

WHEN IS A BABY BOOM NOT A BABY BOOM? NINE POINTS OF CAUTION WHEN INTERPRETING FERTILITY TRENDS

■ Natalie Jackson

A small but significant increase in the Australian birth rate is being taken as evidence of the success of the Maternity Payment (Baby Bonus) introduced in July 2004, and broadly hailed as a 'baby boom'. However a number of alternative interpretations can be placed on this increase, not all of which might be desirable in the 21st Century. This paper poses nine points on which to consider the issue. It cautions against complacency that declining fertility has been permanently arrested, and against unqualified celebration of a return to a baby boom environment.

In July 2004, in an effort to address a long term decline in Australia's fertility rate, the Australian Government implemented an explicit fertility policy in the form of a Maternity Payment, now commonly referred to as the Baby Bonus.¹ Nine months later an Australian Bureau of Statistics (ABS) data release for the year to September 2004² showing an increase in birth numbers was given much press by Treasurer Peter Costello. Costello happily claimed 'responsibility' for the extra births, albeit attributing them to early anticipation of the policy and government support for the family, rather than to the policy *per se*. This was a wise move since all of the births were conceived well in advance of the introduction of the Baby Bonus,³ while birth numbers themselves had been rising since 2001. This was in part a reflection of an increase in the numbers of women at reproductive age, as the children of the baby boomers began, en masse, to have their own children.⁴

However birth numbers have continued to rise—by over 5,300 in 2004–2005—and a small but significant rise in the total fertility rate has also occurred, indicating that the increased number of births is not simply an effect of the increased numbers of women at reproductive age.⁵ As might be expected the trends are being claimed by the Government as proof of the policy's success.

While acknowledging the importance of higher fertility for slowing structural population ageing, this paper poses nine points on which to consider the issue. Overall it cautions against complacency that the decline in the birth rate has been permanently arrested, and also against the unqualified celebration of a return to a baby boom environment.

First: As Figure 1 makes graphically clear, it is a little premature to claim that a baby boom is under way, especially if it is measured in the conventional terms of the total fertility rate (TFR). According to the ABS, Australia's post-war baby boom began in 1946 and ended in 1965, its onset heralded by an increase in the TFR above 3.0 births per woman, and its end by the TFR again dipping below that level.⁶ By contrast the recent increase scarcely registers.

Second: If, on the other hand, such a boom were to be measured in terms of cohort size (birth numbers)—as many would consider more appropriate—we would still need to rule out the impact of echo effects. The size of each birth cohort is the combined effect of the birth rate per woman and the number of woman at reproductive age. Together these dynamics also largely determine the size of the reproductive cohort one generation on. As shown in Figure 2, where the TFR is overlaid with cohort size, what are

conventionally taken to be echo effects are clearly visible. Ironically, the first of these echoes covers the period conventionally known as the ‘baby bust’. In Australia that period is considered to have occurred from the mid 1960s to the mid 1970s. It saw a plummeting birth rate per woman more than offset by a dramatic increase in the number of woman of reproductive age, as the first of the baby boomers (the ‘leading edge’ boomers) began to have their own children. One result was that Australia’s largest ever birth cohort was born, not in 1961, the peak of the baby boom, but ten years later in 1971, when the TFR had declined from its peak of 3.5, to around 2.9; the reason was that there were almost three-quarters of a million more women at reproductive age. In fact, in all the so-called bust years between 1968 and 1974, birth numbers were greater than they had been in 1961. The two subsequent echoes shown on the graph can be similarly explained. By the late 1980s and early 1990s, the ‘lagging edge’ boomers, born in the late

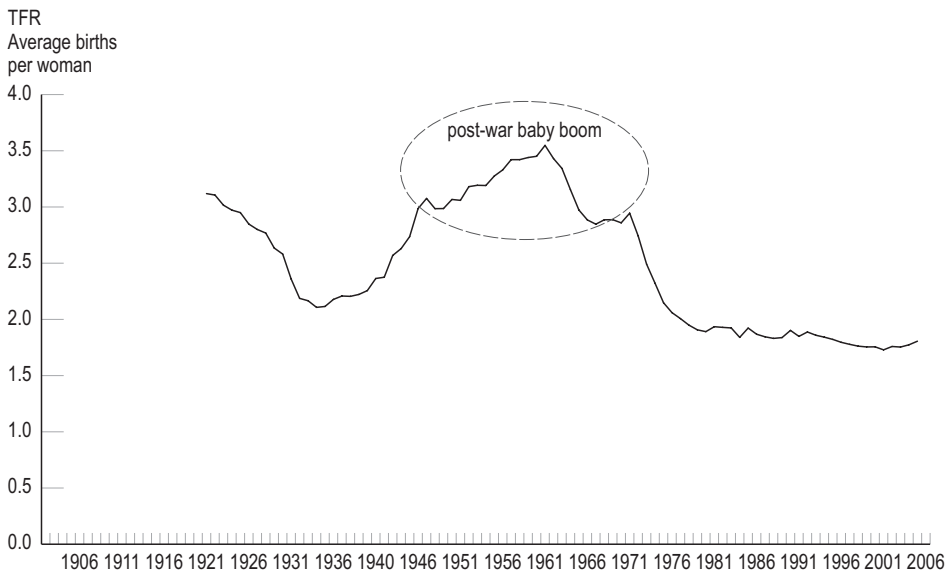
1950s and early 1960s, were beginning to have their children. And now the very large ‘bust’ cohorts born around 1968–74—the children of the leading edge boomers—are having their children. Indeed, as recently as 2002 the ABS⁷ noted that:

