Fertility decline in Australia

A demographic context

The declining birth rate is a major factor in population ageing and also has important implications for the way families function, for the economy and society more generally, and for issues of environmental sustainability.

DAVID DE VAUS

Although fertility decline has been apparent for some time, it has only recently been taken seriously by policy makers. However, as the baby boomer generation ages, the workforce shrinks and health care and income support costs increase, the implications of a low birth rate are becoming more evident. Fertility decline also has economic and institutional implications. Population growth has traditionally been a key source of economic growth, and concern has been widely expressed that without steady population growth, economic growth will stall. Fertility decline also has substantial implications for age based social institutions such as schools and universities where fewer children will mean reduced demand for places.

The purpose of this article is to sketch some of the dimensions of fertility decline in Australia. It will briefly describe the extent to which fertility levels have declined and then describe the groups in society where fertility rates are relatively low. Since the paper by Castles in this issue of *Family Matters* deals with some of the international dimensions of fertility change, this article focuses on Australian patterns.

Fertility levels and trends

Australia has experienced almost uninterrupted fertility decline since 1961. This decline has occurred in three main phases (Figure 1). The first phase from 1961 to the mid-1970s was a period of sharp and dramatic decline when the fertility rate dropped from 3.55 in 1961 to 2.15 in 1975 – a decline of 1.4 children per woman in just 15 years. The second phase was a period of relative stability in the 1980s when the fertility rate fluctuated between 1.84 and 1.92. The third and current phase, which began in the early 1990s, is a period of gradual fertility decline from 1.91 in 1990 to 1.73 in 2001. Overall, the fertility rate has halved from 3.55 to 1.73 in a period of just 40 years.

Changes in fertility do not occur in isolation from other social, cultural and economic changes. Although it is often difficult to establish cause and effect patterns, the three modern phases of Australian fertility decline were accompanied by parallel developments. The first period of sharp decline began at the same time as the oral contraceptive pill became widely available. The second and third periods occurred at the same time as the labour force participation of married women and mothers increased, when both men and women began to marry later, when cohabitation became more common, when school retention rates improved and more people went on to tertiary education, and when the nature of the workforce changed markedly, especially for younger people.

The impact of fertility decline depends partly on the *rate* of decline and the level to which fertility declines. Sharp and rapid decline will have a different impact from gradual decline. While institutions and the economy may adjust to a gradual decline in numbers, it is much more difficult for institutions to adjust to a rapid fertility decline.

The other element of fertility decline is the *level* to which fertility drops. Australia's *total fertility rate* (TFR) in 2001 was 1.73. The total fertility rate indicates the number of children a woman will have if she experiences the current age-specific fertility rates at each age of her reproductive life. Demographers frequently focus on *replacement level fertility*, or the estimated number of children a women would need to have in her lifetime to replace herself and her partner. They estimate that in order to maintain a stable population size over

the longer term each woman needs to have, on average, 2.1 children. Fertility levels below this rate will lead, in the longer term, to population decline[1]. Australia's fertility rate fell below this replacement level in 1976 for the first time in the 20th century and has continued to decline thereafter.

Australia's below replacement fertility level is hardly unique among the developed economies (see Castles elsewhere in this issue). Of all the OECD countries, only Turkey and Mexico have above replacement fertility, and the Unitied States, with a fertility level of 1.9 (ABS 2002a), has the next highest fertility level. Indeed, with a fertility level of 1.73, Australia has a relatively high fertility level among the OECD nations.

Number of children

Total fertility rates provide a picture of average fertility. However, averages do not allow us to answer important questions about the components of fertility decline. How much of the decline is because more women are remaining childless? How much is because women who are still having children are avoiding having large families? Is the decline because single-child families are becoming popular?

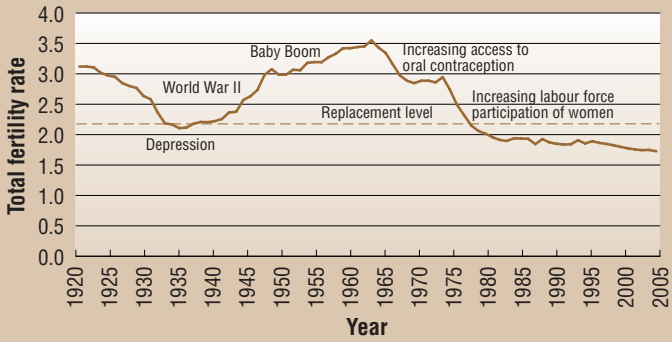
Identifying the components of fertility decline can help focus on some of the factors than might lie behind the decline. The reasons for remaining childless are likely to be very different from those that lead a women to have three rather than five children. Accordingly, any action designed to have an impact on fertility levels needs to be targeted at the particular components that contribute to fertility decline.

