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Comparing the Millennium and Pandemic Fertility Upticks

Contrasts of Geography, Age of Mother and Birth Order

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Abstract: The millennium fertility uptick of 2000 was seen in 29 out of 39 low fertility countries; those countries saw an average increase in TFR of 0.04. The pandemic uptick of 2021 showed a similar average TFR uptick of 0.04 across 31 countries. Those superficial similarities conceal considerable differences. The aim of this paper is to explore those differences at both a regional level and by individual characteristics of age of mother and birth order. Across Asia the millennium uptick was particularly strong, with Taiwan and Singapore each seeing a leap of 8 percent in births over the previous year. The "auspicious" Year of the Dragon was a likely driver of this boost. However, having a "millennium baby" also appealed to women across much of Europe. The USA posted an increase of almost 100,000 births; yet most other Anglophone countries saw a fall. The regional differences in the pandemic uptick were also stark. Across the Nordic, Central European and Anglophone countries, the uptick was universal; an increase in births of over 3 percent in 2021 compared to 2020 was seen in 12 countries, which marked a sharp reversal from six consecutive years of declining births. The majority of countries in Southern and Eastern Europe also saw fertility rates rise, but these were generally modest. In Asia only Singapore experienced a slight bounce. In addition to the regional differences, the contrasts by parity and age of mother are illuminating. The millennium uptick was driven primarily by first births and was spread across all age groups. By contrast, in the pandemic uptick, it was second and higher order births, particularly to older mothers, which boosted the fertility rate, with first births concurrently being subdued. This observation gives policy-makers an indication of potential measures that can temporarily boost second and higher order births; yet any panacea for boosting first order births remains elusive: new millennia are rare and even Dragon years seem to be losing their attraction for childbearing in Asia.

Keywords: TFR trends · Millennium · Pandemic · Fertility by birth order · Media narratives

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1 Introduction

Following a decade of declining fertility, the year 2000 saw a widespread jump in births, with an average boost of over 3 percent in births in 29 out of 39 low fertility countries, which translates into a 0.04 rise in TFR. In 2021 there was a similar scenario, again with a sharp uptick of 0.04 in TFR in 31 out of that same set of 39 countries, following an extended period of decline.

The aim of this paper is to dissect the fertility upticks of 2000 and 2021, describing their different contexts – including the media narratives – and then comparing and contrasting the countries, age of mothers and birth orders impacted. However, we start by defining a fertility uptick and how these short, sharp blips contrast with longer-term trends. We then describe our data sources (primarily the Human Fertility database supplemented with data sets published by national statistical offices). We conclude with how our results can be interpreted by both demographers and policy-makers. The reason why single-year upticks are of particular interest is that, unlike multi-year trends, the cause of the uptick can potentially be pinpointed. This is the motivation for analysing the two most recent ones.

2 Definition of an uptick

What do we mean by a fertility uptick? How do we define an uptick in contrast to the start or continuation of an upward trend? In the context of this paper, we use the combination of the following three attributes to determine when upticks have occurred since 1998:

1. A year-on-year increase in TFR set against a stable or declining trend
2. This is followed the next year by a drop in TFR
3. The uptick should be widespread, affecting a clear majority of countries.

Table A1 (in Appendix) provides the data from which we determined that 2000 and 2021 were well-defined uptick years. In 2000, 29 out of 39 countries (74 percent) in the Human Fertility Database (HFD) saw a rise in their TFR compared to 1999, followed by a widespread fall in 2001. Of the countries that experienced an uptick, the average increase in TFR was 0.043. In 2021, a year after the COVID-19 pandemic spread worldwide, there was a sharp uptick in 31 out of 39 countries (79 percent) and, of these countries, the average increase in TFR was 0.042. This was followed by a near-universal fall in 2022. Not every country analysed followed precisely the decline-rise-decline definition of a fertility uptick, but the overall pattern across all 39 countries was clear.

Should the years 2010, 2012 or 2014 also be considered as "uptick years"? We think not, because this was the period when country TFRs were plateauing after nearly a decade of rises and before the subsequent period of widespread falls. Even if we look at the data back to 1970, no other year in that time frame stands out as

a one-year upturn from the overall period trend: the years 2000 and 2021 were, indeed, special years for childbearing.

3 Context of the fertility upticks

The millennium uptick was preceded by the post-Baby Boom period of declining and then stagnating fertility rates from the 1970s onwards, which touched all low fertility countries and regions. The year 2000 was close to the nadir, with the year of minimum TFR commonly occurring in 2001 or 2002. It is in this context that the sharp upsurge in births, lasting just a single year, was noteworthy (Fig. 1).