A second echo of the baby boom, if it were to exist, might [be] expected to occur around 2001, when the age of the large 1971 cohort coincide[s] with the median age of mothers (that is, 30 years of age).⁸

It is possible to separate the effects of cohort size and birth rate, although there are many different approaches and each can generate slightly different answers.⁹

Table 1 applies a standardisation technique to data for 2004 and 2005. It holds age-specific fertility rates (ASFRs) constant at their 2004 levels to ascertain the contribution to birth numbers in 2005 coming from either the size of the cohort of women at each age, or from their ASFR. The analysis indicates that approximately 12 per cent of the overall increase in birth

Figure 1: Total fertility rate, Australia 1921–2005



Source: ABS, *Births*, catalogue no 3301.0, various years

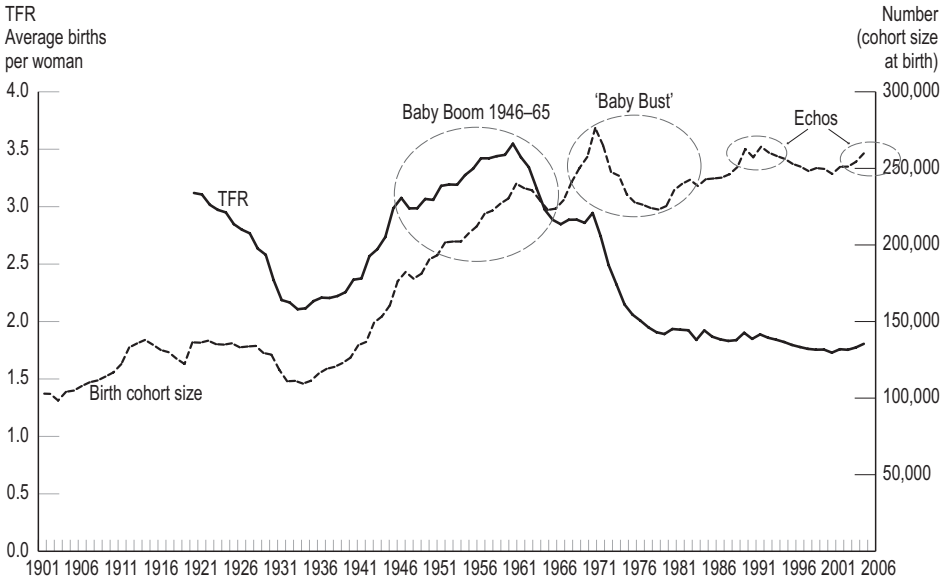
numbers between the two observations was due to an increase in the size of the reproductive cohort, which increased overall by 36,114 women, while the remaining 88 per cent was due to an increase in the total fertility rate, which increased from 1.774 to 1.806 births per woman.

However, while the impact of the size of the reproductive cohort may thus appear to be relatively minor, age-structural changes within the cohort play an important role in the story, and more specific attention to them is warranted. At ages 30–34 and 40–44, for example, the size of the reproductive cohort actually fell, while at all other ages it increased. At ages 30–34 and 35–39 (currently the peak ages for having children) the respective decline and increase in numbers of women is explained by the baby busters moving out of the former group and into the latter, while at 40–44 and 45–49 years the similar, but more pronounced, shift is caused by the ageing of the lagging edge boomers.

The standardisation provides valuable information. At age 30–34, where the largest number of births currently occurs, the 1,518 additional births between 2004 and 2005 were all generated by a small increase in the ASFR (from 114.4 to 117.5 births per 1,000 women, a 2.7 per cent increase). This increase more than offset the decline in the size of the reproductive age cohort (which fell by 7,267). Notably the increase in birth numbers would have been substantially greater (totalling 2,349) had the size of the reproductive cohort not fallen.

Similarly at 35–39 years, where the largest increase in both birth numbers (2,648) and ASFR is observed (the ASFR increasing by 5.6 per cent, from 57.4 to 60.6 births per 1,000 women), 89 per cent of the increase in birth numbers came from the increased birth rate. In contrast, 11 per cent came from the numbers of baby-buster women moving into that age group. It is highly probable that both groups of women are recuperating births that they have

Figure 2: Total fertility rates, cohort size, baby boom, bust and echoes, Australia 1901–2006



Source: ABS, *Births*, various years

Table 1: Contribution of cohort size and age-specific birth rate to change in birth numbers by age, 2004–05, Australia