Childlessness

Childlessness may be voluntary or involuntary, although the line between these two routes to childlessness can be rather blurred. It is estimated that approximately 7 per cent of couples of reproductive age are infertile (ABS 2002b). The rate at which couples are infertile increases with age – especially that of the woman.

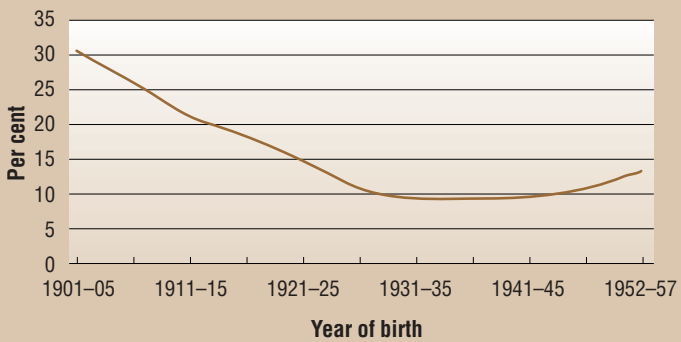
Levels of childlessness are estimated in different ways. One way is to base estimates on women who have completed their childbearing. This is achieved by observing the levels of childlessness among women aged 45-49 years. However, these estimates do not reflect the patterns of women currently of reproductive age and thus they provide an

Figure 1 Total fertility rates, Australia, 1920-2001



Source: ABS Social trends, 1996 and ABS Births, 2001 Australia, ABS cat no.3301.0. The total fertility rate represetns the number of children a woman would bear during her lifetime if she experienced current age-specific fertility rates at each age of her reproductive life.

Figure 2 Proportion of females who were childless at age 45-49 years[(a)]



Note: (a) Based on data from Censuses of Population and Housing.
Source: Rowland, D. T., 1998. The prevalance of childlessness in cohorts of older women, Australasian Journal on Ageing, vol. 17, no. 1, pp.18–23.

Fertility behaviour must be understood within a social and cultural context.

inadequate guide to future levels of childlessness. To estimate future levels of childlessness demographers use marriage and fertility patterns of women in their reproductive years. These estimates vary somewhat depending on the methods of projections.

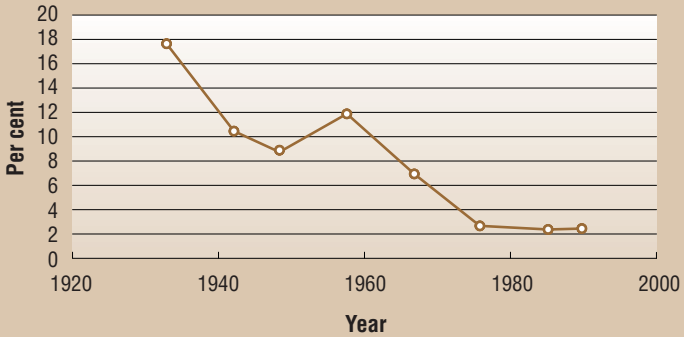
The first method of estimating levels of childlessness indicates that in 1996 10.5 per cent of women aged 45-49 were childless. The second method, which estimates likely patterns of future childlessness among younger women, project much higher levels of childlessness. The precise projections range from at least 20 per cent of women remaining childless if the year 2000 fertility patterns prevail (Merlo and Rowland 2000) through to 28 per cent based on the midwives 1996 data collection (AIHW 1998). The ABS projects that about a quarter of all women still in their reproductive years (age 15-45) will remain childless, and that about a third of women in Victoria and the ACT will remain childless (ABS 2002). Bryson, Strazzari and Brown (1999) estimate from the Longitudinal Study of Women's Health that about 20 per cent of women aged 18-23 who intend to have children will end up childless.

Table 1 Number of children ever born for women aged 45-69

Age	Mean	N
45-49	2.3	6206
50-54	2.4	4709
55-59	2.7	3735
60-64	2.8	3187
65-69	2.7	3197

Source: ABS 1996 Census 1 per cent Confidentialised Unit Record File.
NB women in older age groups have been excluded as survival factors increasingly complicate the interpretation of figures for older age groups.

Figure 3 Fifth or higher order births 1935-1996



Source: .