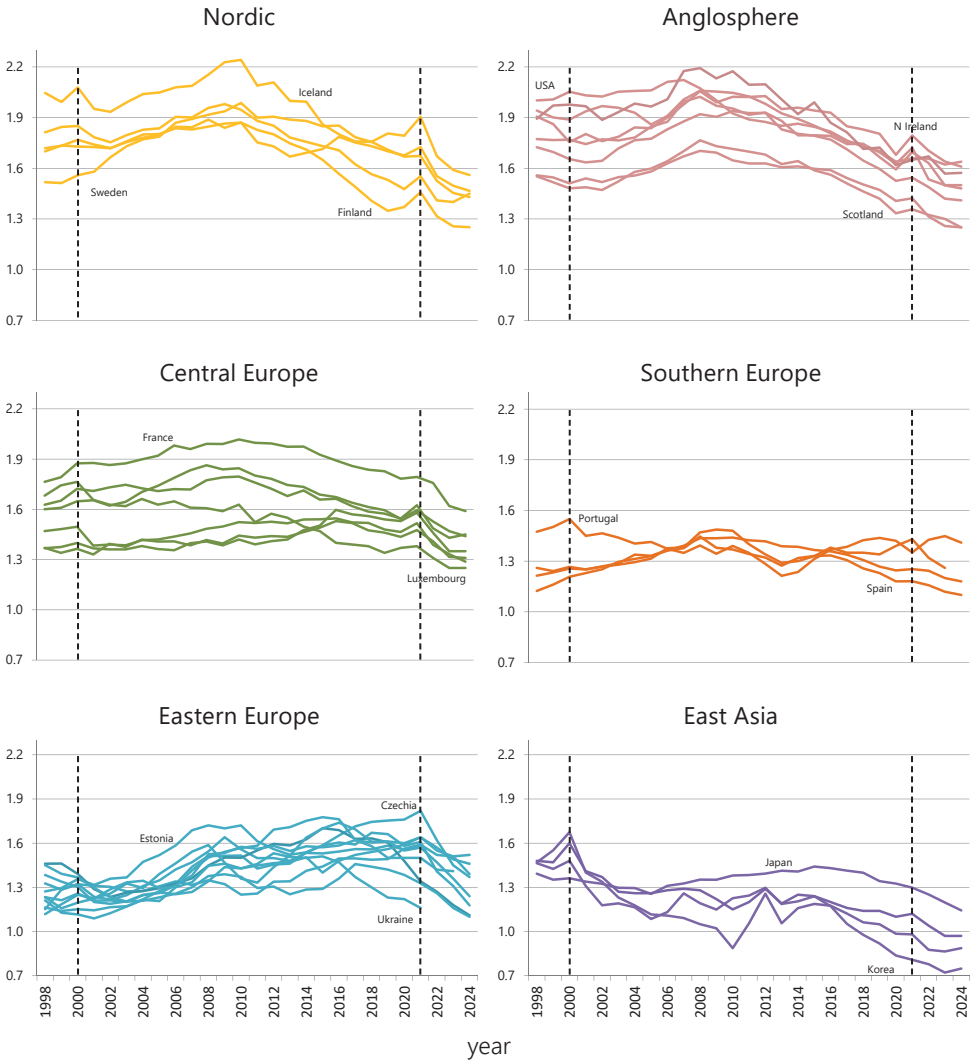
After fertility rates had bottomed out, there was an unanticipated, but widespread, mini Baby Boom, which lasted up to a decade (*Bongaarts/Sobotka* 2012; *Burkimsher* 2015), followed by a plateau of fluctuating levels over the period 2009-2014. Then followed a decade-long decline, most pronounced in the Nordic, Anglophone, Central European and Asian countries (*Hellstrand et al.* 2021; *Chen et al.* 2020) (Table A1 in Appendix). Not all countries, however, followed this pattern: Portugal, for instance, saw declining fertility rates from 2000 through to 2013 before a rebound. The Eastern European countries also experienced the same mini Baby Boom of 2002-2010, but the subsequent slump was short-lived and was then followed by a modest rebound of TFRs in the period 2012-2020. Following the pandemic uptick, the decline in TFRs was sharp and almost universal.

4 Media narratives and demographic literature

This section touches on some of the expectations and potential impact of the media narrative on both fertility upticks. The media consumed, especially by young people of childbearing age, can frame their fertility choices both positively and negatively (*Hadadian et al*. 2025; *Taqwim et al.* 2026).

First, the millennium uptick: was it forecast or even incentivised? Yorkshire Television ran a series, Birthrace 2000, which followed couples aiming to conceive a baby to be born on the first day of the new millennium and their lives thereafter. In an article in the Guardian on this topic, *Kingston* (1998) said "There is expected to be a 1.5 percent increase in the birth-rate in the year 2000." However, as the year 2000 approached, there was also fear-mongering about the "Y2K bug" in the English-language media (*Wikipedia*). The *Deseret News* (1999) in December 1999 reflected this uncertainty with an article entitled "Y2K baby boom is a bust worldwide with 2 exceptions: Sydney and Beijing". In the event, the only English-speaking country to experience a significant uptick was the USA, which saw a TFR bounce of +0.04, which was dubbed a "Baby Boomlet" by the New York Times (*Steinhauer* 2000). The US National Vital Statistics Report (*Martin et al.* 2002a) reported that fertility rates jumped by 3 percent across women of all racial subgroups and the TFR had moved above "replacement level" for the first time in 30 years. The same report for the following year indicated a subsequent fall of 1 percent (*Martin et al.* 2002b).

Fig. 1: TFR trends 1998-2024



Source: See subsection Data

In Taiwan, Singapore and other Chinese heritage countries, a tradition developed from 1976 for couples to time a birth to an "auspicious year", ideally a Year of the Dragon. Following the Chinese zodiac, these recur every 12 years, i.e. in 1976, 1988, 2000, 2012 and 2024 (*Goodkind* 1991). The upticks in 2000 in Taiwan and Singapore were the largest of all the countries in our study; in Taiwan the subsequent one in 2012 was even larger (Fig. 1). However, according to the Taiwan News, birth statistics for 2024 suggest that Dragon Year babies have now fallen completely out of fashion (*Everington* 2025). A parallel failure to lift the fertility rate in Singapore in 2024 was

also reported in the Straits Times (*Tan* 2025). Iceland had the second largest uptick in 2000 and this has been attributed to a raft of family-supportive measures introduced in 1998-99 (*Eydal/Ólafsson* 2008).

The pandemic uptick had its own media narrative. As the COVID-19 pandemic spread and governments implemented a series of restrictive measures – including lockdowns, furlough schemes, and mandates for remote work – speculation emerged regarding its demographic consequences. On 30 March 2020, for example, the Daily Mail (a right-leaning British tabloid) predicted a surge in births in 2021, with the headline: "Coronavirus baby boom: Relationship expert predicts a surge in births in Britain in 2021 as quarantined couples seek intimacy during pandemic" (*Robinson* 2020). Demographers were sceptical. Drawing on evidence from earlier crises, they anticipated that the uncertainty created by the pandemic would lead to fewer births. As *Berrington et al*. (2021: 2) put it, "...we might expect that the COVID-19 pandemic will depress fertility…". Similar premature forecasts were also published by others (*Aassve et al*. 2020; *Wilde et al*. 2020).

After instituting monthly tracking of births in the early months of the pandemic, *Sobotka et al*. (2024) were able to see the evolving trends across 38 countries. In most countries there was an initial steep drop in conceptions in the early days of the pandemic, manifest in a trough of births in January 2021. But this was followed by a substantial rebound in March 2021 and again in autumn of the same year. Subsequent research has analysed subgroup variation in individual national contexts including the United States (*Bailey et al*. 2022); Switzerland (*Rausa* 2023); Sweden (*Ohlsson-Wijk/Andersson* 2025); Norway (*Lappegård et al*. 2024) and Iceland (*Arnalds et al*. 2025). Monthly birth registration data from 18 low- and middle-income countries shows a diversity of outcomes, often resembling the roller-coaster scenario described by *Sobotka et al*. (2024), *Kim et al*. (2024). These studies consistently show that fertility increases were concentrated amongst women who were already mothers, and who tended to be better educated and financially secure. They were able to take advantage of the "pause" in normal work-life juggling to have another child. This is the mirror image of *Wilde et al.'s* (2020: 4) prediction for the United States, that "Women with less than a college education, as well as Black or African American women, are predicted to have larger declines in fertility due to COVID-19."