Age Group	Women (observed)		Births (observed)		Expected births in 2005 at 2004 ASFR	Contribution to birth numbers from			
	2004	2005	2004	2005		Cohort size ¹	Birth rate ²	Per cent	
	Number		Change 2004–05		Number	Number	Per cent		
15–19	668,445	677,209	10,896	10,835	11,039	143	-203	-337	
20–24	678,268	698,164	36,220	36,933	37,282	1,062	-349	-49	
25–29	672,576	672,652	76	69,283	68,947	8	336	98	
30–34	765,164	757,897	-7,267	89,053	86,703	-831	2,349	155	
35–39	735,150	740,029	4,879	44,846	42,478	280	2,368	89	
40–44	774,055	770,903	-3,152	8,403	8,172	-33	231	117	
45–49	721,236	734,154	12,918	367	367	6	0	0	
Total	5,014,894	5,051,008	36,114	254,352	254,352	5,368	635	4,733	88

Source: Calculated from ABS (2006) *Births 2005*, catalogue no. 3301.0, Table 2.12 and Estimated Resident Population (ERPs) for 2004 and 2005

Notes: ASFR = age-specific fertility rate

1. Expected birth numbers in 2005 minus observed birth numbers in 2004 = effect of change in cohort size

2. Observed birth numbers in 2005 minus expected birth numbers in 2005 = effect of change in birth rate

*Change in birth rate accounts for specified percentage of the change in birth numbers. For example, at age 25–29, an increase in the birth rate accounts for 98 per cent of the increase in birth numbers, while at age 15–19 a decline in the birth rate more than offsets (by 337 per cent) an expected increase in birth numbers.

delayed or, rather, have simply chosen to have at later ages than their baby-boomer parents. It certainly cannot be assumed that these will turn out to be additional births once these women have completed their childbearing.

At ages 15–19 and 20–24, declining birth rates reduced the number of births in 2005, but not by as much as would have occurred had the number of women at those ages not increased. At age 20–24, for example, a significant increase in the cohort of potential mothers (an increase of 19,896) contributed all of the additional 713 births observed for that age group, and would have generated another 349 had the ASFR not fallen (from 53.4 to 52.9 births per 1,000 women), while at age 15–19 the change in birth numbers would have been mildly positive (143) rather than negative (-60) had the ASFR not declined.¹⁰

In other words, birth rates have indeed increased at all but the younger reproductive ages and the overall impact of the increased size of the reproductive cohort is only 12 per cent (in the 2004–2005 year). But the movement through the age structure of the very large cohort born from 1968 to 1974, at its peak childbearing ages (31–37 years) in 2006, continues to be the driving force behind total birth numbers. If birth rates remain approximately as they are, this cohort will also be likely to continue to generate strong birth numbers until the end of the decade.¹¹ However, the significance of the observation concerns not the remaining childbearing of the baby busters, but the period beyond, as their successors, the smaller numbers of women currently aged 25–29 years, enter the key ages for childbearing. Currently the number of women aged 25–29 is 85,000 fewer than at age 30–34. While the slightly larger cohort currently aged 20–24 (698,164 in 2005) will almost certainly be augmented with international migrants, it must be

remembered that the childbearing of young and skilled immigrants is relatively low.¹² Given that around 65 per cent of international migrants now enter the country under long-term (work and study visa) rather than permanent-resident arrangements, their impact on fertility is likely to continue to be low.

Third: While the recent increase in the birth rate is being broadly hailed as a return to a ‘baby boom environment’, few commentators have stopped to acknowledge that the last baby boom was driven largely by early childbearing (see Figure 3). In 1961, at the peak of the boom, 39 per cent of the contribution to the TFR came from women aged less than 24 years; today that proportion is 19 per cent.¹³ In 1961, almost 60 per cent of the female population aged 20–24 years was also married; today it is one-sixth of that.¹⁴ We should remember that one of the correlates of early partnering and childbearing is high levels of divorce.¹⁵ The point is far from academic. As alluded to above, ASFRs at 15–19 and 20–24 years have continued to fall nationally. However this is not the case in five states and territories.

Although rates remain low, between 2004 and 2005 teenage fertility (that occurring at 15–19 years of age) increased in South Australia, Northern Territory, Tasmania, the ACT and Western Australia, by 37.6, 17.0, 10.8, 7.2 and 4.5 per cent respectively.¹⁶ The trend contributed to a minor fall in the median age of childbearing in South Australia, the Northern Territory and the ACT. Ex-nuptial fertility also rose in all states and territories except New South Wales and the ACT. While the relevant age-specific data are not yet to hand, the phenomenon is strongly correlated with youthful childbearing. This is not an argument that the ‘wrong women’ are having children (or that people should be married), but rather, that teenage (and these days, early-twenties) fertility is