Figure 2 reports the levels of childlessness among women aged 45-49 who were born between 1901 to 1957[2] as reported by Rowland (1998). This figure shows high levels of childlessness (31 per cent) among women born at the beginning of the century, who experienced the Great Depression in their early thirties and who had completed their childbearing by 1950-1955. These rates of childlessness declined steadily and reached their lowest level among women born between 1930 and 1945 of whom less than 10 per cent remained childless. Rates of childlessness among women born since the World War II have gradually increased and, as indicated above, are projected to increase yet further. If these projections are correct, the rates of childlessness will return to levels close to those evident among women born a century earlier.

Larger families

The propensity of women to have larger families is an important component of the fertility rate. The decreasing number of women having large families has played a major role in fertility decline. The falling off in the total fertility rate since 1960 has been accompanied by a reduction in the number of women having five or more children. In 1960, almost 12 per cent of children born were the fifth or subsequent child born to the mother. Since then this percentage has steadily fallen away so that by 1996 just 2.3 per cent of births were fifth or higher order births.

One reason why the Australian total fertility rate is not as low as that in many parts of Europe is that Australian women are still more inclined than European women to have more than two children (McDonald 1998). McDonald estimates that if the Australian women who have more than two children reduced their fertility to just two (like their typical European counterparts) the total fertility rate would drop to 1.4 (McDonald 1998).

The importance of these relatively fertile women for the overall fertility rate is reflected in McDonald's (1998) estimate that today's younger women who have more than two children will account for half the children who are born in the future. In 1996, 37 per cent of women aged 40 had more than two children. This percentage is projected to decline to 27 per cent.

Is the fertility decline really just a fertility delay?

Part of the reason for the fertility decline is that women are starting families later. The sharp fertility decline from 1960-1975, followed by a period of relative stability in the 1980s and then gradual

decline again in the 1990s partly reflects this pattern. Carmichael and McDonald (1999) note that the period of relative stability in the 1980s was because the women who had delayed having children in their twenties (and thus contributed to the fertility decline) had babies in their thirties. This delayed fertility masked the fact that there was continuing fertility decline among women in their twenties.

Two sets of data bear directly on the question of fertility *decline* versus fertility *delay*. The first set of information is the average family size of women who have completed their families. Table 1 reports the average number of children born to women aged 45 and over. It shows that the average number of children to which women give birth is declining. Those women who had most recently completed their childbearing period (women aged 45-49) had an average of 2.3 children[3]. Older women who therefore completed their families in earlier years had a higher average number of children. Fertility for women aged 50-54 was 2.4 and 2.7 and 2.8 for the older age groups.

The difference in the number of children of these younger and older women represents true fertility decline that is not attributable to childbearing delays[4] - in this case there is a fertility decline of 0.5 of a child per woman in just 15 years (from 2.8 for those aged 60-64 to 2.3 for those aged 45-49).

The other set of evidence that relates to the issue of fertility decline versus fertility delay are the *age related fertility rates*. Figure 4 displays the age specific fertility rates for three younger groups of women – those aged 15-19, 20-24 and 25-29 years. In all three age groups the fertility rate has declined since 1960. The sharpest fertility declines were among those in their early twenties. In 1960, 220 per 1,000 women aged 20-24 gave birth to a child in that year. By 2000 this rate had fallen to a quarter of the 1960 level, with just 58 women per 1,000 in this age group giving birth in 2001. The decline among women in their late twenties was also sharp but not as dramatic. In 1960, 216 per 1,000 women in their late twenties gave birth. By 2001, this had halved to 104 births per 1,000 women.

The pattern of fertility decline for women aged 30 or over is quite different from that for younger women (Figure 5). From 1960 to 1975 the fertility rate of these older women declined, but at a much more subdued rate than among younger women. After 1975 the fertility rate of these older women reversed and began to increase – albeit at a gentle rate. This pattern suggests that some of the fertility decline in the 1960-1975 period was due to delaying births. The effect of this is evident in the increased fertility of older women after 1975 and the subsequent slowing rate of overall fertility decline.

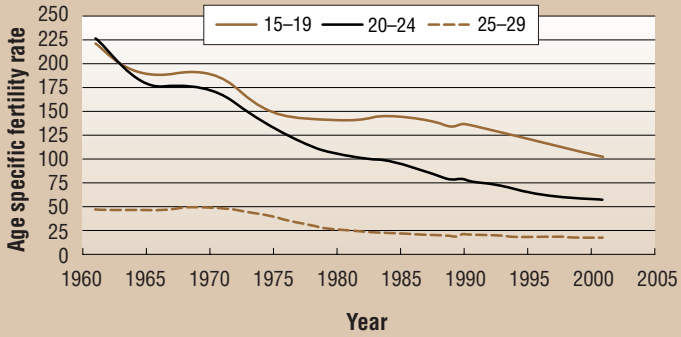
However, the fertility decline cannot simply be explained by fertility delays. The increase in fertility among women aged 30 and over is nowhere near enough to compensate for the rate of decline among younger women. The fact that between 1960 and 2001 the fertility rates have dropped in *all* age groups attests to the fact that a substantial part of the change in fertility rates is due to fertility decline rather than just fertility delay.

