annual net migration set at levels to achieve the same population by 2251 (around 45 000 annually), the share of those born overseas would be around 10 per cent, revealing the large compositional impacts of different fertility/migration scenarios.

that where women expect to have more children, they overestimate the number who will actually be born.[14]

To the extent there is such a gap, it suggests a systematic bias in people's formation of expectations, which may be policy relevant.[15] Expectations are unlikely to be fully 'rational' or informed, so that the expected number of births is unrealistic. For example, some people may not be aware of their current subfecundity (Preston and Sten 2007, p. 4) or take insufficient account of their future reduction in fecundity, thus delaying childbearing too long to achieve their fertility expectations. Other groups may underestimate future partnership difficulties (Fisher 2002) or the effects of future economic shocks. (These negative biases may be partly countered by unanticipated conception.) The mismatch between achieved and expected fertility outcomes may be resolved naturally through learning by subsequent generations, by encouraging a debate on these issues, or through policies that aim to better inform people. But, the bias in expectations is not, prima facie, a strong argument for policy measures aimed at stimulating fertility per se.

The gap between ideal and expected fertility

Surveys can easily elicit measures of the ideal and expected fertility levels for individuals and various groups since these are subjective, forward-looking measures.

Most couples consider two or three children as personally 'ideal' (so that the average ideal number of children per family is around 2.5 — Weston et al. 2004, p. xvi and Gray et al. 2008, p. 18). While most couples also expect to achieve this ideal, there are still significant numbers of people who expect to achieve less than their personal ideal, usually because of delayed childbearing and an awareness of the various monetary and non-monetary costs of children. Consequently, on average, there is a gap between the ideal and expected fertility outcomes. For example, while women aged 20-24 years old reported an average lifetime ideal number of children of around 2.5, the average expected was about 2.1. This gap tends to be higher for men without post-school qualifications (ibid p. 119) and for women in full-time jobs. Data from the HILDA survey also corroborates the

[14] For example, Noack and Østby, 2000 for Norway; Smallwood and Jefferies 2003 for England and Wales; Toulemon and Testa 2006 for France; Morgan 2003 and Morgan and Hagewin 2005 for the United States.

[15] Individual errors between expected and achieved fertility outcomes cannot, by themselves, provide a useful indicator of any problems in the formation of expectations. It is inevitable that even perfectly rational people will make negative and positive forecasting errors — as they do for any other future event. The most interesting question is whether there is still a significant bias when errors are averaged across individuals or groups of individuals.

existence of a gap (for example, appendix G and Fisher and Charnock 2003, p. 4), while older survey data suggest that the gap has been persistent (Bracher and Santow 1991).

A common perspective is that this gap is problematic and that it should elicit policy measures to help people to achieve their personally ideal number of children. However, the apparent gap is marred by conceptual and measurement problems that constrain its usefulness for policy purposes.

One difficulty is that the gap between the personally ideal number of children and the expected number may be poorly measured:

- The surveys that elicit information on ideals and expectations may well suffer from respondent biases. For example, a woman may exaggerate her ideal fertility, as people often perceive childlessness adversely. Or a woman's 'ideal' number of children' may be itself be influenced by what she expects to get.
- Non-respondent bias may affect the survey results (in either direction).
- The concepts being measured may be ambiguous. The conceptual distinction between the *personally* ideal number of children (the measure sought by the surveys) and *community norms* about the ideal number of children is significant, yet survey respondents may confuse the two. The differences between the *Fertility Decision Making Project* and *Negotiating the Life Course* surveys (box 4.2) illustrate some of the difficulties (as do differences in surveys in the United States — Peterson 1995).

Even if the gap is measured accurately, another issue is its interpretation for policy purposes. In particular, any policy implications depend on the underlying nature of, and reasons for, any gaps. Biological and time constraints, such as subfecundity, infertility and age, create a gap between ideal and expected future births that is largely unresponsive to policy. (It is notable that for a given desire for future children, older women have lower expectations that those desires will be realised — appendix G). In addition, men have a lower ideal number of children than their female partners, which must create a gap between female ideals and expectations that again cannot clearly be bridged by policy.

More critically, interpreting the gap between ideal and expected children should take account of the tradeoffs between life choices. Other than unplanned pregnancies, people balance their choices to have children with other goals (demanding careers, income security, personal freedom, seeking ideal partners). Once there are tradeoffs of this kind, people will often choose to give up their ideal family size for some other goal and we would expect 'mismatch' to occur. Such tradeoffs are common in all aspects of people's lives (for example, more work or

less leisure; a nice car or a down payment on a flat; consumption now or later). People resolve these tradeoffs by choosing the one that they value the most. They may regret the forgone option — but recognise that their budgets, time, or some resource constraint prevent them from having both.

Box 4.2 Mismatch between ideal and expected fertility for educated women

A key question for some commentators has been whether mismatch is larger for more versus less educated women, since this may reflect the influence of HECS debts or failings in institutions for managing work-family obligations for successful women.