The next section presents the data available, followed by an analysis of three aspects of the upticks: first, which countries saw upturns and, perhaps more importantly, which didn't; second, whether it was younger or older women whose fertility increased during these episodes; and third, the birth orders which drove the millennium and pandemic upticks, contrasting the two.

5 Data

The primary data source we use is the Human Fertility Database, where possible using the comprehensive tables by country. For the most recent years annual TFRs tabulated in the Short-Term Fertility Fluctuations (STFF) subsection of the HFD were

included: these are provisional values but were used so that the post-pandemic trends can be estimated. We also looked at the summary tables in the HFD going back to 1970, but no other years, apart from 2000 and 2021, stood out as being "uptick years" impacting a clear majority of countries. Therefore, we focussed on the period 1998-2024, i.e. from just before the millennium uptick through to three years after the pandemic uptick.

A few countries have data in the STFF set but do not have comprehensive country data in the HFD. For these we sought publicly available national data sets and downloaded these for Australia, New Zealand, South Korea and Singapore. These four data sets included age-specific fertility rates and so could be included in our analysis of fertility by age of mother; however, they do not have data by birth order. As Chile and Israel do not clearly slot into any of our "regions", we did not include them in our analyses; nor did we include Belarus, as it has no data from 2018 onwards. With these provisos, a total of 39 countries are included in our examination of regional variations (Table A1 in Appendix). A list of links to the data sources is given at the end of this article.

For more detailed analysis of the change in fertility rate by age of mother, we have data for 32 countries for the millennium and 29 for the pandemic (data for 2021 for Hungary, Lithuania and Slovenia have not yet been published in the HFD but were available for the millennium). For the birth order analysis we have data on 27 countries for 1999-2000 and 25 countries for 2020-2021. Fertility data by birth order are unavailable in the HFD for:

- Korea prior to 2000
- Italy prior to 2004
- England & Wales and Scotland prior to 2013
- France for any year

6 Regional variations in the millennium and pandemic upticks

Figures 2a and 2b summarise the up- or downturns for each country, colour-coded by region. Across all the central European countries, upticks were seen in both 2000 and 2021. However, in other regions, there are marked contrasts regarding which countries experienced the millennium uptick compared to the pandemic uptick, and this geographical variation may explain why the latter has received much more academic study than the former. Notably, apart from the USA and, marginally, Australia and New Zealand, all the Anglophone countries experienced not an uptick but a slump in births in the year 2000. In sharp contrast, they universally saw spikes in 2021. The East Asian countries show contrasting patterns for the two upturns, but in the opposite direction: upticks for the millennium – Taiwan's and Singapore's being uniquely large because of the Dragon year boost – but downturns in 2021 (except for a slight uptick in Singapore). The Nordic countries, apart from Finland, had an uptick in 2000, and all showed a substantial pandemic uptick. The millennium uptick was seen across the Southern European countries but there was more diversity in the

Fig. 2a: Millennium uptick: Change in TFR 1999-2000 by country

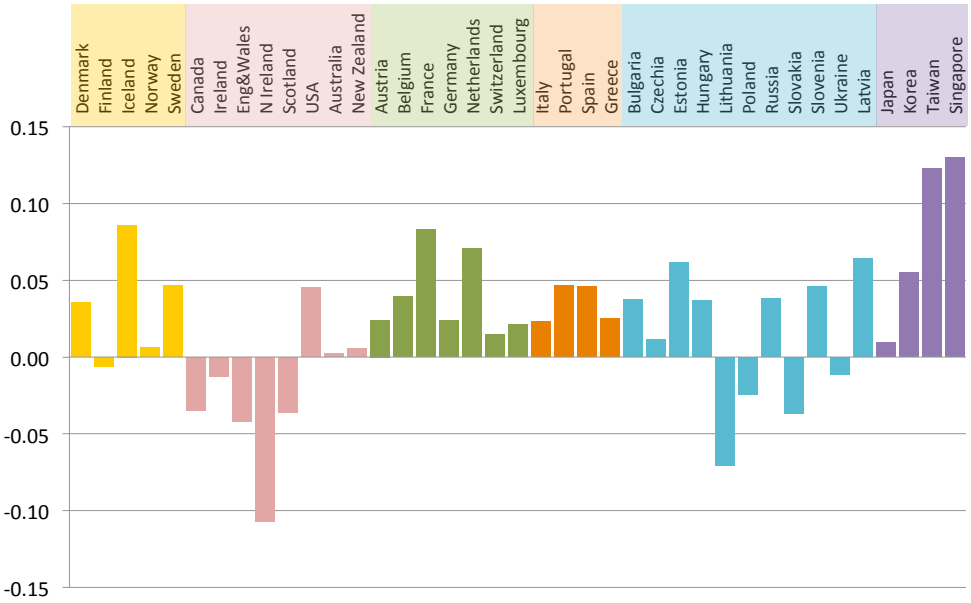
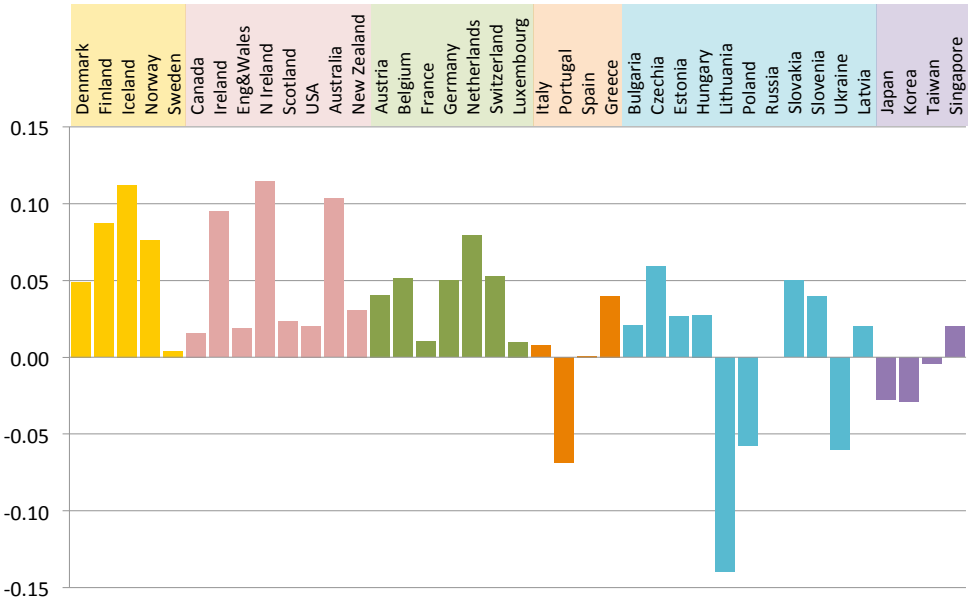


Fig. 2b: Pandemic uptick: Change in TFR 2020-2021 by country



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pandemic, with Portugal showing a steep fall in TFR. Across the Eastern European countries, there was no overall regional pattern in either 2000 or 2021. Lithuania, Poland and Ukraine seem to buck the trend of most other countries, experiencing downturns in both 2000 and 2021.