Who has the babies?

Fertility behaviour must be understood within a social and cultural context. Not all women want or have children, and the number of children women both want and have varies somewhat depending on the social context in which they live. Fertility change also must be understood within the wider context of social and economic changes such as increasing educational participation of women, extended periods of training for both men and women, the changing nature and increased instability of relationships, greater female labour force participation and changing individual and cultural values and aspirations.

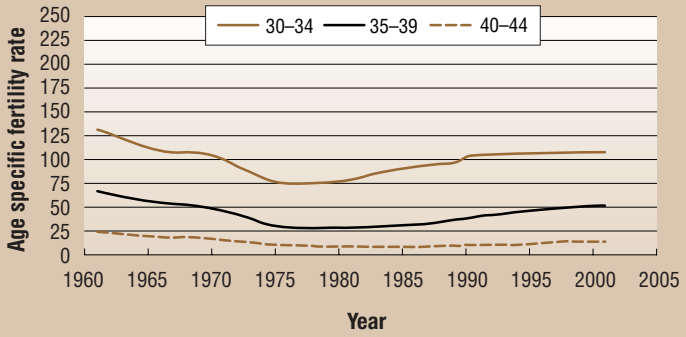
One part of understanding fertility patterns is to identify which groups of women are having no children, and those who are having more than the

Figure 4 Age specific fertility rates, women aged 15-29, 1960-2001



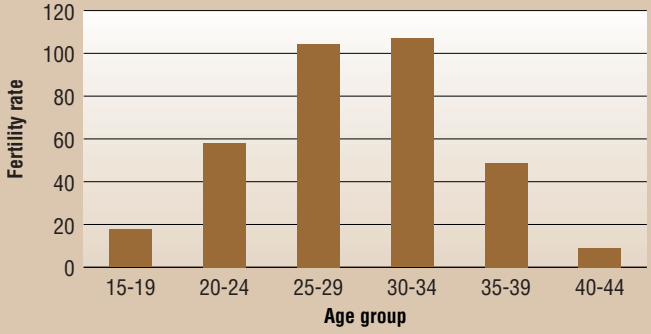
Source: ABS (2002) Births, Australia, 2001 and ABS Historical Statistics Table 39.

Figure 5 Age specific fertility rates, women aged 30-44, 1960-2001



Source: ABS (2002) Births, Australia, 2001 and ABS Historical Statistics Table 39.

Figure 6 Age specific fertility rates, 2001



Source: ABS (2002) Births, Australia, 2001.

normal number of children. While identifying which types of women have few children and which have large families does not tell us what the causes of low or high fertility might be, it can nevertheless point us in the direction of factors that may encourage or discourage fertility.

This section focuses on fertility differences according to the age, country of birth and indigenous status of mothers, social and economic disadvantage and where they live.

Age

Age-specific fertility rates provide a useful snapshot of the ages at which women are most likely to have children. Figure 6 shows that childbearing is concentrated within a fairly narrow age band. In 2001, fertility rates were highest among women in their late twenties and early thirties. The year 2001 age-related patterns represent a substantial change in the prevailing patterns in 1960 at the peak of the baby boom (see Figures 4 and 5).

An adequate understanding of fertility needs to consider the factors that drive the fertility changes in these different age groups. Although some factors will account for some of the fertility decline across all age groups (for example, access to contraception and abortion), other factors will apply to just some age groups. A fruitful way of understanding fertility decline is to focus on the age groups in which the decline has been greatest, both numerically and proportionally.

It is among younger women where parallel changes are most likely to affect their fertility. These women are staying at school longer, going on to obtain post-school qualifications, delaying both partnering and marriage, and establishing themselves in a career. Of course, it is not just the circumstances of young *women* that affects their fertility. Finding a suitable partner and father will play an important role. Despite the fact that 31 per cent of children are born to unmarried mothers (ABS 2002a), only 11.5 per cent were to single women who were not in a relationship (Nassar and Sullivan 2001). To the extent that young men are not wanting to settle down or are struggling to establish themselves in secure employment they are likely to be reluctant to become fathers. The evidence certainly shows that fewer young men and women are partnering (Birrell and Rapson 1998). Of those who are partnering an increasing proportion are cohabiting. For a variety of reasons cohabiting couples are less likely than married couples to have children and thus the rise in cohabitation will both delay marriage and delay and subdue fertility.