Evidence based on the HILDA survey and the *Fertility Decision Making Project* survey suggests that women with higher educational qualifications have lower than average expected fertility levels (Weston et al. 2004, p. 88, Yu 2006; Yu et al. 2007, p. 87). Weston et al. (2004, pp. 62-63, p. 110) also find that educated women have lower than average ideal fertility goals, so that the gap between ideal and expected fertility is not particularly pronounced for this group.

In contrast, the longitudinal *Negotiating the Life Course* Survey, Franklin and Tueno (2004) and McDonald (1998) found that more educated women had higher expected family sizes (2.55 children) than women with no post-school qualifications (2.4 children). This survey also suggested that expectations declined much more rapidly with age for educated women, suggesting that various unanticipated obstacles to fertility had frustrated their original aspirations. Franklin and Tueno (2004) argue that this is an 'unhappy' outcome, arising circumstantially, rather than through choice. They argue for targeted child-bearing subsidies for this group (such as HECS debts cancellation for childbearing).

There are several concerns about this. First, the extent of mismatch by educational attainment is unclear given the contrast between the findings about expected fertility of the *Negotiating the Life Course* survey and the other data sources. Second, Yu et al. (2007) found no credible evidence of a link between HECS debts and fertility, suggesting HECS subsidies would not be effective at achieving higher fertility levels for this group of women. Finally, even were the fertility expectations of educated women to decline with age, this is necessarily an unhappy outcome, but could reflect changing aspirations and tradeoffs as their life circumstances change over time.

The varying survey findings and policy inferences drawn from them is a good example of some of the difficulties in using appropriate evidence-based approaches to fertility policies.

Of course, as many people advocate, government can ease these resource constraints through various policy measures, such as monetary transfers or regulations relating to work/family issues. Nevertheless, by definition, it can only do that for some people, since transfers to some have to be financed from taxes paid by others. That then limits their capacity to achieve their aspirations in areas other

than fertility (for example, entering the housing market, upgrading skills through further education and retiring earlier). And, governments cannot resolve some tradeoffs at all — such as those between people's goals of personal freedom and the commitment required for the care of young children.

Accordingly, government policy cannot close the gap between ideal and expected outcomes in all aspects of people's lives. As a result, the basis for government action to close any particular gap — including that between ideal and expected fertility — has to rely on rationales other than its mere presence.

There may be several such rationales, stemming from failures in social institutions or from externalities:

- Individual choices might be problematic for society more generally (see above).
- People's choices are conditioned by economic, personal and social factors, some of which may inappropriately distort the tradeoffs people make. For example, governments and society may construct, support or perpetuate social institutions and norms — child care provisions (or their absence), regulatory environments; maternity arrangements; role models for men and women — that might not sufficiently reflect the preferences of the contemporary community, and yet that are influential for fertility decisions. Peter McDonald (2002), for example, emphasises the role of unsupportive social arrangements in frustrating women's fertility preferences (such as in Italy):

  > More broadly, where women are treated as autonomous individuals in the education system and in the labour market, but as inferior beings in other social institutions founded on a male-dominated family system, some women will opt to be less family-oriented than they otherwise would have been. It is in these circumstances that we can predict very low fertility as the outcome.

Once it is recognised that such failings can exist, it is also important to take account of problems that could lead to too many children for some groups or to delayed or premature childbearing. While tax and welfare systems can inadvertently create marginal disincentives to have children (Ehrlich and Kim 2007), they can also provide potentially problematic incentives to have children for specific groups. Similarly, some groups of individuals may make ill-informed trade-offs between very early child bearing and future education and career prospects, while others may not realise the potentially adverse maternal and child health impacts of delayed childbearing.

This study does not attempt to judge the severity of the above problems for Australia, but notes that, in theory, they give rise to concerns about whether fertility levels and timing decisions are right for at least some groups of Australians.

However, it should not be assumed that the 'right' level implied by the above concerns is always more children.

4.3 Impacts on the economy

Low (or high) fertility levels raise legitimate social issues. But do changes in fertility raise equally important economic issues?

Extremes in population age structures impede economic growth. Populations with very young or very old population age structures face reduced per capita economic growth because people of these ages have lower labour market participation rates and a preference for lower hours worked (box 4.3; PC 2005b; the Australian Government 2002 and 2007 Intergenerational Reports).

Consequently, it appears that demography is 'economic destiny' and that the government could use changes to fertility or migration policies as instruments to allay population ageing and enhance the long-run economic welfare of its citizens. A representative view is that of McDonald and Kippen (1999), who argue that fertility policy is important because it can help avoid a steep reduction in people of working age and, thereby, adverse effects on economic output per capita.

