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What is the likely impact of Covid-19 on fertility in the UK?

66 POLICY BRIEFING JAN 2022

Predicting future numbers of births is important for planning, for example, for maternity services, schools, and financial commitments through the welfare system. The Covid-19 pandemic has made it much harder to predict human behaviour, making it difficult to accurately estimate how the pandemic will affect future fertility rates.

This policy briefing examines the most recent data on live births to determine what the impact of Covid-19 has been on fertility in the countries of the UK, and then summarises findings from some scenario-based projections of fertility between 2021 and 2023.

Prior to the Covid-19 pandemic, birth rates in the UK had already declined to historically low levels. Using scenarios grounded in historical evidence, the majority of the outcomes we present in this policy briefing also predict a future short-term decline in fertility rates. This policy briefing provides an overview of the key findings of a Population, Space and Place article available at https://doi.org/10.1002/psp.2546

Key Points:

- *The most recent data suggest a short-term decline in births in England and Wales, and Scotland, and little change in Northern Ireland, following the first Covid-19 lockdown.*
- *The influence of the Covid-19 pandemic on fertility is likely to vary according to a woman's age and whether she already has children, making predicting future childbearing complex.*
- *Three out of four of our projection scenarios suggest that fertility will decline over the next three years, especially for younger women.*
- *The overall effect of Covid-19 on UK fertility may be small in the longer run, due to counteracting effects among different population sub groups, and the fact that many births that are postponed can be caught up in later years.*

UKRI Economic and Social Research Council

Introduction

Prior to the Covid-19 pandemic, birth rates in the UK had already declined to historically low levels. This policy brief examines the most recent data on live births to determine what the impact of Covid-19 has been on fertility in the countries of the UK, and then summarises findings from some scenario-based projections of fertility between 2021 and 2023.

The study

We use fertility data from the UK national statistical offices to examine the most recent evidence on monthly births to make projections about fertility levels from 2021 to 2023 in the countries of the UK. We use historical evidence from Northern and Western Europe to inform our projections of the potential size of baby booms and busts. Based on this data, we specify four different scenarios for what might happen to the UK total fertility rate (TFR). The TFR of a population is the average number of children that would be born to a woman over her reproductive lifetime, if she were to experience the current age-specific fertility rates throughout her fertile years.

What do the observed data on the number of births in 2020 and 2021 suggest?

The earliest we would have expected Covid-19 to affect people's decisions to become pregnant would have been January or February 2020, influencing births no earlier than November or December 2020. The introduction of the first UK lockdown in March 2020 would have affected births from 2021 or later.

Preliminary data on monthly births show different trends for each of the UK countries (Figure 1). Note that the time series of published birth counts for England and Wales is shorter than for other countries. There is no evidence to date of a large, sustained decrease or increase in fertility. Monthly births in England and Wales were indeed much lower in November and December 2020 compared with 2019, but this was already the trend throughout earlier months in 2020, prior to Covid-19. Monthly births continued to be lower in January and February of 2021, compared with 2019 and 2020, but rebounded beyond 2020 levels back up to 2019 levels in March 2021.

There is a similar pattern in Scotland, with births in November and December of 2020 down from 2019 levels, like the earlier pre-Covid-19 months of 2020, followed by lower fertility in January and February 2021, and then a rebound back to pre-Covid-19 2020 levels from March onwards. In Northern Ireland, November and December fertility levels were significantly lower in 2020 compared with 2019, but for 2021 monthly births have closely matched pre-Covid-19 2020 levels. In the most recent months, both countries have seen births return to the higher levels of 2019. The rebounds in births to 2019 and early 2020 levels may be a recovery of fertility delayed during the first lockdown or a real fertility increase/stall in fertility decline.

In coming months, we may start to see the effect of the second UK lockdown (December 2020-March 2021) on the number of births.

What are the mechanisms through which the pandemic might influence fertility?

Covid-19 may influence fertility in many ways, depending on a woman's age and whether she already has children, making predicting future fertility complex (Table 1). For example, a lack of socialising due to national lockdowns and increased uncertainties caused by the economic fallout of the pandemic may decrease the likelihood of childbearing, while increased time spent together among established couples may increase fertility.