7 Upticks decomposed by age of mothers

For decades, age at first birth (and subsequent births) has been trending later across the low fertility countries. The proportion of births to women aged 30 and above has been increasing across all countries, although the balance of births between women under 30 and over 30 varies widely from country to country. In Figures 3a and 3b we illustrate the contribution to each uptick (or downtick) of older and younger women by country. The darker section of each bar shows the year-on-year change in fertility rates summed for women aged 30 and above; the lighter section shows the change for younger women. If there had been no change in the TFR from one year to the next – and, at the same time, there had been a steady postponement to later births – then all bars above the zero line would be dark whilst bars of equal size below the zero line would be pale. For an uptick combined with postponement we would expect the dark portion of the bars to be bigger than the lighter portion. Figure 3a, showing the pattern for the millennium uptick, essentially exhibits this for most countries which had upticks (the darker shaded portion is bigger than the lighter portion for Denmark, Sweden, USA, Austria, Belgium, Italy, Portugal, Spain, Bulgaria, Estonia, Hungary, Slovenia and Korea). For the following countries, the rise in late fertility counteracted a decline in early fertility to produce an overall uptick: Norway, Switzerland, Czechia, Australia, New Zealand and Japan. However, for four countries with particularly strong upticks – Iceland, France, the Netherlands and Taiwan – the uptick was spread equally between older and younger women. In countries that experienced downturns – Finland, Lithuania, Poland and the Anglophone countries – it was the drop in fertility rate of young women that drove the downturn.

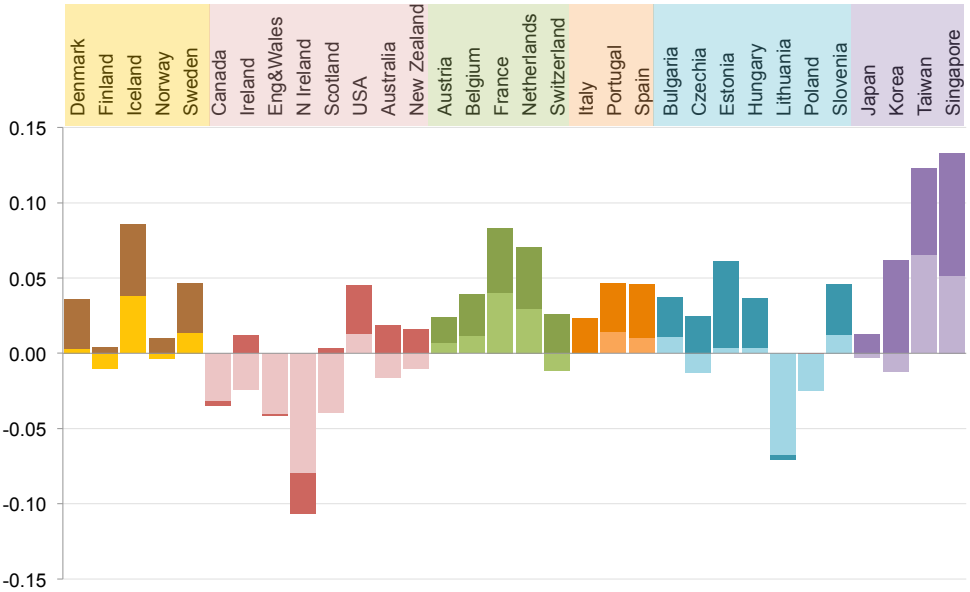
During the pandemic uptick, the pattern of a sharp rise in later births was even more pronounced (Fig. 3b). In fact, in 13 countries which had a net uptick, the fertility of women younger than 30 actually declined, and in the 5 countries with net downturns it was younger women who saw their fertility decline much more than older women. Only in Iceland was the uptick experienced marginally more by younger compared to older women.

8 Upticks decomposed by birth order

When we decompose the uptick in TFR by birth order we also see quite different patterns for 2000 and 2021 (Fig. 4a and 4b).

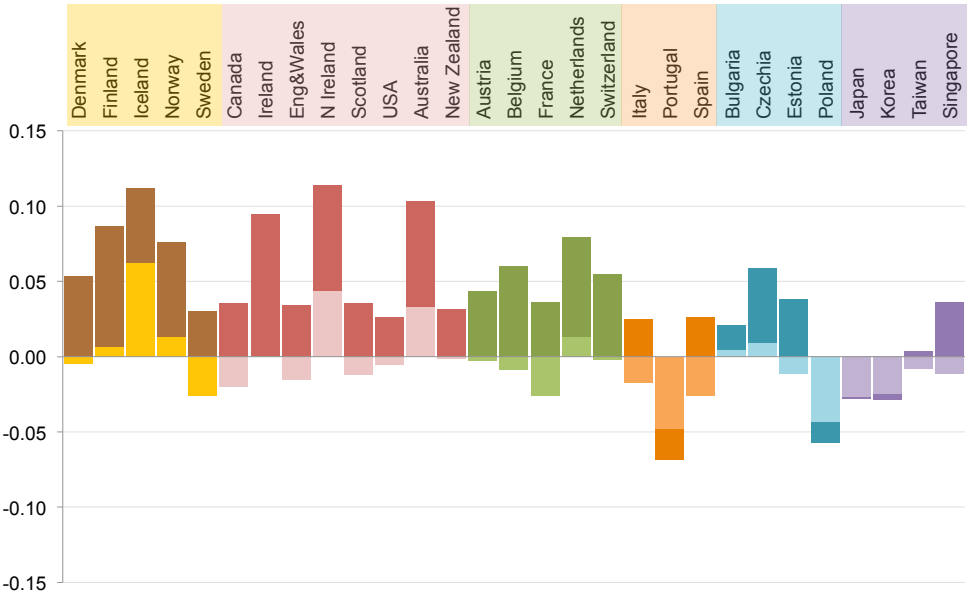
Across the countries that experienced the millennium uptick, this was driven primarily by first order births (Fig. 4a). Only in the United States and Estonia did the uptick in higher order births exceed that of first births, although in Austria, the

Fig. 3a: Millennium uptick: Change in fertility rate between 1999 and 2000 by country, decomposed by age of mother