However, the extent to which fertility can be used effectively as a means of dealing with the emerging economic effects of an ageing Australia is limited. While higher fertility would eventually increase per capita income and growth (box 4.3), as noted above, this is only after a prolonged period. As suggested by the results in figure 4.1, prior to this time, higher sustained fertility would be likely associated with significantly lower economic output per capita — actually exacerbating the negative labour force impacts associated with the retirement of the baby boomer generation.

Moreover, while governments can use policies to address the lower labour participation rates of the old, no such policy options are available for the young. Older people currently have relatively low participation rates and, reflecting their capacity to defer their retirement, are quite sensitive to superannuation and other retirement policies. In contrast, Australians younger than 15 years old clearly do not work at all in formal labour markets. Even those people aged 15-19 years are often in education and the scope for increasing their labour force participation by much more is limited. (While policy directed at better education would probably increase their participation and productivity when older, these benefits would be significantly deferred. And, increasing their participation while *in* education may actually worsen their educational outcomes and subsequent labour force success (Abhayaratna et al. 2008).)

Box 4.3 **The 3Ps and economic growth**

Economic output is a simple function of population, participation and productivity (the 3Ps):

$$GDP_t \equiv POP_t \times \frac{CPOP15_t^+}{POP_t} \times \frac{LF_t}{CPOP15_t^+} \times \frac{EMP_t}{LF_t} \times \frac{HOURS_t}{EMP_t} \times \frac{GDP_t}{HOURS_t} \Rightarrow$$

$$g_t = w_t \times pr_t \times e_t \times h_t \times y_t \Rightarrow$$

$$\Delta \ln g_t = \Delta \ln w_t + \Delta \ln pr_t + \Delta \ln e_t + \Delta \ln h_t + \Delta \ln y_t$$

where GDP is gross domestic product, POP is population, $CPOP15^+$ is the civilian population aged 15 years and over, LF is the labour force, EMP is total employment, HOURS are total hours, *g* is GDP per capita, *w* is the proportion of the population of working age, *pr* is the participation rate, *e* is the employment ratio, h is average hours worked, and *y* is productivity.

An increase in the share of those aged 65 years or more (at the expense of a decline in the prime-aged workforce aged 25-55 years) decreases output per capita. This is principally because labour participation rates for the old are relatively low. This is compounded by lower average hours worked for this group, testimony to a greater propensity for older people to work part time. Clearly if *pr* and *h* fall, so too must *g*.

An increase in the young prompted by fertility increases has a larger (initial) negative impact on economic growth. This is because the proportion of the population of working age must fall immediately. Moreover *h* is also likely to decrease (because the average hours worked by women falls with greater fertility) while *pr* may fall or rise slightly, depending on the policy tool used to induce greater fertility. All other variables stay much the same. Even after the young have reached the age at which they are counted in the labour force, their participation rates are lower than average. So, it takes many decades after a sustained increase in fertility before output *per capita* rises above its counterfactual level.

The relative labour force potential of the two age groups is already evident in the recent past. The labour force participation rate of those over 65 years has risen by 43 per cent from 2000 to 2007. In contrast, over the same period, the participation rate of people aged 15-19 rose by only 0.3 per cent and that by people aged 20-24 years by -0.5 per cent.

Consequently, the economic dividends from increased fertility are inevitably delayed. This implies that increased fertility cannot realistically deal with the rapidly emerging impacts of population ageing, though it will ultimately stimulate growth.

Snapshots of Gross Domestic Product are misleading

A more fundamental concern is the interpretation of falling economic growth rates. Gross Domestic Product (GDP) is often a very useful period measure of how an economy is functioning. However, projections of annual GDP per capita can be misleading measures of the impacts of demography on people's economic wellbeing.

First, a population at any one time comprises many overlapping generations. Averaging over these generations in a series of yearly snapshots provides a distorted picture of the actual experiences of any given cohort over their whole lifetimes. The problem would be analogous to considering average births per woman in a given period as a good measure of her lifetime fertility. It is ironic that the problems in a synthetic measure like the TFR are often well understood in debates about Australia's future demographic prospects, but that GDP, which shares the same problems in that debate, are not.

The *aggregate* slowdown in growth projected from demographic change (such as that calculated by the intergenerational reports) reflects the fact that there are more people in the stages of life when they work less, not that Australians as individuals are experiencing reduced income growth over their lifetimes (box 4.4). Indeed, the intergenerational reports anticipate that more recent cohorts' annual incomes will grow at a faster rate than past ones, reflecting their better labour market prospects (through higher labour force participation rates at any given age). In other words, although future GDP per capita growth rates are projected to fall, the underlying growth rates in income relevant to people's wellbeing are projected to rise. Accordingly, while it is useful to know the consequences of demographic change for measured economic growth, it is important to differentiate the aggregate cross-sectional economic impacts from the actual effects on the welfare of individuals.

Second, people care about their consumption levels and not GDP. As Guest and McDonald (2002) show, this alone invalidates some of the claims about the adverse effects of lower fertility. In addition, people can choose *when* to take any income increase as consumption by borrowing and saving. This reduces the contemporaneous link between output and the relevant measure of welfare.