Table 2 Number of children ever born to women aged 45-49 by marital status 1996

	Mean	No child %	One child %	4 or more %	N
Formal marital status					
Married	2.5	5.8	9.2	15.1	4538
Widowed	2.3	9.0	13.8	13.1	145
Separated/divorced	2.3	8.6	14.1	14.1	1169
Never married	0.4	78.0	10.2	3.1	354
Social marital status					
Married	2.5	5.5	9.3	15.2	4386
Defacto	1.9	19.7	15.2	12.7	244
Not married	1.9	23.2	12.9	11.6	1391

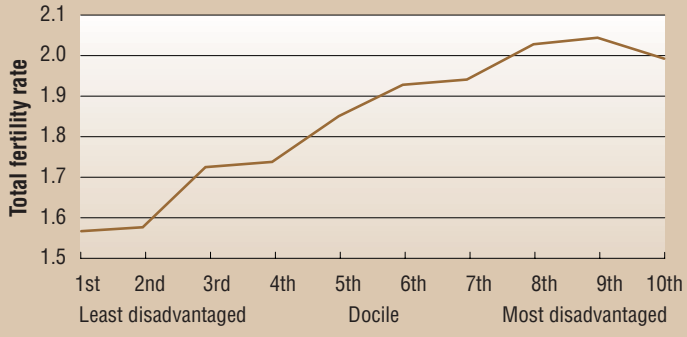
Source: ABS 1996 Census 1 per cent Confidentialised Unit Record File.
Those recoded in 1 per cent sample file as having 4 or more children are treated as, on average, having had 4.5 children.

Table 3 Number of children ever born to women aged 45-49 by mothers education, 1996

	Mean	No child %	One child %	4 or more %	N
No qualifications	2.4	8.8	9.4	16.2	3837
Vocational	2.3	10.1	11.6	9.4	464
Diploma	2.2	11.8	11.8	12.7	584
Degree or higher	2.0	18.0	12.2	7.8	817

Source: ABS 1996 Census 1 per cent Confidentialised Unit Record File.
Those recoded in 1 per cent sample file as having 4 or more children are treated as, on average, having had 4.5 children.

Figure 7 Fertility by social and economic disadvantage of region



Source: ABS (2000) Births, Australia, 1999.

Marital status

It is hardly surprising that Table 2 shows that married women have more children than those who have never married. Nor is it surprising that married women aged 45-49 have more children on average than similarly aged divorced or widowed women. However, it is instructive to note that women who have never married have nevertheless had, on average, 0.4 children. This translates to 22 per cent of never married women having had at least one child.

The same table also indicates that women aged 45-49 who are currently in de facto marriages have fewer children than those in registered marriages (1.9 compared with 2.5 children). This reflects the fact that 20 per cent of women aged 45-49 in de facto relationships have no children at all. The lower fertility of women in this age bracket who live in de facto relationships may indicate that men and women in de facto relationships want fewer children. This may be because they are less keen on having children or because they are less confident in the stability of the relationship, or because deciding not to formally marry and not to have children is a deliberate choice about the way in which such couples wish to live.

Social and economic disadvantage

Fertility is lower among women who are in relatively advantaged social and economic positions. This pattern can be seen from a number of sets of evidence.

First, the higher a woman's education the fewer children she has. Table 3 shows the distinctive fertility levels of women with a university degree, especially compared to those with no post-school qualification. Women aged 45-49 with a degree were twice as likely than those with no qualification to be childless (18 per cent compared with 8.8 per cent). Conversely, women with a degree were only half as likely as those without a qualification to have four or more children (7.8 per cent compared with 16.3 per cent).

This link between education and number of children is probably a two-way link. Having more children may reflect a poorer range of choices for those women with lower education. It also probably reflects the fact that having children at a younger age makes it more difficult to complete or continue with one's education.

Further evidence of a link between fertility and social and economic disadvantage comes from the higher fertility levels in the more socially and economically disadvantaged areas of the country. Using the ABS (1998b) classification of Social and Economic Disadvantage (SEIFA index), areas can be grouped into ten deciles. These decile groups are ranked from the 10 per cent of regions that are the most disadvantaged through to the 10 per cent that are the least disadvantaged (Figure 7).

This figure shows that the *least* disadvantaged areas have the lowest fertility rate (under 1.6). The fertility rate steadily increases as the region becomes more socially and economically disadvantaged. The fertility in the second most disadvantaged regions (ninth decile group) is over 2.

