The COVID-19 outbreak further depresses the fertility of China: a preliminary analysis of Newborn Population Changes in 2020

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Agenda

• The trends of number of births and fertility before the epidemic
• The reasons why the outbreak of COVID-19 further depresses the fertility of China
• The changes of newborn population in 2020
  ✓ the disruption of regular birth seasonality
  ✓ estimated relative annual and monthly changes of births
  ✓ parity, regional and age group differential
• The proposed prospects of future fertility in China
Part 1
The trends of number of births and fertility before the epidemic
China has long been plagued by its low fertility before the outbreak

- China's newborn population reached 17.86 million in 2016, the highest since 2000, and then embarked on a downward trend.

Source: National Bureau of Statistics, China;
China's TFR followed the same downward trend
Part2

The COVID-19 outbreak drag down China’s newborn population and fertility through multiple influencing factors
Less cases and highly regional concentrated

• sparked fears of contracting the virus, psychological anxiety over long-time lockdown and livelihood concerns.

Confirmed cases: 103,731  
Globally confirmed cases: 154,815,600

Deaths: 4,858  
Globally Deaths: 3, 236,104

Updated 3:39pm CEST, 6 May 2021, https://covid19.who.int/region/wpro/country/cn
Marriage further delayed and much less people get into marriage in 2020 than previous year.

Source: author’s calculation based on the data released by the Ministry of Civil Affairs, China
The epidemic leads to temporary lower occupation expectations and increased urban unemployment rate.

Source: the National Bureau of Statistics, China

Source: the People’s Bank of China
• The epidemic leads to lower income expectations and increase of uncertainty, which lead to postponement of childbearing.
Women shoulder more domestic responsibility and become more vulnerable regarding to occupation and income raising.

- Women are getting harder to balance work and family after the pandemic.
  - More than half surveyed women reported unpaid labor in the family increased during the lockdown after the pandemic (Wang, Z. and Luo H, 2020)

- Women are more negatively affected by the epidemic than men regarding to their jobs. (Zhang & Zhou, 2021)

- Households and individual income declined after the outbreak; (Wang, Z. and Luo H, 2020)
  - 70.7% of female respondents reported a decreased family income;
  - 45.9% of female respondents had a declined individual income.
Part 3

The changes of newborn population in 2020

(Seasonality, annual, monthly and regional changes, parity and age differential)
• As people have less births in end of the year, The regular birth seasonality in China was disrupted in 2020.

• In 2020, much less births occurred in November & December, which used to be among the peak months of childbearing, with a 2% decline.

Source: author’s calculation based on population dynamic monitoring data of China.
In 2020, the decline of 1st birth occurred earlier and stronger.

Source: authors’ calculation based on population dynamic monitoring data of China.
The speed of annual birth decline much fastened in 2020, compared with 2018 and 2019.

The estimated relative change in the number of annual births compared with year of 2015

(2015 as the base of “0”)

Source: authors' calculation based on data from National Bureau of Statistics and population dynamic monitoring data of China.
The number of 1st birth endured a continuous decline in past 5 years, with a sharper drop in 2020.

The number of 2nd birth only started to decline in 2020 with a drop at 10% compared with 2015.

<table>
<thead>
<tr>
<th>Year</th>
<th>1st Birth Change</th>
<th>2nd Birth Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>-1.1</td>
<td>21.6</td>
</tr>
<tr>
<td>2017</td>
<td>-8.0</td>
<td>37.7</td>
</tr>
<tr>
<td>2018</td>
<td>-17.2</td>
<td>23.0</td>
</tr>
<tr>
<td>2019</td>
<td>-19.7</td>
<td>14.8</td>
</tr>
<tr>
<td>2020</td>
<td>-34.2</td>
<td>-9.4</td>
</tr>
</tbody>
</table>

Source: authors' calculation based on data from National Bureau of Statistics and population dynamic monitoring data of China.
The relative monthly birth change in the number of births compared with the same month in year of 2015, (2015 as the base of “0”)

- The monthly birth decline is moderate in 2018-2019, with a decrease around 10-15% compared with the level in 2015.

- The monthly birth drastically declined with 20% in 2020 compared with the level in 2015, especially in Nov. and Dec. with over 40% drop.

Source: authors' calculation based on population dynamic monitoring data of China.
The relative monthly birth change in the number of 1st and 2nd births compared with the same month in year of 2015 (2015 as the base of 0, %)

Source: authors’ calculation based on population dynamic monitoring data of China.
The birth decline of people aged below 30 is the key driver of newborn population shrinkage in recent years.