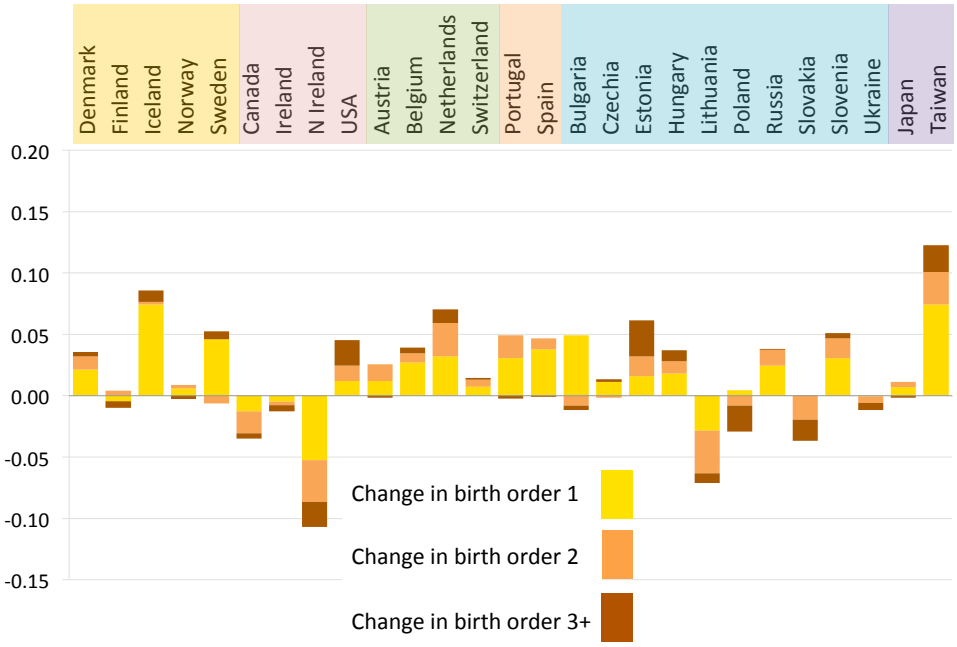
Note: Lighter shading of each bar is the contribution by mothers less than 30; dark shading is the contribution from women aged 30+

Fig. 3b: Pandemic uptick: Change in fertility rate between 2020 and 2021 by country, decomposed by age of mother



Source: See subsection Data

Fig. 4a: Millennium uptick: Change in fertility rate from 1999 to 2000 by country, decomposed by birth order



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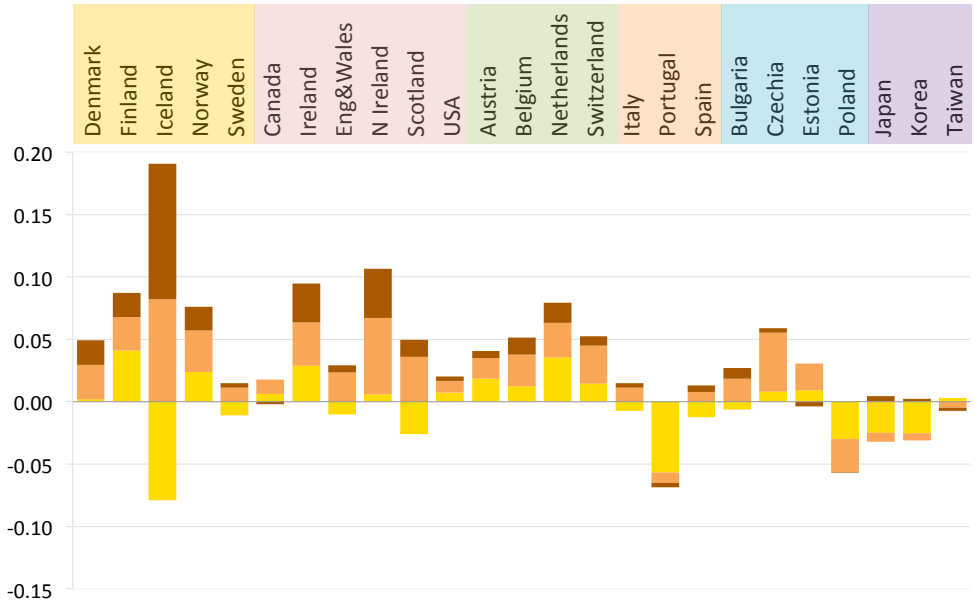
Netherlands, Switzerland and Hungary the uptick in first births equalled that of all higher order births. In a number of countries there was an uptick in first births in parallel with a decline in higher order births (Norway, Austria, Portugal, Spain and Japan had a decline in third births; Sweden and Czechia for second births; Bulgaria both second and third births). In Poland, Slovakia and Ukraine there was minimal change in first births but falls in higher order births. In countries which had a downturn, this was generally driven by a fall in second and higher order births (except in Northern Ireland).

The pandemic uptick was a complete contrast in its birth order composition: the upturns were primarily driven not by first order births but by higher order births (Fig. 4b). This unprecedented pattern was first noted in Switzerland (*Federal Statistical Office* 2022). In most countries, increases in higher order fertility rates exceeded those of first births: Norway, Denmark, Finland, Northern Ireland, Ireland, Canada, USA, Belgium, Netherlands, Austria, Switzerland, Czechia and Estonia. Notably the following countries actually saw a decline in first births in parallel with an uptick in overall TFR: Sweden, Iceland, England & Wales, Scotland, Italy, Spain and Bulgaria. In Portugal and Poland (marginally) the drop in first births exceeded falls in higher order births, and in Japan and South Korea there were slight upticks in third births at the same time as falls in first and second births. Only one country, Taiwan, bucked the overall pattern, having a tiny uptick in first births and a small downturn in higher order births.

Fig. 4b: Pandemic uptick: Change in fertility rate from 2020 to 2021 by country, decomposed by birth order



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9 Conclusion and outstanding questions

Changes in the direction of fertility trends, up or down, repeatedly take demographers by surprise: the post-war Baby Boom and 1970s crash (*Van Bavel/Reher* 2013); the rise in the first decade of the new millennium (*Myrskylä et al.* 2013); and its subsequent downturn (*Hellstrand et al.* 2021). Demographers expected the pandemic would cause fertility rates to fall (*Berrington et al.* 2021; *Aassve et al.* 2020; *Wilde et al.* 2020), but the opposite happened in the majority of low-fertility countries. The initiation of the Short-Term Fertility Fluctuations (STFF) data series within the Human Fertility Database revealed that expectations started to be confounded, with an upswing in March 2021 (*Sobotka et al.* 2024).