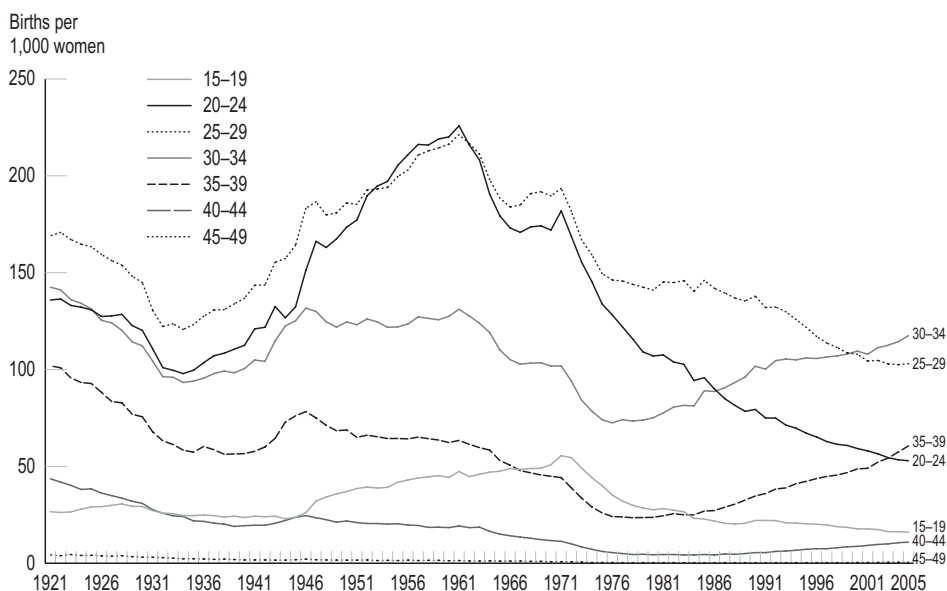
disproportionately linked with low socio-economic status, and early childbearing compounds this status. In this day and age, are we really seeking a return to the youthful childbearing of the baby boom era, which is widely acknowledged to be an aberrant period? As an old adage holds, we should be careful of what we wish for.

Fourth: A related measurement issue is of considerable import. The index at the centre of these deliberations, the period or total fertility rate (TFR), is a rather blunt measure of actual births per woman.¹⁷ As is well known to demographers, this cross-sectional measure¹⁸ is highly sensitive to changes in the age at which women have children; an increase in the age of childbearing typically lowers the rate, and a decrease in the age of childbearing increases it. Both changes can occur and show up in annual figures, but eventually the completed fertility rate (CFR, the average number of children women actually bear, which cannot be measured

until women reach the end of their childbearing years) may show that there was no change in the actual number of births per woman. In the present case it may be that the overall increase in the median age at which Australian women are having children, which has been rising almost monotonically since 1971, is decelerating.¹⁹ This is certainly indicated above. For both the 2003–04 and 2004–05 years the annual increase was 0.3 per cent, compared with an average 0.54 per cent per year across the previous decade.²⁰ The trend confirms such a deceleration.

Fifth: A related point is that Australia's TFR could also be rising because of a recent, albeit small, rise in the marriage rate, which is most pronounced at the key reproductive ages 30–39 years and is evident for both males and females.²¹ Since marriage has become increasingly correlated with imminent childbearing,²² there are several indirect explanations for an increase in fertility other than the baby

Figure 3: Age-specific fertility rates, Australia 1921–2005



Source: ABS, Age-Specific and Total Fertility Rates, 1921 onwards, see note 13

bonus, such as the role of Australia's First Home Buyer's Subsidy (introduced in 2003) permitting an increase in family formation.

It also goes without saying that a population in which around 44 per cent of females and 47 per cent of males of reproductive age are not partnered will have low fertility.²³ Importantly the relationship between partnering and fertility levels remains relatively unexplored in Australia,²⁴ as also does the *a priori* relationship between partnering and economic trends.²⁵ However, it seems that Australia's declining unemployment over the past few years is also a likely explanatory candidate.

Sixth: This takes us to the next point. The declining unemployment levels now extant in Australia can be at least partially attributed to the structural population ageing that is being driven by the low fertility of the past. As is being increasingly acknowledged, the growing labour shortages reflect a reducing labour supply, driven in large part by an accelerating decline in the ratio of people at labour market entry age (15–24 years) to those approaching retirement (exit) age (55–64 years). Just ten years ago this ratio was around 1.6, or 16 people at labour market entry age for every 10 approaching retirement age. Today the ratio is a little over 1.2, or twelve entrants for every ten exits. However, within a decade it is projected to be negative in three states: Tasmania (2010), South Australia (2011) and New South Wales (2017).

The deficits are already extremely pronounced in some industry and occupational groups. For example, approximately 23 per cent of the Australian Public Service is expected to retire over the next few years.²⁶ These trends portend growing demand for labour force participants, especially young women. At the same time, these young women are also

now disproportionately highly educated and ready for the challenge. In 2001 one-quarter of Australian women aged 25–29 years, and one-fifth at age 30–34, held a Bachelors Degree or Higher.²⁷

Clearly the moment has arrived when opportunity structures are opening up for young women, and thus the opportunity costs associated with childbearing are increasing. If we take as examples Australia's third- and tenth-largest (and heavily feminised) occupational groups, the teaching and professional nursing professions (see Figure 4), we find large proportions in the middle to older age groups, the latter approaching retirement age—and this in two occupations which remain relatively 'young' compared with the national average (12 per cent), with respectively only 10 and 11 per cent over the age of 55. A similar but substantially more pronounced situation exists across all professional occupations, so lateral movement (between occupations) will be unlikely to resolve the problem. Note also that these data are for 2001 and are thus now five old. This means that we need to age the graphs conceptually upwards by one row making the largest groups in Figure 4 currently aged 50–54 and 45–49 years. As these cohorts and their predecessors move towards retirement, with ever-fewer coming behind to replace them, a vacuum will occur in the labour force that will see younger women both increasingly competed for and with the opportunity to move rapidly into senior positions. Yet these are the same young women who are being exhorted to increase their fertility; their ability to do both will require considerably more by way of family support than a one-off baby bonus.