The estimated relative annual birth changes by age group in China, 2016-2020 compared with that of the year of 2015 (2015 as the base of 0, %)

Source: authors' calculation based on population dynamic monitoring data of China.
The estimated relative annual birth changes by age group and parity in China, 2016-2020 compared with that of the year of 2015 (2015 as the base of 0, %)

The recent birth decline for 1st birth and 2nd birth both were mainly dominated by less childbearing of people aged below 30.
Only in 2016, four selected regions received a universal birth growth at 6-17%.

The birth population of 2018-2020 were far less than that of 2015, especially in 2020, which was about 30% less than that of 2015.
The estimated relative monthly birth changes for selected regions in China, 2016-2020 compared with that of the year of 2015 (2015 as the base of 0, %)

Source: authors' calculation based on population dynamic monitoring data of China.

Key findings

• The outbreak of COVID-19 further depressed the number of newborn population and fertility of China in 2020
  ✓ The number of 1st birth endured a continuous decline in past 5 years, with a much sharper drop in 2020.
  ✓ The number of 2nd birth only started to decline in 2020 compared with 2015.

• Much less births occurred in November & December in 2020.
  ✓ the monthly birth drastically declined with more than 20% compared with the level in 2015.
  ✓ over 40% drop in Nov. and Dec.

• The less childbearing of people aged below 30 is the key driver of recent birth shrinkage.

• The newborn population are still under declining in early 2021.
  • Until Jan. and Feb. 2021, no welcomed sign of birth recovery in regions under studied yet.
Part 4

The Prospects of Fertility in China for a Short and Medium Term
The difficulties in evaluating the impact of COVID-19 on China's newborn population

- **Different starting point:**
  The impact of COVID-19 on fertility will be overestimated if the long-time low fertility context ignored.

- **Many uncertainties with enduring COVID-19**
  Further economic downturn and loss of jobs create climate of great uncertainty, which depresses family projects.

- **Key driving factors influencing future partnership establishment and parenthood in China**
  The intensify of marriage and childbearing postponement;
  the plunging willingness to have children,
  the obvious gap in willingness of having children across generations;

- **Timely birth data collection and strengthened monitoring and dynamic evaluation in highly demand for Estimation.**
Marriage postponement is getting intensified in China

- The ideal age for the partnership establishment has been delayed across generations in China:
  - The 1990s cohort: 29.9,
  - The 1980s cohort: 28.1,
  - The 1970s cohort: 26.5,
  - The 1960s cohort: 26.2
  
  Source: Author's calculation based on the data from the 2019 National Family Dynamics Survey, China.

- The percentages of never married and cohabiting young people are soaring.
  - The percentage of never married women aged 20-34 has increased from 25% in 2006 to 33% in 2016.
  - In 2016, the percentage of married women in the peak reproductive age group (20-28) dropped more than 10% from 2006.

Source: Author's calculation based on the data from the 2017 National Fertility Survey, China.
The growth of mean age of first childbearing accelerated in China.

MAC1 increased with an annual increase about 0.26, mirrors the significantly first birth delay.

Source: Author's calculation based on the data from the 2017 National Fertility Survey, China.

The fertility intention has been long below the replacement level and with enlarging gap across generations.

Source: Author's calculation based on the data from the 2019 National Family Dynamics Survey, China.
The continuous decline of first marriage registration has a strong correlation with the drop of 1st birth.

Source: the Ministry of Civil Affairs and population dynamic monitoring data of China.
Proposed prospects of newborn population and fertility in China in 2020 and 2021

• To reach a recorded low number of birth in 2020:
  ✓ less than 13 million?

• Much lower in 2021?
  ✓ 1st birth is going to continue to decline as
    ➢ 45% drop of marriage registration in 1st quarter in 2020
    ➢ the projected 1st marriage registration dropped with 1.5 Million in 2020
    ➢ first marriage registration likely continue to decline in 2021
  ✓ the number of second birth continue to drop?
• China's fertility may fluctuate around 1.4 during the 14th Five-year Plan period (2020-2025).

• Fluctuate around 1.5 with a medium-term trend

Source: Projection by the Data Laboratory of China Population and Development Research Center, Version in November 2020
• Partial recovery gradually?

- **Strong determination to promote the Realization of Moderate Fertility**
  - has been included in the national 14th Five-year Plan and the outlined long-term goals
  - *More social and family support policy will be stipulated*
  - *Childcare system under construction* to support parent to balance work and family

- **Less psychological fears and social anxiety** among childbearing age groups in China

- **Much better economic situation and significantly lower Unemployment**
  - as various policy measures instituted to ensure employment and livelihood since 2020.
Thank you! ➔ also to the research group at the CPDRC!

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- Dr. Ying’an Wang

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