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One for the country: recent trends in fertility

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With almost 300,000 births registered in both 2008 and 2009, and well over a quarter million per year in the three years before that, the last half decade has seen more babies born to Australian women than any previous five year period.

The number of births and the fertility rate are of broad social policy interest given the long-term implications for the ageing and size of the population, as well as shorter-term impacts such as the provision of health and educational services. This article examines the recent increase in fertility and how socioeconomic and geographic factors are related to the patterns and levels of fertility.

While it is not surprising that the number of births has increased given the growth of the population, only a part of recent increases can be attributed to an increase in the number of women of reproductive age. The total fertility rate (TFR), which takes account of the number of women aged 15–49 years, shows fertility rising steeply throughout most of the first decade of the 2000s. Prior to the 2000s, fertility had been in long-term decline since the peak of the baby boom in 1961 when the TFR reached 3.55 babies per woman.

In 2001, Australia's TFR dipped to its lowest ever level of 1.73 babies per woman, consistent with the downward trend in many other OECD countries. Since then, the TFR climbed to a peak of 1.96 in 2008, before dropping back to 1.90 babies per woman in 2009.

Age of mothers

Over the past few decades there has been a tendency for women to delay childbearing. This is evident in the shift to an older distribution of the age-specific fertility rates (ASFRs). In 1979, for example, just over three-quarters of births were to women aged under 30 years. By 1999,

Data sources and definitions

The majority of data in this article comes from the ABS Birth registrations collection. ABS births statistics are sourced from birth registration systems administered by the state and territory Registrars of Births, Deaths and Marriages, based on information provided on the birth registration form by the parent(s) of the child.

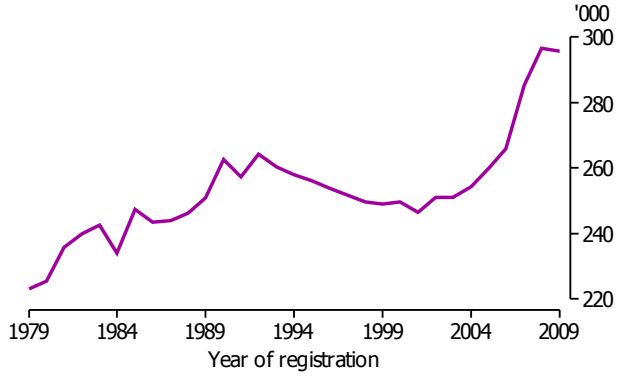
Births data presented in this article are based on the ***year of registration***. For example, the 2009 births and fertility rates are based on births registered in the 2009 calendar year and will differ from the number of births which occurred in 2009, the latter being ***year of occurrence*** statistics. Although ideally, a time series analysis of events data should be on an occurrence basis, the lag between the occurrence and registration of births could mean delaying the analysis until all births from that period have been registered. For more information, see ABS Births, Australia, 2009 (cat. no. 3301.0).

The ***total fertility rate*** (TFR) for any given year is the sum of age-specific fertility rates for that year. It is a hypothetical measure which represents the average number of babies each woman would give birth to during her lifetime if she experienced the current age-specific fertility rates at each age of her reproductive life. While the TFR provides timely information about fertility levels, it may exaggerate fertility trends whenever there are shifts in the timing pattern of births.

Age-specific fertility rates (ASFR) are the number of live births in a year to women at each age per 1,000 females in the population of the same age.

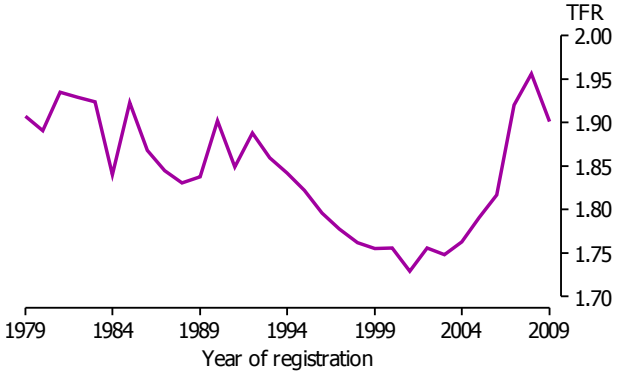
Replacement level fertility is the number of babies a female would need to have to replace herself and her partner, taking into account the deaths of women up to the age of 49 years. At current levels of mortality in Australia, the replacement level is 2.1 babies per woman.