The higher fertility rate in the more disadvantaged regions should not be attributed only to the higher levels of social disadvantage in these areas. Areas have different population profiles, age and ethnic mix and the like, and these factors, as well as levels of social and economic disadvantage, may contribute to the higher fertility levels in the poorer regions.

Ethnicity and indigenous status

Ethnic and racial background are also associated with family size (Table 4). Women aged 45-49 who were born in New Zealand, Western Europe and Asia (except Vietnam) have the smallest families with an average of about 2.1 children. New Zealand born women are especially likely to have no children at all (21 per cent).

The highest fertility was among women born in the Middle East and North Africa where the average woman had 2.7 children. Middle Eastern women were also the most likely to have large families – 28 per cent had four or more children.

Australian born women, together with those born in the United Kingdom and Southern Europe had fertility levels between these extremes. Australian born women aged 45-48 had an average of 2.3 children (higher than projected for women still in their reproductive years) and around 10 per cent were childless.

Indigenous Australian women, on average, have larger families than non-indigenous women (Table 4). In 1996, indigenous women aged 45-49 had had an average of 3.1 children[5] compared with the 2.3 children borne by other women.

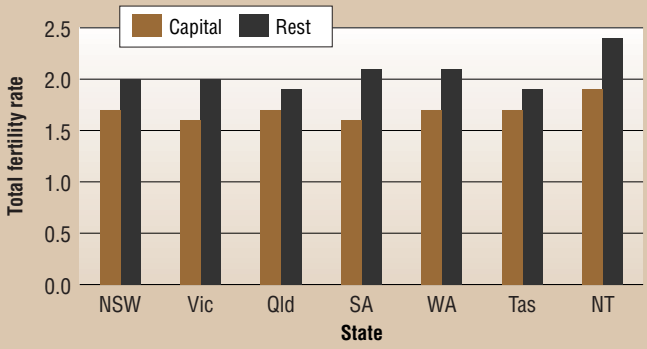
Indigenous women had distinctive patterns of fertility. Just 6 per cent had no children (compared with 10.5 per cent for non-indigenous women). However, the sharpest difference between indigenous and other women was the percentage that had four or more children. While 14 per cent of non-indigenous women had four or more children, over a third (36 per cent) of indigenous women had this many children. However, higher infant mortality rates among

Table 4 Number of children ever born to women aged 45-49 by mothers country of birth and indigenous status 1996

	Mean	None %	One child %	4 or more %	N
Mother's country of birth					
Middle east/ North Africa	2.7	9.4	8.3	28.1	96
Southern Europe	2.4	7.3	8.2	12.8	439
Vietnam	2.4	13.0	16.7	25.9	54
Australia	2.3	10.7	9.0	14.8	3959
United Kingdom	2.2	9.7	11.7	12.6	657
Other Asia	2.1	10.9	18.3	10.1	257
Western Europe	2.1	8.1	20.5	11.8	161
New Zealand	2.0	21.2	12.7	16.1	118
Mother's indigenous status					
Indigenous	3.1	6.0	4.0	36.0	50
Non indigenous	2.3	10.5	10.4	14.0	6112

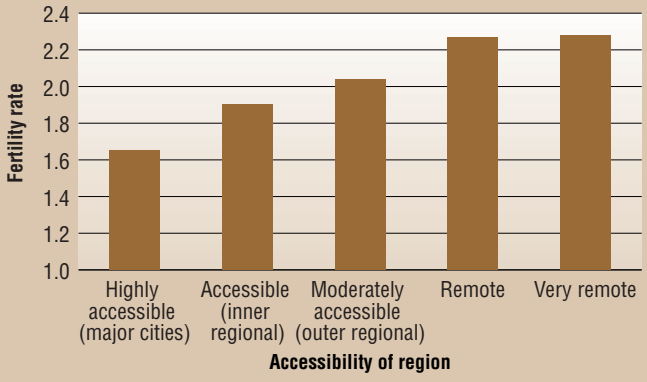
Source: ABS 1996 Census 1 per cent Confidentialised Unit Record File.
Those recoded in 1 per cent sample file as having 4 or more children are treated as, on average, having had 4.5 children.

Figure 8 Fertility rate by location in state



Source: ABS (2000) Births, Australia, 1999.

Figure 9 Fertility rate by remoteness



Source: ABS (2002) Births, Australia, 2001.