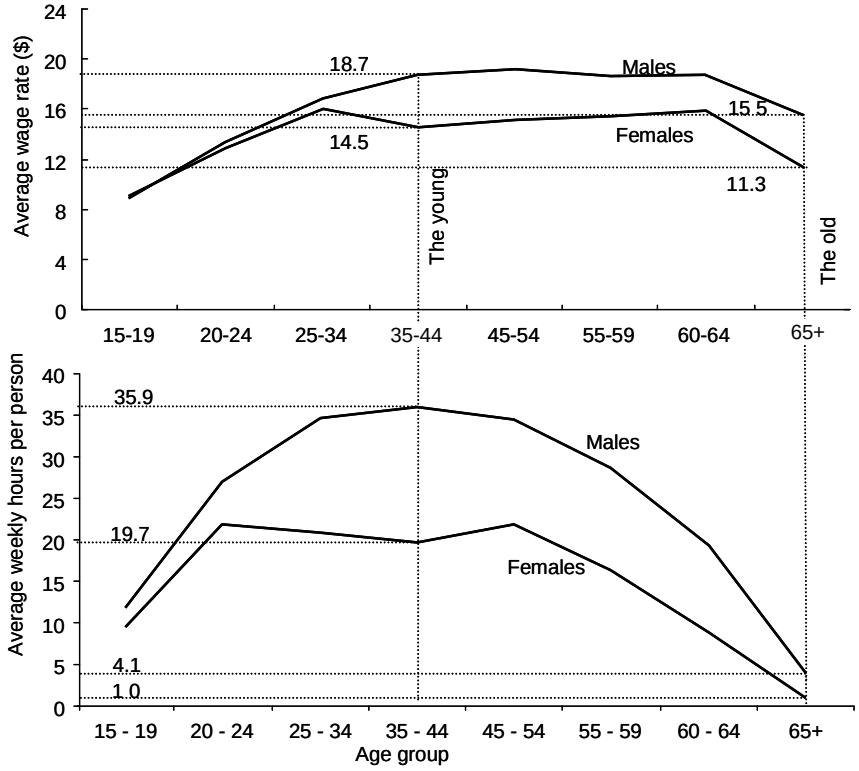
Box 4.4 **Comparing incomes of the 'old' and the 'young'**

Suppose that, at birth, people have the same future lifetime incomes, consumption levels and the same life expectancy and so are, by definition, equally well off when looked at over the long run. Consider two groups of individuals at a particular time — one 'old' (older than 65 years) and the other young (aged between 35 and 44 years).

Older people's have lower labour force participation rates, employment rates and average hours worked per employee than the young (figure below). As a result, using current data, the average hours by the young would be about 11 times those of the old In addition, those people still employed at older ages tend to earn lower hourly wages than the young (figure below). This implies that the young would have 13 times greater average *labour* income than the old. (This does not mean that the old have similarly lower total income or consumption since they can derive capital income from past savings or run down such savings.)

A snapshot of an economy with a greater proportion of old people will therefore tend to show lower incomes per capita. However, this difference in average incomes is merely an artefact of *when* income is counted rather than an indicator of the economic wellbeing of people, since in this example, by construction, all individuals have the same lifetime incomes.

This simple example illustrates that once people's economic activity varies over people's lives, demographic change will inevitably affect aggregate economic output, but without that (necessarily) being problematic.



Sources: Gruen and Garbutt (2003, figure 7) and ABS 2008, *Labour Force, Australia*, Detailed - Electronic Delivery, Cat. no. 6291.0.55.001, 17 April. Data for average weekly hours per capita are based on the 12 months preceding March 2008.

Thirdly, GDP fails to capture some important intangible outputs. There are finite endowments of beaches, areas of natural beauty and minerals. To that extent, any policy encouraging population growth may spread these finite resources more thinly or introduce congestion, lowering the average experienced welfare of a given cohort.[16]

The role played by externalities

While the above concerns invalidate simple inferences from snapshot data about the adverse economic impacts of lower fertility, that still leaves the possibility that demographic change can affect economic outcomes unfavourably through other avenues. For this to be the case, the demographic decisions of one group would have to have effects on others. Such 'economic externalities' could arise from greater fertility and reduced ageing in several ways.

Innovation 'spillovers'

A younger society may be more innovative — with everyone benefitting from that innovation. For example, society as a whole benefits from the creative ideas of individuals through so-called innovation spillovers (PC 2007). In many emerging fields, the young tend to be the more active generators of new ideas. A society with fewer young may generate lower 'externalities' from innovation. There is little empirical evidence that this effect is policy relevant at realistically foreseeable Australian fertility levels.[17] Moreover, such technological externalities are now increasingly seen as global, so that the relevant population is the number of young in technologically advanced countries, not the very small number in Australia alone.