This study dissects the pandemic uptick in several novel ways, in particular by comparing it with that of the year 2000. Firstly, there were distinct regional variations in which countries experienced which uptick, and which did not. The millennium uptick was especially strong in the East Asian countries, in association with the "auspicious" Year of the Dragon. However, this was not solely an Asian phenomenon: many European countries also saw upticks. Yet, apart from the USA, it bypassed the other Anglophone countries. The pandemic uptick had quite different regional patterns, which we surmise related to differing levels of institutional support offered by different countries. The Asian countries saw no uptick, and it also circumvented

several Eastern and Southern European countries. However, it was universally seen across the Nordic, Central European and Anglophone countries.

Decomposition of the upticks by age of mother and by birth order is illuminating. The pandemic uptick was driven primarily by women aged over 30, whereas the millennium uptick was spread more broadly across both younger and older women. First births boosted fertility rates in 2000 but in 2021 it was second and higher order births that contributed most to the uptick.

What deductions can we make from these observations? Assessing both upticks, we suggest that media narratives can sometimes create or amplify the "cultural vibes" of the time and these can have an impact on childbearing. We can probably infer this from the 2000 upticks in Asia and across much of Europe. However, was fear-mongering in the English language media the cause of the concurrent downtick in the Anglophone countries in 2000? Perhaps. The pandemic period was quite different. Apart from some early sensationalist headlines suggesting that lockdowns might encourage baby-making, the media narrative would probably be seen as unfavourable for childbearing. Negative headlines created an atmosphere of uncertainty not conducive to starting a family and, together with real barriers to social interactions, caused a drop in first birth rates in many countries. However, the situation was perceived differently within small nuclear families: they assessed their own situation and, with the pause in the usual balancing of work-life demands and good institutional support, realised that this would be a good opportunity to have the second (or higher order) child that had been a pending plan for the future. As for the downturn in the Asian countries in 2021: was it caused by a lack of practical support for families or did a stronger negative media narrative there have an impact?

Our results echo country-level studies cited earlier: that it was older, financially secure couples with higher education and who already had at least one child who advanced plans for a second or higher order child during the pandemic (*Bailey et al.* 2022; *Ohlsson-Wijk/Andersson* 2025; *Lappegård et al.* 2024; *Arnalds et al.* 2025). By contrast, lockdowns and restrictions of movement made it difficult for partners to meet and marry, and an atmosphere of uncertainty discouraged people from starting a family. Perhaps lessons can be drawn by policy-makers: that the prerequisites and overall environment for young adults to have a first child are different from those that facilitate having a further child? The sharp and almost universal downturn in fertility in 2022 should also be a warning: although certain measures (e.g. financial "baby bonuses") can stimulate an uptick in one year, this is unlikely to be maintained over subsequent years unless the whole political, social and economic environment transforms into a more positive outlook (*Ohlsson-Wijk/Andersson* 2025). Only Portugal has experienced the opposite upticks/downticks to the rest of Europe: we wonder what is special about that country that causes it to buck the general trends?

The role of migration, which can significantly affect fertility rates, has not yet been assessed in relation to the pandemic uptick. For instance, did return migration of young women to their "home" country (where their "senior" parents might still live and could offer ongoing childcare support), precipitated at the start of the pandemic in 2020, stimulate their childbearing in 2021? We offer two small examples: Switzerland and New Zealand, which both saw strong return migration of their citizens in 2020

(in contrast to the usual negative net migration of Swiss and Kiwi women). Following this wave of "homecoming", in the year following, 2021, the fertility rates for Swiss citizens rose by 0.06 (a five percent increase), whilst immigrants living in Switzerland had a much more modest uptick of 0.01 (an one percent increase). Similarly, in New Zealand, births to women of "European origin" (i.e. white Kiwis) rose by a substantial 11 percent. As New Zealand only allowed people holding New Zealand passports to enter the country during the pandemic, we hypothesise that some of these births were to repatriating women; however, with the data available we cannot know whether these were first births or higher order births. Recent Generation and Gender surveys may be able to clarify whether "homecoming" was indeed a factor in the pandemic upticks in some countries and whether there were differentials by birth order.

As for what lessons can be learnt from the two upticks, it would seem particularly challenging trying to stimulate an upturn of first births. Policies that support families can provide the structure for having a second child, the two-child norm still being seen as the "ideal" family for many couples (*Sobotka/Beaujouan* 2014). But providing the pre-conditions for a first child seems to be increasingly challenging for modern societies: nurturing long-term partnerships; ensuring a stable political and economic climate, secure employment and appropriate housing. Even the media-driven "auspicious" years for starting a family in some Asian societies seem to have now fallen out of fashion, and new millennia are far too rare!

Links to data sources

Human Fertility Database. Max Planck Institute for Demographic Research (Germany) and Vienna Institute of Demography (Austria). Available at www.humanfertility.org (data sets up to March 2026).

The data sets for age-specific fertility rates are asfrRRbo, and for TFR by birth order are tfrRRbo (asfrRR and tfrRR for countries with no birth order data).

Annual birth totals are in the totbirthsRR data sets.

Australia data: http://dataexplorer.abs.gov.au

New Zealand data: https://infoshare.stats.govt.nz/

Taiwan data: https://www.ris.gov.tw/app/en/3911

South Korea data: https://kosis.kr/eng/

Singapore data: https://www.singstat.gov.sg/find-data/explore-data-themes/population/births-and-fertility/latest-news-data

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Appendix

Tab. A1: Change in TFR compared to previous year (red cells indicate decline, green cells a rise in TFR)