Table 5 Match between desired and actual number of children for men and women aged 45 and over, Australia, 1995-1997

	Men				Women			
	45-54 %	55-64 %	65+ %	All %	45-54 %	55-64 %	65+ %	All %
Have *more* than wanted	13.8	23.4	22.2	19.7	10.8	27.5	28.2	21.8
Had desired number	61.2	56.4	48.1	54.8	66.2	45.1	39.7	50.7
Have *fewer* than wanted	25.0	20.2	29.6	25.5	23.1	27.5	32.1	27.5
N	116	94	135	345	130	102	131	363

Source: World Values Survey combined file, using the 1995-1997 wave.

indigenous children will mean that there will not be such a stark gap between indigenous and non-indigenous women in their number of living children.

Location

Where people live is linked to their fertility levels. Women living in capital cities have a lower fertility rate than those living elsewhere. Figure 8 indicates that in each state women living in capital cities have a fertility rate of between 0.3 and 0.5 children lower than elsewhere.

These differences between the capital city and other rates will be due to a variety of factors including a different population mix in different regions. In the Northern Territory, for example, the indigenous population outside Darwin will contribute to the higher fertility in the rest of the Territory. Education levels, job opportunities and cohabitation rates are also higher in capital cities and these will undoubtedly be part of the reason for lower rates of capital city fertility.

The part played by access to educational, employment and other services is partly captured by the link between remoteness and fertility. The ABS has constructed the ARIA index to indicate the remoteness of a location from major population centers. Using this index, Figure 9 shows a clear link between remoteness and fertility. In the most remote areas the total fertility rate is 2.28 compared to that in the most accessible locations where the total fertility rate is 1.65.

Desired versus actual number of children

While it may once have been the case that many women ended up having more children than they wanted, the ready availability of contraception should mean that most men and women are able to avoid having more children than they want. More to the point, the competing demands of work and children, relationship breakdown and disagreement among partners, as well as fertility difficulties due to delaying having children, may mean that some men and women do not have as many children as they ideally want (Qu, Weston and Kilmartin 2000; Qu and Weston 2001).

The World Values Survey of 1995-1997 asked Australian men and women how many children they had and how many they had wanted. Table 5 reports the match between the ideal number and the actual number of children among men and women aged 45 and over.

The table shows that the patterns for men and women are remarkably similar. Just on 50 per cent of those aged 45 and over had their desired number of children; overall men and women of this age group had smaller families than they originally wanted, with younger men and women (those aged 45-54) being the most likely to have their desired number of children. Two-thirds of women in this age group had their desired number of children compared to just on 40 per cent of women aged 65 or over. Almost a quarter of men and women aged 45-54 had *fewer* children than they ideally wanted, and only 11 per cent of women and 14 per cent of men aged 45-54 had *more* children than they wanted.

Australian fertility has reached an historical low point, and some people are alarmed because of the social and economic implications.

In the past, considerable effort has been given to helping women control their fertility and limit the number of children they have. The observation that almost a quarter of women who have completed their childbearing have *fewer* children than they ideally want points to the need to understand the barriers to achieving these fertility goals.

Concluding comments

Australian fertility has reached an historical low point. Some people are alarmed at this low and declining fertility rate because of its social and economic implications. Others welcome it because of the link between population pressures and environmental degradation.

The policy levers that are available to governments to influence fertility are limited. To the extent that fertility reflects personal value preferences and lifestyle choices governments only have a very limited role to play in influencing values and preferences. Furthermore, declining fertility levels can reflect other positive changes in our society including better education and a wider range of choices for women. It would be both wrong and unacceptable to reduce opportunities for women with a view to increasing fertility.

However, preferences can be influenced by the barriers that discourage having children. The role of policy should be to enable couples to have the number of children they choose. This may mean that policy will support proper family planning to limit family size where desired, and to remove barriers and disincentives to having the desired number of children.

Some barriers to fertility are not within the domain of policy to influence – for example, there is relatively little that policy can do to encourage men and women to either want a partner or to find a suitable partner. While relationship education and support services can assist people in developing and sustaining relationships there are nevertheless limits to the extent to which these programs can alter the wider patterns of changes in partnering.

However, there are some disincentives that social policy can address. These disincentives include the financial costs of rearing a child and the opportunity costs for women in taking time out of the workforce. Industrial relations policies that encourage family-friendly work practices and taxation structures that do not penalise parents, especially single income families, are all part of the mix that may remove some of the barriers to fertility.

However, we still know too little about exactly what the barriers and disincentives to fertility are. We know that at a macro level changes in fertility are associated with other macro level social, economic and cultural changes (see Castles in this issue). But as well as understanding the structural, demographic and social context in which fertility occurs, there is a need to understand the decisions *individuals* make about having children. While these decisions occur within a broad social, economic and cultural context, individuals still make decisions.