16 This third factor involves more complex questions than the previous two. Parents (and societies as a whole) clearly value the future wellbeing of their children. Accordingly, it is not clear that the welfare impacts of spreading resources more thinly among a bigger population stemming from rising fertility is adverse.

17 The evidence on the connection between *aggregate* demographic change and *individual* productivity achievement is weak. This potential link between productivity and fertility should be distinguished from the link that may arise from aggregating over people of different age-productivity combinations. There is some evidence that there is an inverted u shape for productivity over people's lifetimes (PC 2005a, p. 110ff). By altering the age structure of an economy, policies that affect fertility can affect aggregate productivity change in given years. But as in the case of box 4.1, there is no welfare implications from this aggregation effect since lifetime incomes are unaffected.

Scale economies

It is also possible that a more rapidly growing aggregate economy associated with population growth might stimulate economies of scale and greater technological progress (Martin 2002), if nothing else because a greater share of the capital stock would be of a recent vintage and thus embody new technologies (the Salter effect). However,

- to the extent that there are such scale economies, immigration as much as fertility could be used to realise them
- any scale effects are partly countered by congestion externalities and the possibility that firms invest more in labour-saving technology when aggregate labour force growth is low (Guest 2007, Gruen and Garbett 2003 and Romer 1987). That would imply the potential for greater technical change with lower fertility
- economic outcomes for children from smaller families appear to be superior (educational attainment, savings and income) (Parr 2004). This is consistent with the view that some of the fertility decline reflects parents' decisions to choose quality rather than quantity, with potential benefits for human capital accumulation and subsequent productivity.

Intergenerational issues

Changes in fertility alter the relative sizes of successive generations. If public social expenditures (on aged care, pensions and health) are financed out of current taxation revenue rather than accumulated reserves, then tax rates are higher if a small working age generation must pay for a larger dependent population. Higher fertility rates now would create a larger working age population later, reducing the tax burden on the average member of that generation. This may be more equitable and reduce some of the costly distortions posed by higher tax rates.

However, there are several important qualifications to this view:

- The Australian fiscal burdens associated with an ageing population appear to be exacerbated (at least until 2050) by increases in fertility (PC 2005b, p. 318). This is because the early accumulation of government expenditures associated with functions such as childcare and education outweigh the later gains from more tax revenue (from a bigger workforce) able to meet the needs of the old.
- Australia does not have a pension crisis, unlike many other ageing societies.
- Older people will be richer in the future than the current old and will often pay income tax themselves (with far fewer entirely dependent on the Age Pension).

- Future generations will have considerably higher lifetime incomes than the generations whose aged needs they may need to partly fund. This reflects the compounding benefits of productivity growth. The principle of taxation progressivity suggests that it would be equitable to recover some of the costs of ageing from younger richer cohorts.
- Changes in fertility are an unusual and poorly targeted way of dealing with intertemporal financing problems compared with tax and expenditure policy. It would also potentially raise moral issues if the motivation for bringing additional human beings into the world were to finance the retirement of others.

Another perceived intergenerational issue is the provision of services for the old. If there are fewer young people, who will care for the old and provide a host of other important services? This is analogous to the issue, analysed previously (section 4.1), of the effects of lower or higher fertility on the support ratio and labour supply. Since higher (feasible) fertility rates do not influence the long-run support ratio by much, it cannot resolve any labour supply shortages for services for the old.

In any case, paid care arrangements draw on employees who are older than the average (Healy and Moskos 2005) and informal care arrangements for the old draw principally on older people (Carers Australia 2004, p. 5 and AIHW 2007, pp. 97ff). In addition, most care for the old is informal.

Moreover, accompanying increased life expectancy, the health of the 'younger' old may improve over time, reducing their dependence on care services.

In summary

In the Australian context, the economic grounds for policy interventions to raise fertility are presumptive rather evidence-based. This analysis is set against a situation in which Australia's fertility levels have been both relatively high and growing by global standards, Australia has been able to attract many skilled migrants and population growth has been strong.

This diagnosis might be different were Australia to head down the path of those European and Asian countries experiencing the 'lowest low' levels of fertility. If their low fertility levels persist, then it will take those countries into uncharted economic waters. In that case, they will provide an early natural experiment of the economic effects of very low fertility, which can better inform policy analysis. But, as in the case of the social issues raised by fertility, Australia is not in their position, nor looks likely to head there soon.

4.4 Putting Australia's demographic future into a global context

There are varying views among the governments of developed countries about the adequacy of fertility levels and appropriate population policies (figure 4.4).

Figure 4.4 **Are governments worried by fertility levels?**
2007[a]

Diagnosis of fertility	Policy approach: No intervention or maintain	Lower	Raise
Satisfactory	Belgium, Denmark, Netherlands, Sweden, UK, US, Finland, Iceland, Ireland, Luxembourg, New Zealand, Norway, Turkey (1.87)	Mexico (2.2)	France (1.94)
Too low	Switzerland (1.42)		Australia, Austria, Canada, Czech Republic, Germany, Greece, Hungary, Italy, Japan, S. Korea, Poland, Portugal, Slovak Republic, Spain (1.35)

a The number in brackets is the average total fertility rate in 2005 for each of the categories.