Historical evidence of fertility rates following the 2008 recession from other Northern and Western European countries suggests that it is young people who are most likely to experience a decline in childbearing in response to shocks and contemporary events. Younger women have more opportunity to delay their

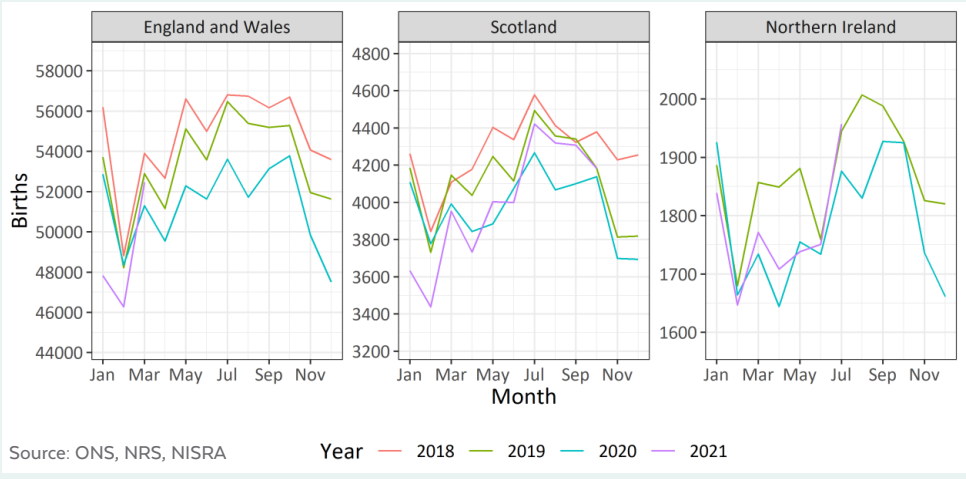

Figure 1. Total number of births by month of occurrence, 2018-2021

Mechanism	Age group and presence of children					
	15-19		20-29		30-44	
	Childless	Parents	Childless	Parents	Childless	Parents
Perceived / actual reduced access to contraception and abortion services	↑↑	↑↑	↑	↑	↑	↑
Less sexual intercourse as fewer opportunities to socialise outside the home	↓↓	↓↓	↓↓	↓	↓	↓
Increased inter-generational co-residence, less time alone for adults	↓↓	↓	↓↓	↓	↓	↓
Difficulties in finding and moving to a new home	↓↓	↓↓	↓↓	↓↓	↓	↓
More opportunity for sexual intercourse among those who moved in together at start of lockdown	↑	↑↑	↑↑	↑↑	↑↑	↑↑
Concerns regarding health risks of pregnancy / access for male partners to hospital	↓	↓	↓↓	↓↓	↓↓	↓↓
Postponed marriages			↓↓	↓↓	↓↓	↓
Isolation from social support, informal childcare less available	↓	↓	↓	↓	↓	↓
Increased economic uncertainty – job loss, reductions in working hours: Difficulty in affording direct costs of children	↓↓	↓↓	↓↓	↓↓	↓	↓
Increased economic uncertainty – job loss, reductions in working hours: Reduced opportunity costs of children		↑	↑	↑↑	↑	↑↑
Working from home could encourage re-thinking of work life balance and less postponement			↑↑	↑↑	↑↑	↑↑
More time spent with partner in home	↑	↑	↑	↑	↑	↑
Stress of childcare / schooling of existing child may deter from having additional children		↓		↓↓		↓↓
Wealthier families saving more for costs of children			↑	↑	↑	↑
Reduced access to IVF / other fertility treatments					↓↓	↓

Note: Green up arrows predict fertility increase, red down arrows indicate fertility decrease. The number of arrows shows the predicted strength of relationship, with more arrows meaning a stronger association. Blank indicates no effect.

Table 1: Hypothesized effects of Covid-19 on having children

childbearing in response to uncertainties because they also have more time to potentially recuperate any delayed childbearing.