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Nordic	Denmark	0.014	0.036	-0.028	-0.020	0.035	0.026	0.017	0.047	-0.003	0.045	-0.049	0.032	-0.118	-0.023	-0.061	0.022	0.022	0.072	-0.033	-0.022	-0.030	-0.024	0.049	-0.172	-0.057	-0.030
	Finland	0.035	-0.006	-0.003	-0.008	0.041	0.041	0.003	0.034	-0.007	0.017	0.018	0.006	-0.043	-0.026	-0.053	-0.037	-0.061	-0.082	-0.078	-0.083	-0.059	0.023	0.087	-0.142	-0.060	-0.005
	Iceland	-0.053	0.086	-0.127	-0.018	0.056	0.049	0.009	0.031	0.009	0.066	0.074	0.014	-0.152	0.018	-0.109	-0.005	-0.134	-0.059	-0.043	-0.002	0.049	-0.014	0.112	-0.233	-0.081	-0.030
	Norway	0.032	0.006	-0.067	-0.030	0.043	0.032	0.008	0.068	-0.003	0.056	0.023	-0.034	-0.065	-0.029	-0.070	-0.026	-0.025	-0.025	-0.083	-0.059	-0.034	-0.054	0.076	-0.143	-0.010	0.050
	Sweden	-0.005	0.046	0.021	0.085	0.066	0.041	0.016	0.082	0.023	0.025	0.020	0.049	-0.087	0.006	-0.017	-0.008	-0.032	0.004	-0.069	-0.028	-0.047	-0.040	0.004	-0.148	-0.071	-0.024
Anglosphere	Canada	-0.012	-0.035	0.029	-0.022	0.029	0.009	0.024	0.048	0.042	0.032	-0.011	-0.046	-0.019	0.000	-0.023	0.005	-0.014	-0.008	-0.047	-0.038	-0.032	-0.065	0.016	-0.108	-0.056	-0.008
	Ireland	-0.041	-0.013	0.049	0.031	-0.010	-0.029	-0.070	0.051	0.097	0.052	-0.005	-0.007	-0.021	-0.044	-0.056	-0.034	-0.040	-0.045	-0.049	-0.016	-0.048	-0.067	0.095	-0.187	-0.034	0.000
	Eng&Wales	-0.028	-0.042	-0.020	0.009	0.074	0.049	0.009	0.056	0.047	0.043	-0.016	0.034	-0.012	0.001	-0.098	-0.026	-0.012	-0.023	-0.058	-0.066	-0.050	-0.071	0.019	-0.055	-0.069	-0.010
	N Ireland	-0.044	-0.107	0.048	-0.042	0.026	0.055	-0.004	0.064	0.076	0.079	-0.066	0.033	-0.001	0.005	-0.077	0.008	-0.017	-0.013	-0.080	-0.020	-0.025	-0.124	0.114	-0.090	-0.064	-0.030
	Scotland	-0.035	-0.036	0.006	-0.016	0.051	0.056	0.020	0.043	0.060	0.064	-0.035	-0.016	-0.016	-0.018	-0.056	0.018	-0.055	-0.026	-0.052	-0.047	-0.043	-0.086	0.024	-0.033	-0.024	-0.050
	USA	0.006	0.045	-0.022	-0.007	0.029	0.004	0.003	0.051	0.011	-0.049	-0.072	-0.077	-0.036	-0.014	-0.023	0.012	-0.018	-0.028	-0.052	-0.037	-0.025	-0.063	0.020	-0.002	-0.035	0.017
	Australia	-0.006	0.002	-0.026	0.028	-0.006	0.017	0.064	0.029	0.119	0.029	-0.053	-0.016	-0.037	0.013	-0.049	-0.086	0.000	-0.004	-0.048	0.001	-0.078	-0.073	0.103	-0.065	-0.132	-0.018
	New Zealand	0.078	0.006	-0.010	-0.080	0.046	0.051	-0.018	0.043	0.167	0.017	-0.061	0.042	-0.080	0.002	-0.090	-0.086	0.069	-0.120	-0.057	-0.098	0.008	-0.103	0.031	0.021	-0.102	0.004
Central Europe	Austria	-0.030	0.024	-0.034	0.063	-0.018	0.043	-0.011	0.001	-0.024	0.032	-0.021	0.047	-0.012	0.010	-0.004	0.028	0.026	0.039	-0.012	-0.043	-0.014	-0.025	0.041	-0.067	-0.093	-0.006
	Belgium	0.008	0.039	0.006	-0.032	0.022	0.059	0.037	0.048	0.045	0.030	-0.025	0.006	-0.044	-0.019	-0.037	-0.012	-0.046	-0.015	-0.034	-0.025	-0.019	-0.052	0.051	-0.067	-0.057	-0.030
	France	0.027	0.083	0.002	-0.012	0.010	0.024	0.022	0.061	-0.021	0.031	-0.001	0.027	-0.020	-0.004	-0.019	0.001	-0.048	-0.035	-0.033	-0.022	-0.009	-0.044	0.010	-0.036	-0.138	-0.030
	Germany	0.007	0.024	-0.032	-0.006	0.000	0.020	-0.018	-0.007	0.042	0.010	-0.023	0.035	-0.029	0.019	0.010	0.056	0.027	0.094	-0.027	-0.010	-0.020	-0.010	0.050	-0.120	-0.110	0.000
	Netherlands	0.024	0.071	-0.013	0.021	0.016	-0.021	-0.017	0.012	-0.002	0.055	0.017	0.005	-0.036	-0.037	-0.044	0.034	-0.055	0.005	-0.044	-0.033	-0.012	-0.029	0.079	-0.138	-0.057	0.020
	Switzerland	0.012	0.015	-0.113	0.006	-0.004	0.030	0.004	0.017	0.019	0.028	0.013	0.026	-0.005	0.008	-0.009	0.023	0.001	0.005	-0.024	-0.003	-0.039	-0.015	0.052	-0.129	-0.056	-0.045
	Luxembourg	0.061	0.021	-0.107	-0.029	-0.009	0.043	-0.034	0.020	-0.038	-0.003	-0.018	0.039	-0.105	0.051	-0.024	-0.053	-0.027	-0.070	-0.010	-0.010	-0.040	0.030	0.010	-0.070	-0.060	0.000
Southern Europe	Italy	0.019	0.023	-0.005	0.018	0.018	0.051	-0.007	0.034	0.026	0.045	0.000	0.004	-0.016	-0.006	-0.029	-0.003	-0.019	-0.008	-0.020	-0.032	-0.039	-0.023	0.008	-0.010	-0.043	-0.020
	Portugal	0.028	0.047	-0.099	0.015	-0.026	-0.035	0.010	-0.041	-0.024	0.044	-0.049	0.046	-0.041	-0.065	-0.071	0.023	0.077	0.054	0.018	0.039	0.013	-0.017	-0.069	0.074	0.022	-0.038
	Spain	0.037	0.046	0.022	0.022	0.044	0.017	0.016	0.033	0.015	0.069	-0.067	-0.010	-0.027	-0.021	-0.048	0.045	0.012	0.003	-0.028	-0.049	-0.027	-0.049	0.001	-0.023	-0.039	-0.019
	Greece	-0.019	0.025	-0.015	0.016	0.012	0.015	0.021	0.061	0.005	0.089	0.017	-0.007	-0.080	-0.060	-0.050	0.010	0.030	0.050	-0.030	0.000	-0.010	0.050	0.040	-0.110	-0.060	
Eastern Europe	Bulgaria	0.133	0.038	-0.086	-0.019	0.029	0.063	0.037	0.075	0.049	0.073	0.097	-0.083	-0.060	0.000	-0.018	0.054	-0.004	0.013	0.017	-0.002	0.026	-0.026	0.021			
	Czechia	-0.023	0.012	-0.007	0.021	0.006	0.047	0.056	0.049	0.116	0.073	0.001	0.002	-0.088	0.027	0.007	0.076	0.048	0.066	0.063	0.030	0.009	0.007	0.059	-0.199	-0.170	-0.080
	Estonia	0.023	0.061	-0.040	0.042	0.008	0.106	0.046	0.066	0.103	0.034	-0.020	0.020	-0.107	-0.054	-0.038	0.017	0.046	0.021	-0.014	0.080	-0.009	-0.080	0.027	-0.201	-0.098	-0.131
	Hungary	-0.042	0.037	-0.011	-0.007	-0.031	0.004	0.030	0.033	-0.024	0.032	-0.026	-0.071	0.007	0.080	0.003	0.071	0.029	0.055	0.000	-0.009	0.004	0.071	0.027	-0.070	-0.010	-0.120
	Lithuania	0.001	-0.071	-0.103	-0.054	0.030	0.010	0.019	0.032	0.036	0.087	0.054	-0.002	0.050	0.044	-0.010	0.042	0.076	-0.013	-0.059	0.003	-0.027	-0.126	-0.139	-0.070	-0.090	-0.070
	Poland	-0.059	-0.025	-0.070	-0.064	-0.031	0.006	0.023	0.025	0.043	0.076	0.012	-0.017	-0.076	0.010	-0.052	0.032	0.004	0.071	0.098	-0.018	-0.020	-0.036	-0.057	-0.067	-0.100	-0.060
	Russia	-0.075	0.038	0.028	0.064	0.047	0.011	-0.050	0.010	0.111	0.086	0.039	0.026	0.016	0.109	0.017	0.043	0.025	-0.014	-0.141	-0.042	-0.079	0.000	0.000	-0.080	-0.010	
	Slovakia	-0.045	-0.037	-0.102	-0.012	0.017	0.044	0.015	-0.011	0.015	0.073	0.096	-0.009	0.020	0.017	0.009	0.030	-0.103	0.080	0.040	0.020	0.020	0.030	0.050	-0.070	-0.080	-0.030
	Slovenia	-0.021	0.046	-0.048	0.001	-0.010	0.045	0.015	0.054	0.066	0.145	0.009	0.042	-0.013	0.019	-0.034	0.032	-0.007	0.012	0.037	-0.016	0.007	-0.011	0.040	-0.090	-0.040	0.010
	Ukraine	-0.083	-0.012	-0.027	0.036	0.045	0.046	-0.008	0.094	0.034	0.111	0.014	-0.031	0.030	0.073	-0.025	-0.006	0.010	-0.040	-0.100	-0.070	-0.070	-0.010	-0.060			
	Latvia	0.067	0.064	-0.024	0.033	0.068	-0.031	0.096	0.072	0.079	0.045	-0.119	-0.109	-0.027	0.105	0.080	0.121	0.062	0.039	-0.045	-0.084	0.000	-0.060	0.020	-0.100	-0.110	-0.120
East Asia	Japan	-0.040	0.010	-0.023	-0.015	-0.027	-0.002	-0.039	0.055	0.016	0.026	-0.001	0.029	0.003	0.010	0.019	-0.006	0.034	-0.011	-0.017	-0.014	-0.057	-0.017	-0.028	-0.046	-0.055	-0.054
	Korea	-0.039	0.055	-0.171	-0.131	0.013	-0.027	-0.079	0.047	0.127	-0.067	-0.043	0.077	0.018	0.053	-0.110	0.018	0.034	-0.067	-0.120	-0.075	-0.059	-0.081	-0.029	-0.030	-0.057	0.027
	Taiwan	0.082	0.123	-0.274	-0.063	-0.107	-0.054	-0.061	-0.008	-0.017	-0.041	-0.028	-0.135	0.169	0.201	-0.201	0.103	0.028	-0.012	-0.054	-0.060	-0.013	-0.064	-0.004	-0.105	-0.011	0.023
	Singapore	-0.010	0.130	-0.190	-0.040	-0.100	-0.010	0.000	0.020	0.010	-0.010	-0.060	-0.070	0.050	0.090	-0.100	0.060	-0.010	-0.040	-0.040	-0.020	0.000	-0.040	0.020	-0.080	-0.070	0.000

