

Baby bust in the wake of the COVID-19 pandemic? First results from the new STFF data series

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Baby bust in the wake of the COVID-19
pandemic?

Past evidence, expectations, data

Past evidence: the impact of shocks on fertility

- **Economic shocks and recessions:** mostly negative impact, including the Great Recession around 2008-12 (e.g., Sobotka et al. 2011; Goldstein et al. 2013); severity of the recession and welfare setting matter
- **Spanish flu:** fertility reduction & some later rebound (Boberg-Fazlic et al. 2017; Wagner et al. 2020)
- **Disruptions to everyday life: Blackouts and disasters:** US: *urban legend* of a blackout baby boom, but positive evidence in developing countries (Fetzer 2013 for Colombia; Burlando 2014 for Zanzibar)
- **Zika epidemic in Brazil and other parts of Latin America in 2015-16:** strong negative effect on pregnancies and births (Rangel et al. 2020; Marteleto et al. 2020)

COVID-19 and fertility: effects, mechanisms

Negative impact expected especially in the highly developed countries with widespread use of and access to modern contraception (e.g., Aassve et al. 2020; Cohen 2021)

Selected mechanisms: negative impact (Berrington et al. 2021)

- Uncertainty about the future
- Fear of infection and of getting pregnant during the pandemic
- Economic (income) and labour market impact
- Lockdown effects: higher stress, disruption to everyday life, loss of grandparental care and extra workload for parents; disruption to social contact and dating for the childless (Settersen et al. 2020)
- Disruption in the provision of assisted reproduction

Selected mechanisms: positive impact

- More time spent together, more time for intimate relations and for family life among some couples
- Disruption in the supply of contraception in some countries

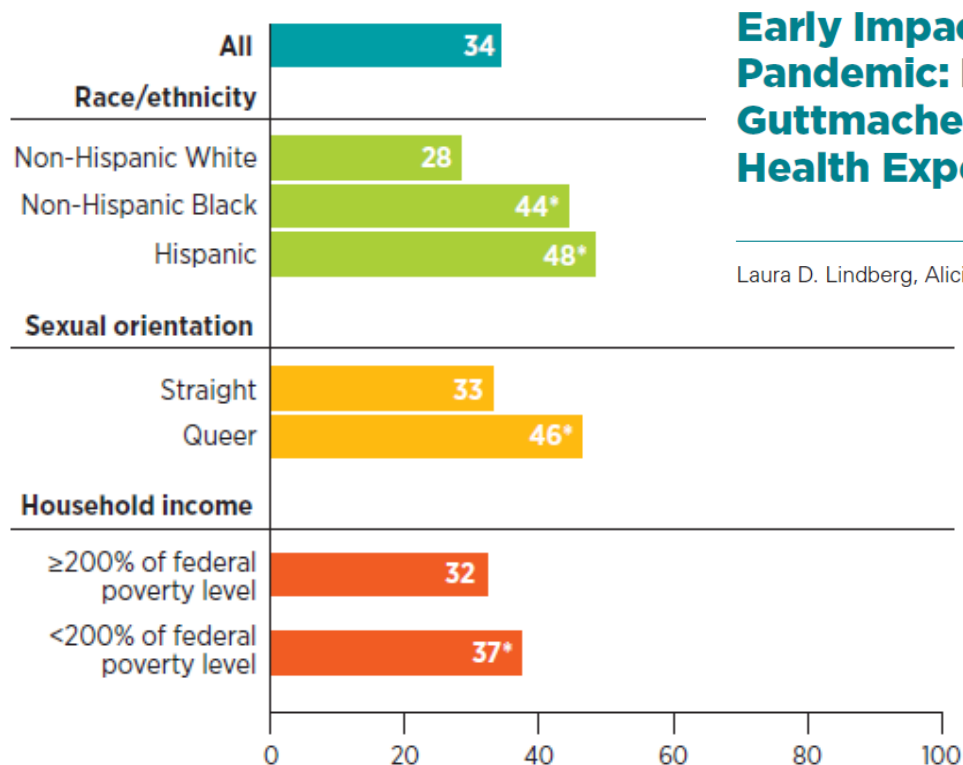
COVID-19 and fertility: early evidence

Decline in short-term fertility preferences reported in the US and Europe:

- Luppi et al. (2020): survey of fertility plans among young adults (18-34) in 5 European countries; late March and early April (N=6,000)
- Lindberg et al: Internet Survey of US women aged 18-44 (N=2,009) on 30 April-6 May 2020, Guttmacher Institute

FIGURE 1. Many women report that their fertility preferences have shifted in response to the COVID-19 pandemic.