Births — 1979-2009



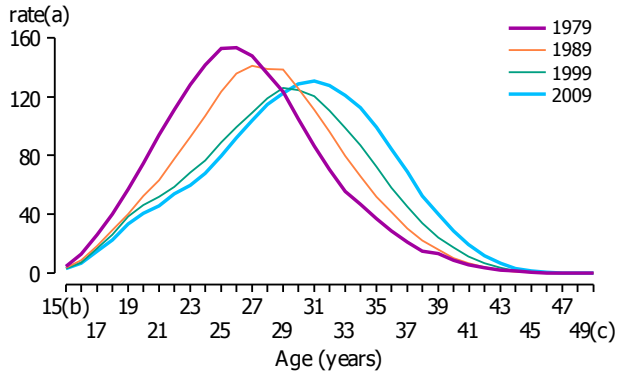
Source: ABS Australian Historical Population Statistics, 2008 (cat. no. 3105.0.65.001); ABS Births, Australia, 2009 (cat. no. 3301.0)

Total fertility rate — 1979-2009



Source: ABS Australian Historical Population Statistics, 2008 (cat. no. 3105.0.65.001); ABS Births, Australia, 2009 (cat. no. 3301.0)

Age-specific fertility rate



(a) Babies per 1,000 women.

(b) Includes births to mothers aged less than 15 years.

(c) Includes births to mothers aged 50 years and over.

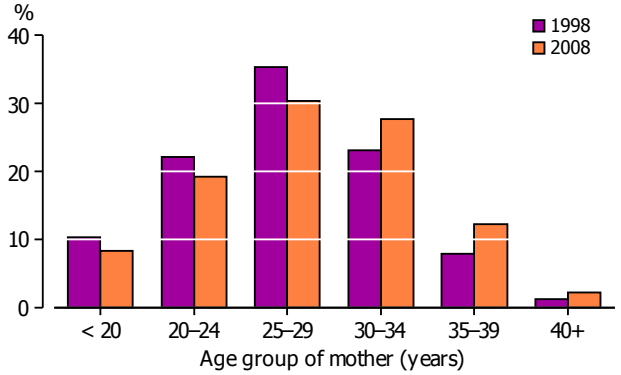
Source: ABS Birth registrations collection

just over half (52%) of births were to women aged under 30 years, and in 2009, the proportion had fallen to 46%. However, between 1999 and 2009, it is apparent that there has been little change in the fertility rates of women aged 15–29 years, but there have been significant increases in the rates for those aged in their 30s.

In 2009, fertility levels were highest among women aged 30–34 years, with an ASFR of 124 babies per 1,000 women, up from 108 in 1999. However, the largest increase occurred for 35–39 year olds with 69 babies per 1,000 women in 2009, up from 47 in 1999.

In contrast to increasing fertility rates for women in their 30s, the fertility rates of women aged under 30 years were only marginally less in 2009 than 1999. For example, among women aged 20–24 years, the fertility rate declined from 61 to 54 babies per 1,000 women, while for women aged under 20 years, the rate in 2009 was 17 babies per 1,000 women, down slightly from 18 babies per 1,000 women in 1999.

Women having their first birth, by age group — 1998 and 2008



Source: Australian Institute of Health and Welfare (AIHW), Australia's Mothers and Babies, 1998 and 2008 (cat. no. PER 50) <www.aihw.gov.au>