Tab. A1: Continuation

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
no. of +ve countries	19	29	9	17	26	31	25	35	29	34	15	22	9	25	7	26	20	17	7	6	8	6	31	2	1	7
out of	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	39	37	37	35
% +ves	49%	74%	23%	44%	67%	79%	64%	90%	74%	87%	38%	56%	23%	64%	18%	67%	51%	44%	18%	15%	21%	15%	79%	5%	3%	20%
Nordic	60%	80%	20%	20%	100%	100%	100%	100%	40%	100%	80%	80%	0%	40%	0%	20%	20%	40%	0%	0%	20%	20%	100%	0%	0%	20%
Anglosphere	25%	38%	50%	38%	75%	88%	63%	100%	100%	88%	0%	38%	0%	63%	0%	50%	25%	0%	0%	13%	13%	0%	100%	13%	0%	25%
Central Europe	86%	100%	29%	43%	43%	86%	43%	86%	43%	86%	29%	100%	0%	57%	14%	71%	43%	57%	0%	0%	0%	14%	100%	0%	0%	14%
Southern Europe	75%	100%	25%	100%	75%	75%	75%	75%	75%	100%	25%	50%	0%	0%	0%	75%	75%	75%	25%	25%	25%	25%	75%	25%	25%	0%
Eastern Europe	36%	64%	9%	55%	73%	91%	82%	91%	91%	100%	73%	36%	45%	91%	45%	91%	73%	73%	55%	36%	45%	27%	64%	0%	0%	13%
East Asia	25%	100%	0%	0%	25%	0%	0%	75%	75%	25%	0%	50%	100%	100%	25%	75%	75%	0%	0%	0%	0%	0%	25%	0%	0%	50%
Average change	0.000	0.022	-0.043	-0.005	0.013	0.023	0.005	0.038	0.037	0.042	-0.009	-0.003	-0.028	0.014	-0.040	0.015	-0.002	-0.002	-0.034	-0.025	-0.023	-0.036	0.025	-0.088	-0.065	-0.026
TFR change countries with an uptick		0.043																					0.042			
Nordic		0.044																					0.066			
Anglosphere		0.018																					0.053			
Central Europe		0.039																					0.042			
Southern Europe		0.035																					0.016			
Eastern Europe		0.042																					0.030			
East Asia		0.079																					0.020			

Source: See subsection Data

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