Seventh: In the modern world, it is necessary to ask what is 'low' fertility; and what is 'high'? Even at its lowest, Australia's birth rate was in the top half of those for all developed countries, above

most of Europe (including Sweden, with its arguably strong work-family policies), the U.K. and Canada, but below New Zealand and the United States (both of which have large Indigenous/Black populations that are both more youthful and have slightly higher fertility than the non-Indigenous/non-Black populations).²⁸ In other words, among comparator countries, Australia’s fertility is relatively high. It may not therefore respond to efforts to increase fertility based on the classic ‘gender equity’ or (‘male breadwinner’) argument, which is one of four theoretical categories used to explain low fertility (the others being ‘rational actor’, ‘risk aversion’, and ‘post materialist values’ theories).²⁹

The gender equity/male breadwinner theory holds that, in most contemporary low fertility societies, women are treated as individuals in some institutions, such as education and the labour market, while in others, such as industrial relations, government services and transfers (for example with regard to the provision and costs of childcare), they are treated as member of families and particularly as ‘dependents’ of their male partners, who are ostensibly the ‘breadwinners’. The contradiction—which is exacerbated by

inequalities in parenting work within the family—causes many women to have to make a choice between having children and working. Where the gap is widest, it is argued to explain very low fertility, such as occurs in Italy. Conversely, where the gap is smallest, for example in Sweden where maternity leave and child care are strongly integrated within the labour market, both fertility and female labour participation rates are higher than in most other developed countries.

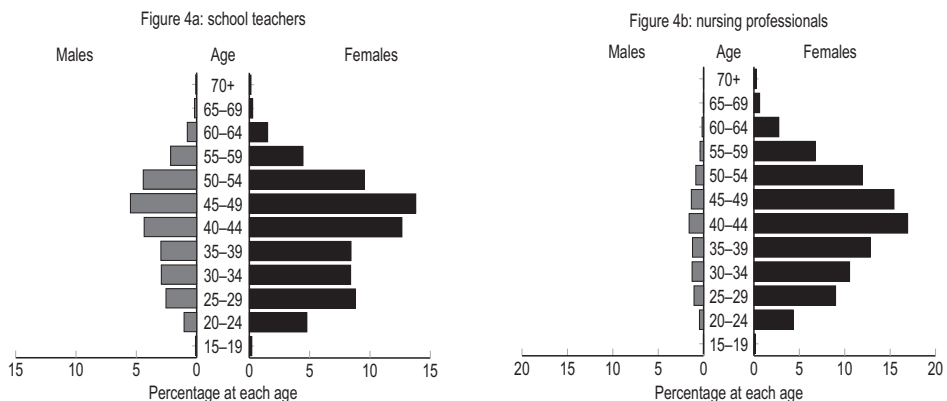
Australia’s labour force participation rate for women of reproductive age is a little below the middle of the OECD distribution.³⁰ The argument thus goes:

- high gender equity = high female labour force participation = high fertility (in low-fertility countries)
- Australia’s female labour force participation is relatively low
- therefore Australia’s gender equity is relatively low
- this is why Australia’s fertility is relatively ‘low’.

But there other ways of stating this problem. What about:

- Australia’s fertility is relatively high
- *because* Australia’s gender equity is

Figure 4: Age-sex structure of school teachers and nursing professionals occupations, Australia 2001



Source: ABS (2006), customised database

relatively low

- and Australia's female labour force participation is relatively low.

In other words, we can agree with the argument that Australia's relatively low female labour force participation is probably a reflection of low gender equity. However, if Australia's fertility has been mis-specified as low when, for this day and age, it is actually quite high (among low-fertility countries), it may be that it is Australia's unique combination of low female labour force participation and low gender equity that is keeping fertility 'highish'. If that is the case, poorly conceived efforts to raise the labour force participation rate may, perversely, lower fertility.³¹ The new workplace relations reforms ('work choice' and 'welfare to work'), for example, which have been designed expressly to increase labour force participation, especially among sole parent mothers, contain significant anti-natal elements.³² More on this below.