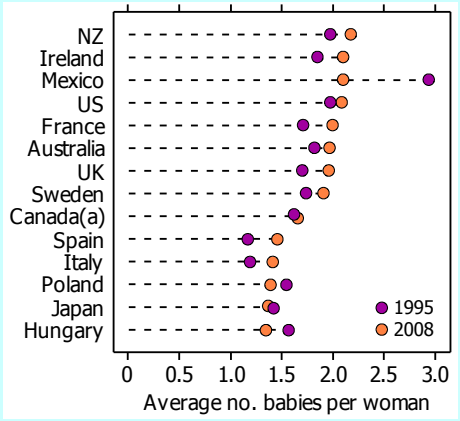
International comparison

Over the last decade many countries throughout the OECD have experienced a recovery in their fertility rate. Some 20 out of 38 OECD countries had higher TFRs in 2008 compared with 1995. The largest increases were in France and Spain (both had TFR increases of 0.29 babies per woman). The United Kingdom also had a large increase (up 0.26), as well as Ireland (up 0.25). Australia's increase in TFR between 1995 and 2008 was 0.15.

In 2008, a number of OECD countries had TFRs at or above the replacement level of 2.1 babies per woman. New Zealand had the highest fertility in the OECD with a TFR of 2.18, followed by Turkey and Iceland (both at 2.14), and Mexico and Ireland both with 2.10 babies per woman.

Despite recent increases in TFR in many countries, many others still had very low rates. For example, Japan's was 1.37, and many European countries had TFRs at similarly low levels such as Poland (1.39), Germany (1.38), Hungary (1.35) and Romania (1.30).

Total fertility rates of selected countries — 1995 and 2008



(a) Data is for 2007.

Source: OECD, Society at a Glance - OECD Social Indicators, 2009. <www.oecd.org>

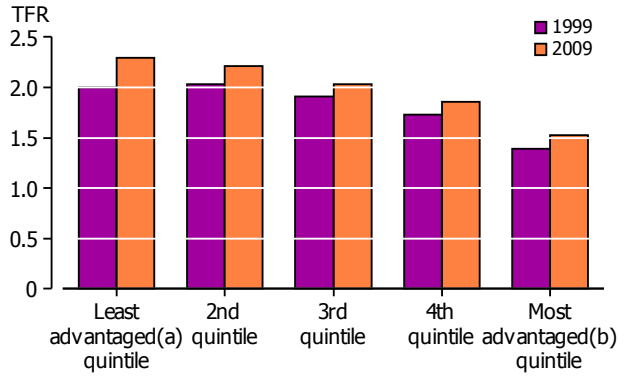
...age at first birth

The delay in childbearing is most clearly represented by the increasing age at which women tend to have their first birth. Of women who had their first birth in 1998, just under one-third were aged 30 years or older, by 2008 this proportion had increased to 42%, and included 15% who were aged 35 years or over having their first child.

...one for the country?

In 2008, one-quarter (25%) of women giving birth were having their third or more baby, similar to the rate in 1998 (26%).

Total fertility rates, by quintile of relative advantage/disadvantage — 1999 and 2009



(a) and most disadvantaged.

(b) and least disadvantaged.

Source: ABS Birth registrations collection

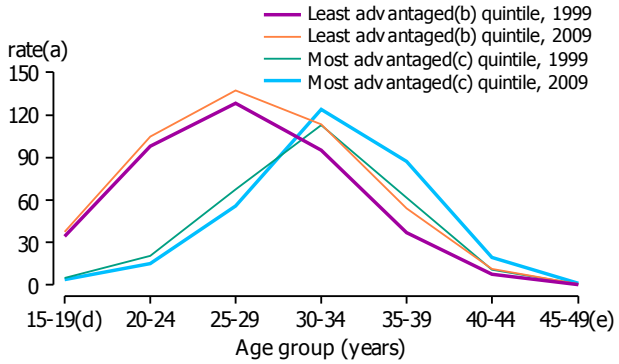
...childlessness

As women have delayed child-bearing, a greater proportion have remained childless into their forties. According to the ABS 2006 Census of Population and Housing, 14% of women aged 45–49 years had not had any children. This compares with 11% a decade prior, and 9% in the decade before that (1986).

Socioeconomic patterns

Underlying the trend in delayed childbearing are broad social and economic changes such as increasing levels of educational attainment and labour force participation of women. While these factors may have changed the overall fertility pattern, the impact on the fertility behaviour of individual women will depend on their particular circumstances and life transitions.