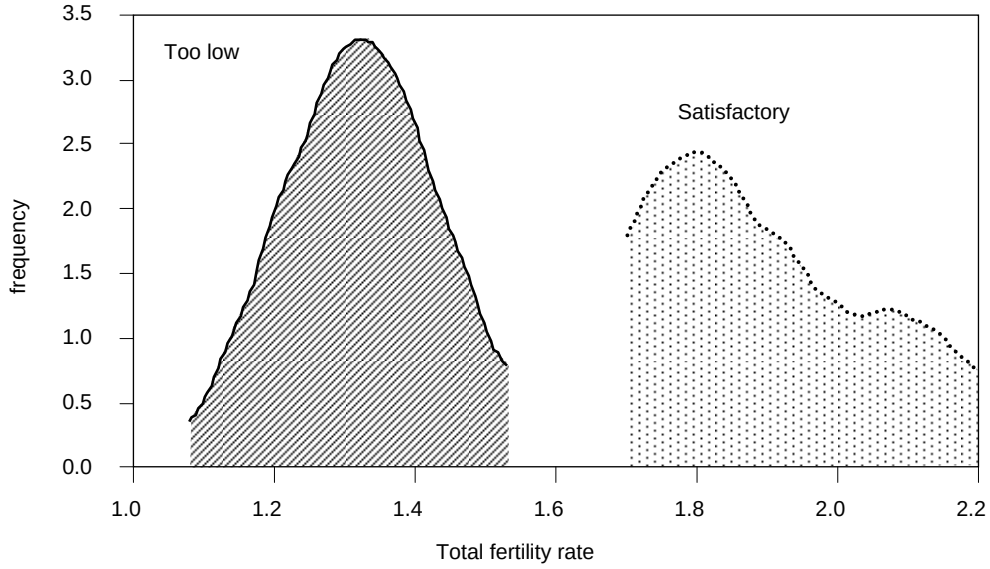
Data source: United Nations (2008).

Not surprisingly, governments generally base their perspectives on their country's fertility experiences. Just two factors — the levels of the fertility rate and the growth in the fertility rate from 1998 to 2005 — are able to accurately predict whether a country is concerned about fertility or not.[18] It appears therefore that most governments use a common, objectively based, threshold for determining the extent of their concern about fertility. For example, governments of the former Eastern bloc countries invariably perceive their fertility rates as low *because* they have very low fertility rates and low growth in fertility over time. Excluding Australia, the range of fertility rates of countries with a 'too low' diagnosis do not overlap with the range of fertility rates of countries with a 'satisfactory' diagnosis (figure 4.5).

18 This was tested by estimating a logit model with the dependent variable being whether or not a country diagnosed its fertility as too low or not, and with explanators being the TFR level in 2005, and the growth rate in the TFR from 1998 to 2005 (with data from OECD 2007, *Health at a glance 2007* and UN 2008). With Australia excluded, the model was able to predict with complete accuracy the diagnosis of each country's government.

Figure 4.5 **Distributions of total fertility rates**

Governments perceiving fertility as 'too low' or 'satisfactory', 2007[a]



[a] Densities estimated using an Epanechnikov distribution. Based on 29 OECD and developed economies (excluding Australia). Were Australia to be included, the densities would overlap.

Data source: United Nations (2008).

However, among the 30 OECD and developed countries considered, Australia stands out with a diagnosis of fertility at odds with the thresholds for alarm used by others.[19] Australia's fertility level, while diagnosed as 'too low', lies within the range of fertility rates of countries recording satisfactory levels of fertility. Australia has fertility levels *higher* than some countries that perceive no problem (for example, Luxembourg, Netherlands, Sweden and Belgium). In addition, Australia has by far the highest fertility rate of countries that perceive their fertility as too low (with a fertility rate more than two standard deviations away from the average fertility level for these countries). If Australia were using the norm applied by other developed countries, then it would diagnose its fertility levels as satisfactory.[20]

This provides further grounds to be cautious about seeing Australia's present aggregate fertility levels as a problem requiring policy correction.

[19] The French and Mexican Governments stand out on another basis, in that they aim to raise and lower (respectively) their fertility levels, while nevertheless claiming their fertility levels are satisfactory.

[20] This is further supported by the fact that when the parameters from the logit model (described in the above footnote) are applied to the Australian data on the TFR and its growth, it predicts that Australia's diagnosis should have been 'satisfactory' levels of fertility.