An exploratory comparative analysis of fertility across Australia's states and territories³³ for 1991–2001 supports the argument. In the Northern Territory and Tasmania, where Australia's fertility rates are highest and second highest, female labour force participation at age 15–49 is respectively lowest and second lowest, as is full-time employment. By contrast, the states/territories with the lowest fertility are those with the highest female labour force participation (and highest levels of full-time employment): the ACT and Victoria. Further supporting the low gender equity aspects of the argument are that, in the Northern Territory and Tasmania, the proportion of women holding higher qualifications is also respectively lowest and second lowest in Australia, while they are highest and second highest in the low fertility ACT and Victoria. Undoubtedly related, in the Northern Territory and

Tasmania the proportion of births to women aged less than 29 years is the highest and second highest, while in the ACT and Victoria it is the lowest and second lowest. These findings indicate that if Australia wants to raise its fertility, it may be more germane to look for answers closer to home than to countries like Sweden, or to be especially wary of tweaking policy at its edges.

Eighth: Indeed the extent to which the government has yet fully engaged with the main driver of structural ageing—low fertility—must be questioned.³⁴ The 2006–07 Budget paid minimal attention to the issue, instead returning to its earlier focus on tax cuts and reforms to superannuation and labour market policy. On the one hand these initiatives do address structural ageing, in that they aim to entice older workers to delay retirement and, via the government's 'welfare to work' agenda,³⁵ to persuade people on income support benefits to enter or re-enter the workforce. On the other hand, as McDonald argues, the major beneficiaries of the initiatives will be Australia's present and soon-to-be senior citizens, and the losers will be sole parents and young families. The welfare to work policy contradicts the government's position of supporting and strengthening families when they are at their most vulnerable and is certainly at odds with the desire to encourage as many women as possible to have children. The workforce implications of a possible relationship break-up would be more likely to deter than encourage childbearing. But then, 2006 was not an election year.

Ninth: There appears to be some sort of mythical status attributed to a total fertility rate of 2.1, which—when sustained for a generation—is the figure needed to replace each generation when life expectancy is around its present level. The idea is premised on demographic transition theory and its associated stationary

population theory, which hold that eventually the crude birth and death rates of a population will either converge to deliver zero growth, or stabilise to deliver unchanging proportions at each age. There is in fact no reason whatsoever that the fertility rate should stop at—or return to—2.1, or any particular level, or that a population should eventually attain stationarity or stability. For most of human history, births were high because deaths were high; when most of your children die there is little imperative to have fewer of them. Once these dynamics come under purposive control, that nexus is irrevocably broken.³⁶ Whatever its underlying causes, and there are many of them, low fertility reflects an efficiency gain.³⁷ It frees women from an extended period of childbearing and child-rearing to do other productive things, like working in the formal labour force and contributing to the economy (that incidentally will be needed to support the ageing population). If women's emancipation is one of the pillars of modernity, as MacInnes and Diaz argue, low fertility is its plinth. It is not an abstraction that can simply be tweaked to have one generation offset the behaviour of a previous generation that has—at least as far as the synthetic TFR can tell us—failed to reproduce itself.

Let us also not forget that those who have children create the future workforce and tax base, largely through their own private sacrifices, while those who do not have children still have an equal call on those eventual resources. If higher fertility is truly desired, initiatives that value the childbearing and childrearing women themselves—not merely their reproductive products—must be more centrally institutionalised. This means, for example, instituting state-supported maternity/paternity leave, state-funded superannuation contributions for those who remain at home to rear children, income-

splitting within such families, and increased support for sole parents, who in Australia have largely become such as the result of relationship breakdown. These are, of course, the elements proposed under gender equity theory, which is undoubtedly correct in its general formulation, but which in Australia could generate pathological outcomes if mishandled by the state. Increasing the nation's female labour force participation rates via the present coercive approach could well see Australia's fertility plummet. Paradoxically the state's role is of critical importance here, because the issue is too important to be left to individual businesses which, in Australia, are disproportionately small and cannot carry the costs.

SUMMARY AND CONCLUSION

This paper has outlined nine points upon which the recent increase in Australia's fertility rate might be deliberated. While the Australian Government and many commentators are loudly proclaiming the success of the Baby Bonus and have widely promulgated messages about 'leaving it too late', this paper has noted other technical, conceptual and sociological factors that may be implicated in a stalling/rising birth rate. These include deceleration of the increase in the average age at which women are having children, and/or a small increase in the marriage rate, both of which are presently extant in Australia and are not necessarily undesirable. However, relatedly, it has drawn attention to a possible darker side of these phenomena: small increases in teenage fertility in five states/territories between 2004 and 2005 (after overall long-term declines), and their likely association with further increases in ex-nuptial fertility in all but two regions. It has also noted the opportunity structures in the labour market that are presently opening up for women as the result of structural ageing, and alluded to the opportunity costs that

may be involved for those choosing child-bearing and child rearing, if government support for the latter is not more comprehensive.