Age-specific fertility rates, by quintile of advantage/disadvantage — 1999 and 2009



(a) Babies per 1,000 women.

(b) and most disadvantaged.

(c) and least disadvantaged.

(d) Includes births to mothers aged less than 15 years.

(e) Includes births to mothers aged 50 years and over.

Source: ABS Birth registrations collection

Socio-Economic Indexes for Areas

The ABS has developed summary measures, or indexes, derived from the ABS 2006 Census of Population and Housing to measure different aspects of socioeconomic conditions by geographic areas. One of these indexes (the Index of Relative Socio-Economic Advantage/Disadvantage) has been used in this article to investigate the relationship between fertility and socioeconomic conditions in different regions of Australia.

Statistical Local Areas (SLAs) within Australia were divided into quintiles (five groups, each containing around 20% of the population) based on their Index of Relative Socio-Economic Advantage/ Disadvantage scores. The first quintile includes SLAs in Australia with the lowest index scores; that is, areas in Australia with the lowest proportions of people with high incomes or in skilled occupations, the highest proportions of people with low incomes, more employees in unskilled occupations, etc. In this article this group has been referred to as being 'least advantaged'.

Conversely, the fifth quintile represents areas with the highest index scores; that is, areas with the highest proportions of people with high incomes or in skilled occupations, the lowest proportions of people with low incomes and relatively few people in unskilled occupations, etc. This group has been referred to as being 'most advantaged'.

Using an area-based measure of socioeconomic advantage and disadvantage throughout Australia, clear associations are evident between fertility and relative socioeconomic status.

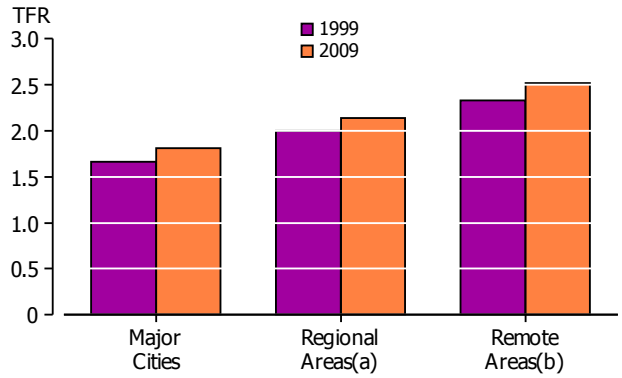
In 2009, women living in areas comprising the least socioeconomically advantaged quintile of the population had a TFR of 2.3 babies per woman. This compares with 1.5 babies per woman among women who were in the most advantaged quintile of the population.

Over the ten years to 2009 the TFRs increased for women living in each quintile of socioeconomic advantage. The largest increases were among women in the least advantaged quintile (from 2.0 to 2.3 babies per woman) followed by those in the second least advantaged quintile (from 2.0 to 2.2).

The age-specific fertility rates of the highest and lowest quintiles of relative socioeconomic advantage show a pattern of contrasting age contribution – women living in the least advantaged areas tending to have their babies at younger ages, while those in the most advantaged areas have their peak levels of fertility in older ages.

While the overall age pattern in age-specific fertility over the last decade shows a decline in fertility rates for women aged under 30 years, the least advantaged quintile was an exception: between 1999 and 2009, in the least advantaged quintile there were increases in fertility rates among women in the 15–19 years, 20–24 years and 25–29 years age groups.

Total fertility rates, by Remoteness Areas — 1999 and 2009



(a) Includes Inner Regional and Outer Regional Areas.
(b) Includes Very Remote Areas.

Source: ABS Birth registrations collection

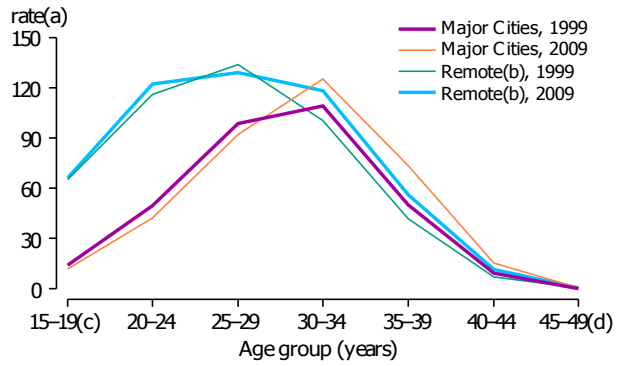
Apart from the second lowest quintile of advantage (which had a slight increase in the fertility rate of women aged 20–24 years and 25–29 years), all other socioeconomic quintiles had declines in fertility rates for those aged under 30 years.