Moreover, the combined effects of Australia's relatively high fertility levels and its significant migrant intakes mean that the United Nations projects Australia's population to rise by the fourth fastest rate among 45 OECD and other developed economies (table 4.4). Were the Commission's base case projections to be used, Australia's population growth would be 52 per cent from 2005 to 2051 — increasing its ranking to the third fastest growing population among OECD and developed economies.[21]

Table 4.4 **Australia's population is rapidly growing**

Population growth 2005-2050 projected by the United Nations

Country	*Rank*	*Growth*	*Country*	*Rank*	*Growth*	*Country*	*Rank*	*Growth*
		%			%			%
Luxembourg	1	58.0	Switzerland	16	13.6	Czech Rep.	31	-13.4
Israel	2	57.3	France	17	11.9	Slovak Rep.	32	-13.4
Ireland	3	49.1	Spain	18	6.9	Estonia	33	-16.1
Australia	4	38.1	Netherlands	19	5.6	Hungary	34	-16.1
Turkey	5	35.6	Austria	20	2.5	Croatia	35	-18.9
US	6	34.2	Belgium	21	2.4	Bosnia/Herz[a]	36	-19.3
Canada	7	32.5	Finland	22	2.2	Japan	37	-19.8
Hong Kong	8	27.2	Denmark	23	2.0	Poland	38	-20.8
New Zealand	9	27.1	Taiwan	24	1.4	Lithuania	39	-22.5
Mexico	10	26.9	Serbia	25	-2.3	Latvia	40	-23.2
Norway	11	23.6	Greece	26	-2.6	Russia	41	-25.1
Iceland	12	19.9	Portugal	27	-5.2	Romania	42	-26.4
Singapore	13	16.2	Italy	28	-6.9	Belarus	43	-28.9
Sweden	14	16.0	Germany	29	-10.4	Ukraine	44	-34.1
UK	15	14.1	S. Korea	30	-11.6	Bulgaria	45	-36.1

[a] Bosnia/Herz is Bosnia and Herzegovina.

Source: United Nations (2007) and CIA Handbook.

4.5 Conclusion

Australia's current levels of fertility do not presage declining economic prosperity for Australians. Indeed, all other things being equal, higher fertility would retard labour force per capita growth over the next 30 years and aggravate fiscal pressures. Moreover, in the Australian context, attainable increases from present fertility levels are ineffectual antidotes for population ageing — which is the major demographic transition facing Australia over the next century. Even were it possible to return to the levels of completed fertility of the baby boom (around 3.1 babies per women over her lifetime), then even with zero net overseas migration, Australia's

[21] With Australia's population increasing from 20.4 million in 2005 to about 32.0 million in 2050.

population would grow to arguably unsustainable levels and significant, if muted, population ageing would still occur. And, given the relative unresponsiveness of fertility to budget measures (chapter 3), the achievement of large increases in fertility would require large subsidies and therefore sizeable costs for taxpayers.

That said, were there to be profound reductions in fertility in the future — such as already experienced in some European countries — population ageing would be substantially reinforced. Sustained very low fertility rates would create the 'mushroom cloud'-shaped age structure shown in figure 4.3 and take Australia outside the bounds of its historical experiences. Children would become a much less noticeable presence in the Australian population. This would have uncertain effects on society. Potentially, it would have adverse social impacts for Australians generally since children are valued by people other than their parents and other relatives. There are grounds, therefore, for avoiding very low fertility (just as there are grounds for avoiding very high fertility rates).

However, this is not the position that Australia finds itself in now (nor a few years ago when fertility was lower). Australia's current fertility rate has recovered modestly from lower rates experienced in the early 2000s. It is relatively high compared with other developed countries. The present indications (Kippen and McDonald 2006) are that, apart from cycles associated with any economic downturns, these fertility rates will be sustained. There is, accordingly, no current or immediately impending fertility crisis in Australia — Australia's present fertility level is likely to be roughly at levels that avoid the problems of excess or insufficient fertility (figure 4.6). Problems would only be entailed were Australia to move too far outside the safe zone shown.

In saying this, it is important to acknowledge the role of uncertainty in these forecasts. Views about Australia's future fertility have changed as new evidence has become available. The fertility assumptions in successive ABS population projections have varied significantly over relatively short periods, as have those of the Treasury's Intergenerational report and some of Australia's leading demographers (figure 4.7).[22] New data, improved forecasting methods or simply new demographic developments may ultimately undermine the current 'optimistic' perspectives on Australian fertility. (More data on aspects of registration and parity would help improve the precision of forecasts.)

[22] For example, only a few years ago, one demographer (Kippen 2003) was concerned that Australian fertility levels could readily decline to between 1.52 and 1.65 by 2015. This was a reasonable prospect with the data available at that time, but looks less likely now.