Indeed, the paper suggests that there is no room for complacency in terms of a sustained reversal of the trend to lower fertility. At others³⁸ have pointed out, at this juncture Australia's pro-natalism appears to be just another ad hoc tack-on that is at odds with other recent policy interventions, such as workplace and welfare-to-work reforms, which could well have the perverse effect of lowering fertility. Until there is a more comprehensive engagement with the diverse institutional drivers of low fertility—in non-election, as well as

election years—there is no reason to believe that Australia's fertility decline has been permanently halted. The possibility that the presently large 30–34 year old population, which has previously delayed its childbearing and may now be completing that childbearing while the baby bonus is on offer, cannot be rejected. But whether the members of this cohort will end up having more children than they previously intended cannot be answered yet. One thing is sure. They are followed by a cohort of women some 85,000 smaller in size so, while the present small increase in the birth rate may be delivering additional babies, it remains the size of the reproductive age cohort that is the determining factor.

References

- ¹ The Maternity Payment replaced a predecessor policy (The First Child Tax Refund) also initially referred to as a Baby Bonus. The new Maternity Payment provided a \$3,000 grant for each new child (irrespective of the parity of the child), rising to \$4,000 in 2006–07 and \$5,000 in 2008–09. The intervention was accompanied by an increase in all levels of Family Tax Benefit (an intervention from 2000 associated with Australia's introduction of the Goods and Services Tax [GST]), bringing the base payment up to \$1,695 per year inclusive of a new, immediate lump-sum payment of \$600, and other elements of the package such as an additional 30,000 outside-school-hours childcare places and 1,500 family day care places. See R. Rottier, *Talking Up The Birthrate: The Typologising of Women and Their Fertility*, PhD Thesis, University of Tasmania, 2005, p. 150; see also G. Heard, 'Pronatalism under Howard', *People and Place*, vol. 14, no. 3, 2006, pp. 12–24.
- ² Australian Bureau of Statistics (ABS), *Australian Demographic Statistics*, September Quarter 2004, catalogue no. 3101.0, 2005
- ³ ABS, *Births 2004*, Australia, catalogue no. 3301.0, 2005, p. 28
- ⁴ The number of women aged 15–49 years increased from 4.93 million in 2001 to 5.01 million in 2004.
- ⁵ ABS, *Births 2005*, Australia, catalogue no. 3301.0, 2006, pp. 30–33; for the 2003–04 year see also P. McDonald, 'Has the Australian fertility rate stopped falling?' *People and Place*, vol. 13, no. 3, 2005, pp. 1–5.
- ⁶ See ABS <<http://www.abs.gov.au/websitedbs/D3110129.NSF/f128006d2d1e7c10ca2566fd0081ba4b/3cd12b553c337b4aca256d05000ec99!OpenDocument#BABY%20BOOMERS%20AND%20THE%202001%20CENSUS>>.
- ⁷ <<http://abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyReleaseDate/551474519FB8318ECA256F56007067B9?OpenDocument>>
- ⁸ *ibid.*
- ⁹ Endeavouring to assess the impact of related shifts in the reproductive age structure in advance of the 2004 data, McDonald, 2005, *op. cit.*, ran an analysis that applied 2003 age-specific birth rates to the numbers of women at each age in 2004; see also ABS, *Births 2004*, Australia, pp. 26–28. The results indicated that the rise in (preliminary) birth numbers between 2003 and 2004—around 3,418 births—was primarily due to more births per woman, that is, to a rise in the age-specific birth rates for women aged 30 or more: in that year there was minimal effect from the changing age structure. Notably, as above, there was also no effect from the July 2004 Baby Bonus. See also ABS, *Births 2005*, *op. cit.*, pp. 30–33.
- ¹⁰ At age 15–19, the cohort of potential mothers increased by 8,764, while the ASFR fell from 16.3 to 16.0 births per 1,000 women. If the ASFR had remained at its 2004 level, it would have generated 11,039 babies in 2005, 143 more than in 2004, but 203 fewer than actually observed in 2005. Thus, the actual observed change (-60 births) was buffered by the increased size of the cohort, meaning that the decline in birth numbers would have been even greater but for that fact.