A better understanding of fertility decision making must add this subjective dimension in order to gain a fuller grasp of the factors behind declining fertility rates. A number of studies in which the Australian Institute of Family Studies is currently involved will add to this knowledge base. These include a joint study being conducted with the Office of the Status of Women, the HILDA panel survey (see article by Weston and Wooden in this issue), and the Australian Temperament Project (see article by Smart in this issue). When we have a better appreciation of how individuals make (or do not make) their fertility decisions we will be in a better position to identify the types of policies that will enable men and women to achieve the levels of fertility they desire.

Notes

1 This is in the situation in which there is no net migration. Migration can help sustain stable population levels when fertility rates are below 2.1. However, McDonald and Kippen (2000) and others have argued that, when the fertility levels decline to those currently seen in Australia and many European countries, the levels of migration required to maintain a stable population are either unachievable or may be politically unacceptable and potentially socially divisive. Furthermore, McDonald and Kippen maintain that immigration does not have much impact on the population age structure.

2 Those born in 1957 would have reached the end of their childbearing years by 1996 census

3 This is the actual number of children born by women in this age group. It is higher than the projected fertility rate of 1.72 which is estimated from current fertility levels across the age groups of women of reproductive age.

4 Although some of the actual fertility decline may result from infertility that results from delaying childbearing.

5 This estimate from the 1 per cent sample file is subject to sampling error because of small numbers. The full census indicates that the actual figure is 3.24 (ABS 2001).

References

ABS (1998a), *Australian Social Trends 1998,* Australian Bureau of Statistics, Catalogue No. 4102.0, Canberra.

ABS (1998b), *1996 Census of Population and Housing Information Paper: Socio-economic Indexes for Areas,* Australian Bureau of Statistics, Catalogue No. 2039.0, Canberra.

ABS (2000a), *Australian Social Trends 2000,* Australian Bureau of Statistics, Catalogue No. 4102.0, Canberra.

ABS (2000b), *Births, Australia 1999,* Australian Bureau of Statistics, Catalogue No. 3301.0, Canberra.

ABS (2001), *Births, Australia 2000,* Australian Bureau of Statistics, Catalogue No. 3301.0, Canberra.

ABS (2002a), *Births, Australia 2001,* Australian Bureau of Statistics, Catalogue No. 3301.0, Canberra.

ABS (2002), *Australian Social Trends 2002b,* Australian Bureau of Statistics, Catalogue No. 4102.0, Canberra.

AIHW (1998), *Australia's Mothers and Babies*, 1996, National Perinatal Statistics Unit, Australian Institute of Health and Welfare, Sydney,

Bryson, L., Strazzari, S. & Brown, W. (1999), "Shaping families: Women, control and contraception", *Family Matters,* no. 53, pp. 31-38.

Birrell, B. & Rapson, V. (1998), *A Not So Perfect Match: The Growing Male/Female Divide, 1986-1996*, Centre for Population and Urban Research, Monash University, Clayton.

Carmichael, G. and McDonald, P (1999), "Fertility trends and differentials" , Paper presented to the Transformation of Australia's Population 1970-2030 Conference, Australian National University, Canberra.

McDonald, P. (1998), "Contemporary fertility patterns in Australia: First data from the1996 Census", *People and Place,* vol. 6, no. 1, pp. 1-12.

McDonald, P. & Kippen, R. (2000), "The implications of below replacement fertility for labour supply and international migration, 2000-2050", Paper presented to the 2000 meeting of the Populations Association of America, Los Angeles, March. Internet: http://demography.anu.edu.au/Publications/ConferencePapers/PAA2000/labourpaper.pdf

Merlo, A. & Rowland, D. (2000), "The prevalence of childlessness in Australia", *People and Place*, vol. 8, pp. 21-32.

Nassar, N. & Sullivan, E. (2001), *Australia's Mothers and Babies 1999*, AIHW Catalogue No. PER 19, National Perinatal Statistics Unit, Australian Institute of Health and Welfare, Sydney.

Rowland, D. (1998), "The prevalence of childlessness in cohorts of older women", *Australasian Journal on Ageing,* vol. 17, no. 1, pp. 18-23.

Qu, L., Weston, R. & Kilmartin, C. (2000), "Children? No children? Effects of changing personal relationships on decisions about having children", *Family Matters,* no. 57, Spring/Summer, pp. 14-19.

Weston, R. & Qu, L. (2001), "Men's and women's reasons for not having children", *Family Matters*, no. 58, pp. 10-15.

David de Vaus is the Senior Research Advisor at the Australian Institute of Family Studies and Associate Professor of Sociology at La Trobe University.