The largest gains in age-specific fertility over the decade came from women aged 35–39 years living in areas comprising the most advantaged quintile, where the ASFR increased from 61 to 87 babies per 1,000 women between 1999 and 2009. The second largest increase in ASFR was for women of the same age but who were in the second most advantaged quintile, where the ASFR rose from 49 to 71 babies per 1,000 women between 1999 and 2009.

Regional patterns

Geographic location, especially the relative remoteness of a population from employment and educational opportunities, shows a similar fertility gradient to the socioeconomic pattern.

Age-specific fertility rates, by Major Cities and Remote Areas — 1999 and 2009



(a) Babies per 1,000 women.
(b) Includes Very Remote Areas.
(c) Includes births to mothers aged less than 15 years.
(d) Includes births to mothers aged 50 years and over.

Source: ABS Birth registrations collection

Remoteness Areas

Remoteness Area (RA) is a structure of the Australian Standard Geographical Classification (ASGC). It classifies areas sharing common characteristics of remoteness into six broad geographical regions (Remoteness Areas). The remoteness of a point is measured by its physical distance by road to the nearest urban centre. As remoteness is measured nationally, not all Remoteness Areas are represented in each state or territory. The six Remoteness Areas are: Major Cities of Australia; Inner Regional Australia; Outer Regional Australia; Remote Australia; Very Remote Australia; and Migratory. In this article, the Remoteness Areas are collapsed to three levels:

- Major Cities
- Regional Areas (Inner Regional plus Outer Regional)
- Remote Areas (Remote plus Very Remote)

For further information about Remoteness Areas see Chapter 8 of ABS *Australian Standard Geographical Classification (ASGC), July 2010* (cat. no. 1216.0).

Women who live furthest away from large population centres tend to have the highest levels of fertility, while those in Major Cities tend to have the lowest.

In 2009, the TFR in Remote Areas was just over 2.5 babies per woman, and 2.1 babies per woman in Regional Areas. Major Cities, by contrast, had a TFR of 1.8.

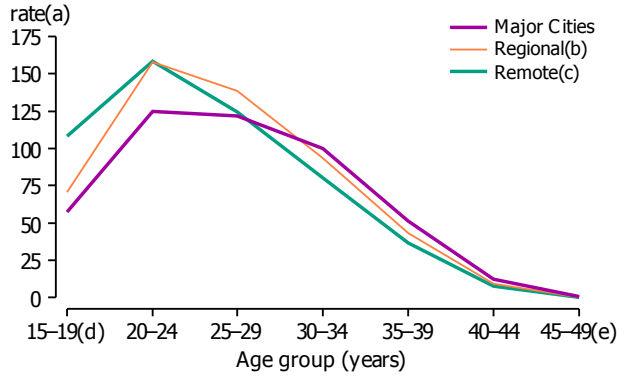
The age-specific fertility rates in the Remoteness Areas show the higher TFR of Remote Areas is closely associated with high rates of fertility among younger people. For example, women aged less than 20 years in Remote Areas had a fertility rate five times higher than those of the same age in the Major Cities, while those aged 20–24 years had a rate three times higher.

...Aboriginal and Torres Strait Islander fertility

Associated with the higher fertility in the Remote Areas of Australia is the relatively high proportion of Aboriginal and Torres Strait Islander people in the population. In 2009, 131,000 Aboriginal and Torres Strait Islander Australians were living in Remote Areas, making up 26% of all people living in remote parts of Australia. This contrasts with the Major Cities where Aboriginal and Torres Strait Islander people make up around 1% of the population.