- ¹¹ This was similarly the finding of McDonald, 2005, op. cit., p. 5.
- ¹² As indicated by ABS, *Births 2005*, op. cit, Table 8.14
- ¹³ ABS, Age-Specific and Total Fertility Rates, 1921 onwards, *Australian Historical Population Statistics*, catalogue no. 3105.0.65.00, 2006b
- ¹⁴ ABS, *Basic Community Profile, Australia*, catalogue no. 2001.0, 2002, Table 04
- ¹⁵ G. Carmichael, 'Things ain't what they used to be! Demography, mental cohorts and values in post-war Australia', *Journal of the Australian Population Association*, vol. 15, no. 2, 1998, pp. 91–114
- ¹⁶ ABS, *Births 2005*, op. cit, p. 15
- ¹⁷ See McDonald, 2005, op. cit., p. 4.
- ¹⁸ The TFR is calculated on the basis of the age-specific rates occurring in any given year. It is taken as a proxy for the average number of children a woman would have across her lifetime IF she were to experience all of those age-specific rates across that lifetime. Since contemporary childbearing is typically completed within a few years, this will seldom ever be the case. Typically the *completed* fertility rate (which cannot be measured until a woman is aged 50) is lower than the highest TFR, and higher than the lowest TFR.
- ¹⁹ On the impact of changes in birth timing see J. Goldstein, W. Lutz and S. Sherbov, 'Long-term population decline in Europe: the relative importance of temporal effects and generational length', *Population and Development Review*, vol. 29, no. 4, pp. 699–707.
- ²⁰ ABS, *Births 2005*, op. cit., Table 8.3, p. 59
- ²¹ ABS, *Marriages, Australia 2004*, catalogue no. 3306.0.55.001, 2004, Table 1. The crude marriage rate has risen from 5.3 in 2001 to 5.5 in 2004. The trend is shared by both males and females and is being driven by increases at all ages above 30 years.
- ²² I. Winter and W. Stone, *Reconceptualising Australian Housing Careers*, Working Paper No. 17, Melbourne, Australian Institute of Family Studies, 1999
- ²³ N. Jackson, 'The Higher Education Contribution Scheme: A HECS on "The Family?"' in G. Carmichael with D. Dharmalingham (Eds), *The New Zealand and Australian Populations at the Millennium: Special Issue of the Journal of Population Research*, Australian and New Zealand Population Associations, Canberra and Wellington, 2002, pp. 105–120
- ²⁴ See also R. Birrell and V. Rapson, *A Not-So-Perfect Match: The Growing Male/Female Divide, 1986–1996*, Centre for Population and Urban Research, Monash University, 1998; and R. Birrell, V. Rapson and C. Hourigan, 2004, *Men and Women Apart: Partnering in Australia*, The Australian Family Association, Centre for Population and Urban Research, Monash University.
- ²⁵ See also V. Oppenheimer, 'Men's career development and marriage timing during a period of rising inequality', *Demography*, vol. 34, no. 3, 1997, pp. 311–330; C. Hourigan, *Lone Parenthood in Australia: A Spatial Analysis*, PhD Thesis, Monash University, 2005; and C. E. Hartnett, *Marriage and Money: Is Marriage Related to Employment Status?* Honours Thesis, School of Sociology and Social Work, University of Tasmania, 2006.
- ²⁶ Management Advisory Committee, *Organizational Renewal*, Canberra, Commonwealth of Australia, 2003
- ²⁷ ABS unpublished database—see author.
- ²⁸ ABS, *Births 2004, Australia*, op. cit., p. 24
- ²⁹ Rational actor theory holds that people are perfectly informed on the costs and benefits, for example, financial and psychological, of childbearing and rearing and therefore make perfectly informed choices about the number of children they have. By contrast, risk aversion theory holds that people are not perfectly informed, and so tend to err on the side of caution, having fewer children than they might otherwise desire. Post-materialist values theory holds that having children is just one option among many, and so tends to lose out to other options. For detail see P. McDonald, 'Sustaining fertility through public policy: the range of options', *Population*, vol. 57, no. 3, 2002, pp. 417–446. See also P. McDonald, 'Low fertility in Australia: evidence, causes and policy responses', *People and Place*, vol. 8, no. 2, 2000, pp. 6–20; P. McDonald, 'Sustaining fertility through public policy: the range of options', *Population*, no. 57, vol. 3, 2002, pp. 417–446; and A. Manne, 'Women's preferences, fertility and family policy: the case for diversity', *People and Place*, vol. 9, no. 4, 2002, pp. 6–25.
- ³⁰ F. Jaumotte, 2004, 'Labour force participation of women: empirical evidence on the role of policy and other determinants in OECD countries', *OECD Economic Studies*, vol. 37, no. 2 <<http://www.oecd.org/dataoecd/12/39/34562935.pdf>>
- ³¹ As implied by P. McDonald, 'The 2006–07 budget and family policy', *People and Place*, vol. 14, no. 2, 2006, pp. 1–4
- ³² The reforms remove many of the protections previously enjoyed by Australian workers, such as not being arbitrarily dismissed and rehired on a lower wage, and having the ability to appeal against unfair dismissal.

See <<https://www.workchoices.gov.au/>> (18 September 2005). As Human Rights Commissioner Pru Goward pointed out, they have particular implications for the gains women have made, especially in relation to maternity leave. See <http://parlinfoweb.aph.gov.au/piweb/view_document.aspx?id=2282001&table=HANSARDS>.

³³ G.D. Mitchell, *Correlations with Fertility: A State and Territory Comparison*, Honours Thesis, School of Sociology and Social Work, University of Tasmania, 2005. The analysis is based on women aged 15–49 years and uses census data for the years 1991, 1996, and 2001.

³⁴ McDonald, 2006, op. cit.

³⁵ Referred to above in terms of ‘work choices’

³⁶ P. Longman, *The Empty Cradle: How Falling Birthrates Threaten World Prosperity and What To Do About It*, New York, Basic Books, 2004, p. 87

³⁷ J. MacInnes and J.P. Diaz, ‘The reproductive revolution and the sociology of reproduction’, Paper presented to the XXVth IUSSP International Population Conference, Tours, France, 18–23 July, 2005 <<http://iussp2005.princeton.edu/sessionViewer.aspx?sessionId=907>>

³⁸ See especially McDonald, 2006, op. cit.