Historical evidence of fertility rates in England and Wales following the "pill scare" in the late 1970s[1] suggests that it is older people who are most likely to experience a rise in childbearing. Among slightly older women, and those who already have a child, the pandemic could increase fertility, for example through changes in work-life balance caused by Covid-19.

1 Changes in contraceptive pill use during this time period were followed by short-term fertility changes.

The decision to have children is often made sequentially, meaning Covid-19 may influence childless women differently than mothers. Parents of children have faced particular challenges during the pandemic, especially when they have had to take on childcare duties due to their children not being able to attend nurseries and schools.

The scenario projections

We use fertility data from the UK national statistical offices to make projections about fertility levels from 2021 to 2023 in the countries of the UK. First, we propose two alternative baseline trends, stable or declining, which describe what might have happened to fertility levels in the absence of the pandemic. Then we use the historical evidence from the 2008 recession and the pill scare to inform assumptions about the size of a potential baby boom or bust. We combine the baseline trends with these assumptions and therefore specify four different scenarios for what might happen to UK fertility levels (Table 2).

Main findings

We summarise our findings in terms of the total fertility rate (TFR). Three out of four scenarios predict that the TFR will decrease further (Figure 2).

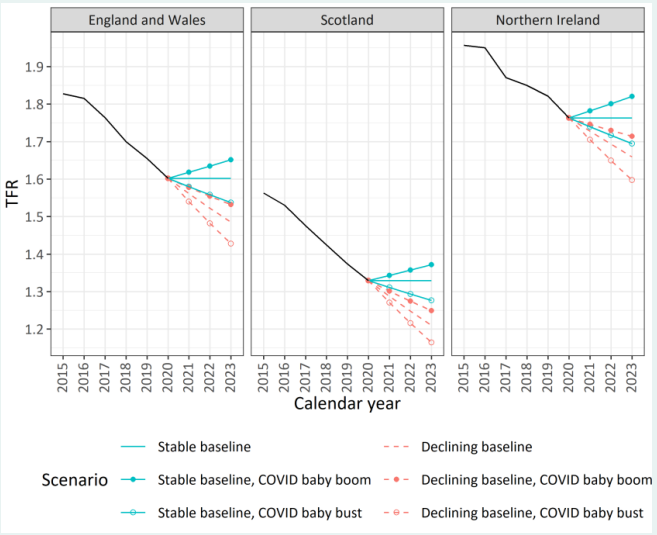

Figure 2. Projected total fertility rates, 2021-2023

	Baseline trend	Impact of Covid-19 on fertility level
Scenario 1	Stable, same as 2020	Baby boom – 2% increase for 30-39 year olds
Scenario 2	Stable, same as 2020	Baby bust – 3-5% decrease for <30 year olds
Scenario 3	Declining	Baby boom – 2% increase for 30-39 year olds
Scenario 4	Declining	Baby bust – 3-5% decrease for <30 year olds

Table 2. Projected scenarios of fertility change

Regardless of the influence of Covid-19, the baseline trend we use has a very important effect on projected fertility levels; there is a large difference between the projections depending on whether we use stable or declining fertility trends as our baseline. This is shown by the solid and dashed lines respectively in Figure 2. The projections diverge further when we compare the different assumptions for the effect of pandemic-related baby booms and busts.

Only Scenario 1 predicts an increase: The TFR climbs from 1.60 births per woman in 2020 to 1.65 in 2023 in England and Wales and is projected to increase to 1.37 births per woman in Scotland in 2023 and 1.82 births per woman in Northern Ireland.

Scenarios 2 and 3 predict moderate declines in fertility while Scenario 4 suggests that the TFR could reach a low of 1.43 in England and Wales, 1.16 in Scotland, and 1.60 in Northern Ireland.

Policy implications

Predicting future numbers of births is important for planning, e.g. for maternity services, schools, and financial commitments through the welfare system.

Due to high uncertainty in predicting human behaviour after a global pandemic, it is difficult to make accurate estimates of the size of the effect of Covid-19 on future fertility rates.

Instead, we show a wide range of possible scenarios grounded in historical evidence that can help us understand how individual fertility decisions across ages and parities have a population-level effect. However, the majority of scenarios show a decline in fertility.

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