In the three years from 2007 to 2009, the number of births registered to Aboriginal and Torres Strait Islander mothers averaged around 10,890 per year, producing a TFR of 2.5 babies per woman. The TFR was higher in Remote Areas (2.6 babies per woman) than in Major Cities (2.4 babies per woman).

Aboriginal and Torres Strait Islander age-specific fertility rates, by Remoteness Area — 2007-09 average



(a) Babies per 1,000 women.
(b) Includes Inner Regional and Outer Regional Areas.
(c) Includes Very Remote Areas.
(d) Includes births to mothers aged less than 15 years.
(e) Includes births to mothers aged 50 years and over.

Source: ABS Birth registrations collection

Across each level of Remoteness Area, the highest fertility rates were among 20–24 year old Aboriginal and Torres Strait Islander women. For women in this age group Aboriginal and Torres Strait Islander fertility rates were particularly high in Remote and Regional Areas, averaging 159 babies per 1,000 women in 2007–09, compared with 126 per 1,000 women in the Major Cities.

Aboriginal and Torres Strait Islander women in Remote Areas also had relatively high fertility among teenagers with an average 109 babies per 1,000 women aged 15–19 years in 2007–09. In contrast, the teenage fertility rate for Aboriginal and Torres Strait Islander women in Major Cities was 47% lower, at 58 babies per 1,000 women.

Statistical Divisions: highest and lowest fertility

Differences in fertility between areas with different levels of socioeconomic advantage, and between Major Cities and other areas is further highlighted when examining smaller geographic areas.

Of the 60 Statistical Divisions (SDs) in Australia, more than half (32) had TFRs of over 2.1 babies per woman (based on the three years of birth registrations from 2007–09). The highest TFRs were in particular SDs in the Remote and Regional Areas of Queensland, Tasmania and Western Australia. The SD of South West in Queensland had the highest overall TFR with 2.85 babies per woman, followed by North West SD (adjoining the Gulf of Carpentaria) which had a TFR of 2.79 babies per woman. The SD of Southern (encompassing the mid to south east portion of Tasmania) had a TFR of 2.64, while Upper Great Southern and Midlands (both to the east of Perth) had TFRs of 2.62 and 2.58.

Total fertility rates, selected Statistical Divisions — 2007-09 average

Statistical Division	*TFR*
Highest	
South West (Qld)	2.85
North West (Qld)	2.79
Southern (Tas.)	2.64
Upper Great Southern (W.A.)	2.62
Midlands (W.A.)	2.58
Lowest	
Canberra	1.75
Melbourne	1.77
Gold Coast	1.79
Sydney	1.79
Adelaide	1.82

Source: ABS Births, Australia, 2009 (cat. no. 3301.0)

In contrast to the areas with high fertility, most of the capital city SDs featured among the areas with the lowest TFRs. Canberra had the lowest TFR in 2007–09 with 1.75 babies per woman, followed by Melbourne (1.77), the Gold Coast (1.79), Sydney (1.79) and Adelaide (1.82). Within Major Cities, the inner city areas tended to be where the TFR was especially low. For example, the Statistical Local Areas of 'Sydney (C) - Inner' and 'Melbourne (C) - Inner' both had TFRs of 0.67 babies per woman in the three years to 2009.

Looking ahead

Although the total fertility rate has generally trended upwards for much of the last decade, it has nonetheless remained below the replacement level of 2.1 babies per woman since 1976. The significance of below replacement fertility is in its long-term effect on the age structure of the population.

ABS population projections show that if Australia had a steady TFR of 2.0 from 2021, (as well as moderate net overseas migration and medium life expectancy from birth) then around 21% of the population would be aged 65 years and over in 2051 (up from 13% in 2009). If the TFR were to fall to 1.6 babies per woman, and stay at that level throughout this century, then the proportion aged 65 years and over in 2051 would be 23% (assuming the same moderate level of migration and medium life expectancy). The relatively small difference in the proportions of older people between the two fertility scenarios reflects the inbuilt momentum associated with the below replacement fertility of the previous decades. As a result, moderate changes in fertility into the future can only have marginal impacts on the future age structure. For more information, see *Australian Social Trends, March 2009, Future population growth and ageing*.