Figure 4.6 **Australia is probably in the 'safe' fertility zone**

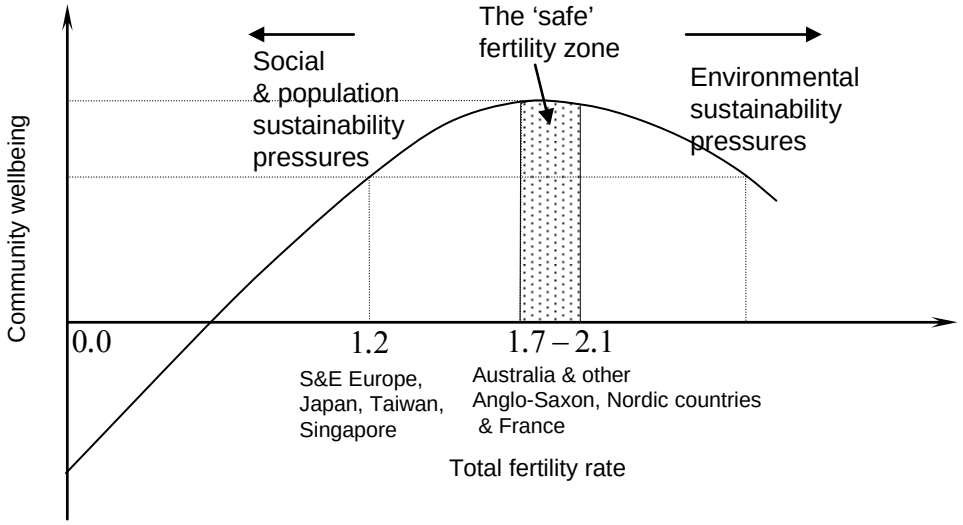
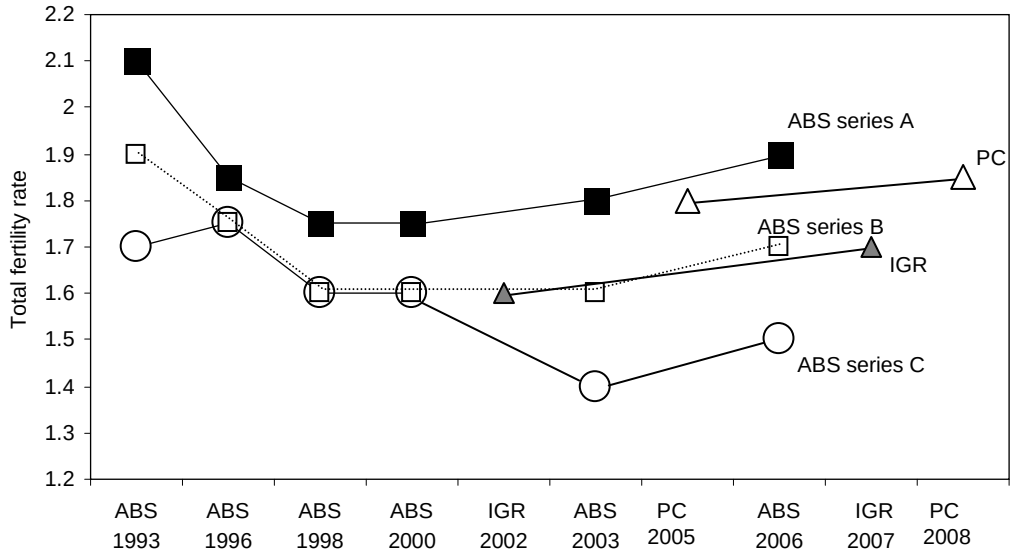


Figure 4.7 **Fertility projections have varied significantly**
Long-run estimates, 1993 to 2007[a]



[a] The estimates are the long-run fertility assumptions (five or more decades in the future) associated with various population projections made by the ABS in successive demographic projections, by the Intergenerational Report (IGR) and the Productivity Commission (PC).

Data sources: Australian Government (2002 and 2007); ABS (various issues), and PC (2005b).

The judgment that Australia has, and will continue to experience, a relatively high fertility level does not mean that there are no grounds for fertility policy. First, Australia's current fertility levels are, in part, an outcome of social institutions and policies that lower the costs of children and that reduce the tradeoffs between careers and bearing children. While there are legitimate questions about the impacts

and design of some of these policies, a wholesale retreat from such policies would risk a long-run shift to much lower fertility levels.

Second, there is an apparent gap between people's fertility goals and their achievement. While this 'baby gap' may simply reflect the inevitable tradeoffs people have to make between competing goals, it is also possible that there are systemic social problems that frustrate people's fertility aspirations. Equally, there are other factors — such as welfare design — that may create artificial positive incentives for bearing children. Problems in social institutions, therefore, can frustrate or excessively encourage fertility, depending on the groups concerned.

Finally, there are a wide range of family policies that may incidentally affect fertility, but that are premised largely on improving parental and child welfare, encouraging gender equity, achieving social justice and encouraging workforce participation, rather than more babies per se. Such policies may still have sound foundations, regardless of any diagnosis about the adequacy of a country's fertility levels. The Commission's current inquiry into the design and impacts of paid parental leave in Australia is assessing a range of issues in one such area of public policy.