% of women reporting wanting to delay childbearing or have fewer children



Early Impacts of the COVID-19 Pandemic: Findings from the 2020 Guttmacher Survey of Reproductive Health Experiences

Laura D. Lindberg, Alicia VandeVusse, Jennifer Mueller and Marielle Kirstein



*Difference is statistically significant at $p < .05$. Note: Queer category includes responses of "gay or lesbian," "bisexual" and "other."

Source: Internet Survey of US women aged 18-44 (N=2,009) on 30 April-6 May 2020, Guttmacher Institute

COVID-19 and fertility: early evidence

Evidence from online searches:

- Wilde et al. (2020): expected sharp downturn in births in the US from November 2020 to February 2021 based on fertility and pregnancy-related Google searches
- Lindberg et al: Internet Survey of US women aged 18-44 (N=2,009) on 30 April-6 May 2020, Guttmacher Institute

Early evidence from birth records:

- Cohen (2021); data for Florida and Ohio: greater decline in births in counties with higher prevalence of infections and stronger reduction in mobility

Analytical focus, data issues

Key question:

- *How did birth (fertility) dynamic change in the wake of the covid-19 pandemic?*

Analytical focus: monthly births by countries and broader regions

Expectations:

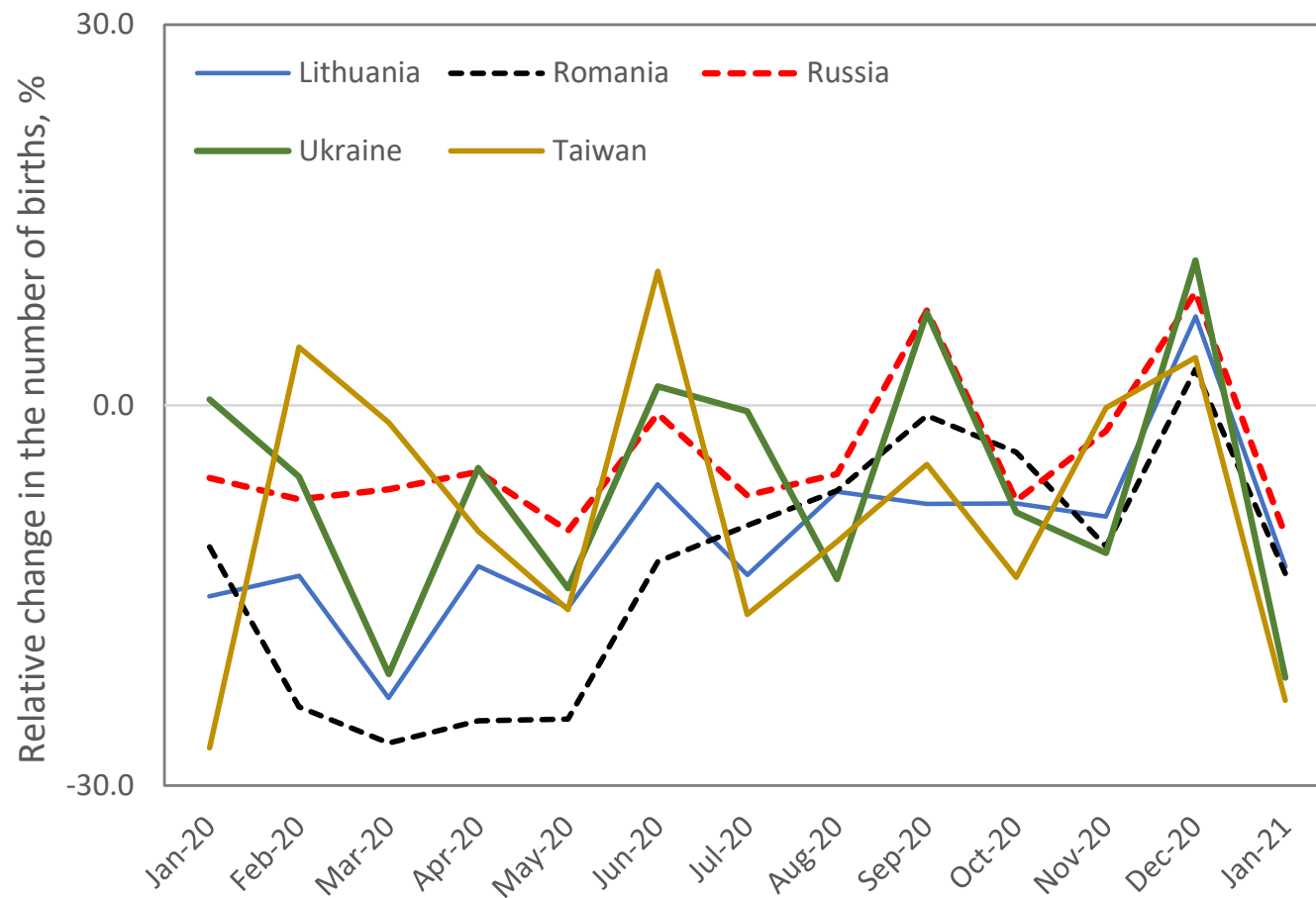
- A downward trend associated with the pandemic
- Stronger in more affected countries (and in countries with weaker welfare system?) (especially in Southern Europe)
- Ups and downs in births associated with the waves of the covid outbreak? (Possible short-term recovery; Goldstein 2020)

