Australian Fertility Trends: the Potential Effects of COVID 19

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Total Fertility Rates, English-Speaking Countries, 2013-2019
Total Fertility Rates, North and Western Europe 2013-2019
Total Fertility Rate, Australia, 1981-82 to 2018-19

Long period of continuous decline leading to 2004 Howard family support package

Baby boom period: economic, policy, and tempo effect

Recent plunge

TFR Australia
Age Specific Fertility Rates (per 1000), Ages 15-30
1991-92 to 2019, Australia (Postponement Ages)
Age Specific Fertility Rates (per 1000), Ages 31-40
1991-92 to 2019, Australia (Recuperation Ages)
Tempo effects

• The whole period from 1990 onwards has been subject to changes in the timing of births (tempo effects), especially first births.

• Tempo effects can have substantial impacts on the Total Fertility Rate making it near impossible to interpret period (cross-sectional) trends in fertility.

• Tempo effects consist of postponement of births at younger ages with making up (recuperation) of some but not all of these postponed births at older ages.

• Trends in fertility rates for birth cohorts of women are much smoother and easier to interpret.
Age By Which the Cumulated Fertility of the Birth Cohort Reached 1.0, Australia

- Early period of rapid increase
- Levelling due to boom years
- Rises again more slowly
Cumulated Cohort Fertility, Deviations From 1966-67 Birth Cohort (the Delay-Recuperation Curve) \((1966-67 = 0)\)

Theorem
As the extent of delay increases, the relative level of recuperation falls.
Indices of delay and recuperation for birth cohorts of women

**Index of Delay**
\[ \frac{C31(\text{Cohort } t)}{C31(\text{Cohort } 0)} \]

**Index of Recuperation**
\[ \frac{C41(\text{Cohort } t)}{C31(\text{Cohort } t)} \]

Where \( CA(\text{Cohort } t) = \text{Cumulated Cohort Fertility to Exact Age } A \) for Women Born in Year \( t \).

In this analysis, Cohort (0) is 1966-67.
Indices for Australia, Recorded and Projected
(Medium Projection, No COVID effect)
Additional Impact of COVID
### Past Impacts of Economic Downturns on TFR

<table>
<thead>
<tr>
<th>Year</th>
<th>Absolute Fall in TFR From the Previous Year</th>
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<tbody>
<tr>
<td>1929</td>
<td>0.13 births per woman</td>
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<tr>
<td>1930</td>
<td>0.05</td>
</tr>
<tr>
<td>1931</td>
<td>0.23</td>
</tr>
<tr>
<td>1932</td>
<td>0.17</td>
</tr>
<tr>
<td>1962</td>
<td>0.10</td>
</tr>
<tr>
<td>1963</td>
<td>0.10</td>
</tr>
<tr>
<td>1964</td>
<td>0.18</td>
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<tr>
<td>1965</td>
<td>0.19</td>
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<tr>
<td>1966</td>
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</tr>
<tr>
<td>1972</td>
<td>0.20</td>
</tr>
<tr>
<td>1973</td>
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<tr>
<td>1974</td>
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<tr>
<td>1976</td>
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<tr>
<td>1991</td>
<td>0.05</td>
</tr>
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<td>2009</td>
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</table>
Google keywords relating to conception and pregnancy: study of USA


• Our analysis suggests that between November 2020 and February 2021, monthly US births will drop sharply by approximately 15%. (This is equivalent to 0.25 births per woman coming off the Australian TFR).

• Women with less than a college education, as well as Black women, are predicted to have larger declines in fertility due to COVID-19.

• Quick Indicator: Medicare statistics on first antenatal visits?
Two COVID Scenarios

• In the ‘likely COVID’ scenario, the total fertility rate is assumed to be 0.15 babies per woman lower in 2021, and around 80 per cent of the babies that are deferred by COVID are assumed to be recuperated by 2032.

• In the ‘severe COVID’ scenario, the total fertility rate is assumed to be 0.25 babies per woman lower in 2021, and around 70 per cent of the babies that are deferred are assumed to be recuperated by 2032.

• Deferrals of births are assumed to take place at ages 21 to 40 and that fertility rates at ages 15–20 and at ages 41 and over are not affected by COVID-19. The logic is that decision-making about births at young and old ages is ‘non-standard’.

• Based on the distributions by age of first and second births (in relative terms), two-thirds of the fall in total fertility rate in 2021 (the first full year of impact) is made at ages 21-30 and one third at ages 31-40.

• COVID-19 effects on deferral of births are assumed to continue at increasingly lower levels for the years 2022 to 2025 (Likely COVID) and 2022 to 2026 (Severe COVID).
Impacts of COVID-19 on Projections of Australia’s Total Fertility Rates (per 1000)