Data issues & adjustments

- Monthly data: impact of seasonality
- Main comparison: birth dynamic compared to the same month in the previous year (with an adjustment for 29 days in February 2020)
- Expected impact of the COVID-19: from November 2020 (pregnancies started in early March, based on average pregnancy duration of 266 days or 8.7 months from ovulation to delivery; Jukic et al. 2013)

Data issues: fluctuations in some countries

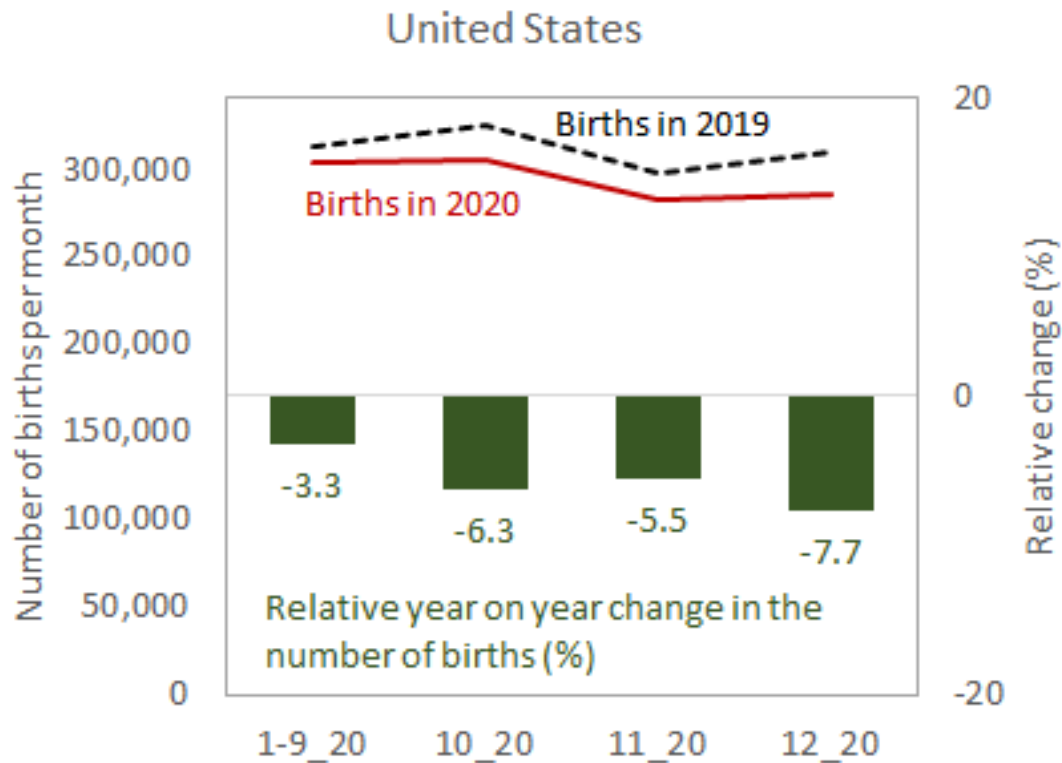
Relative change in the number of births compared with the same month in the previous year: 5 countries with unstable data



Baby bust in the wake of the COVID-19 pandemic?

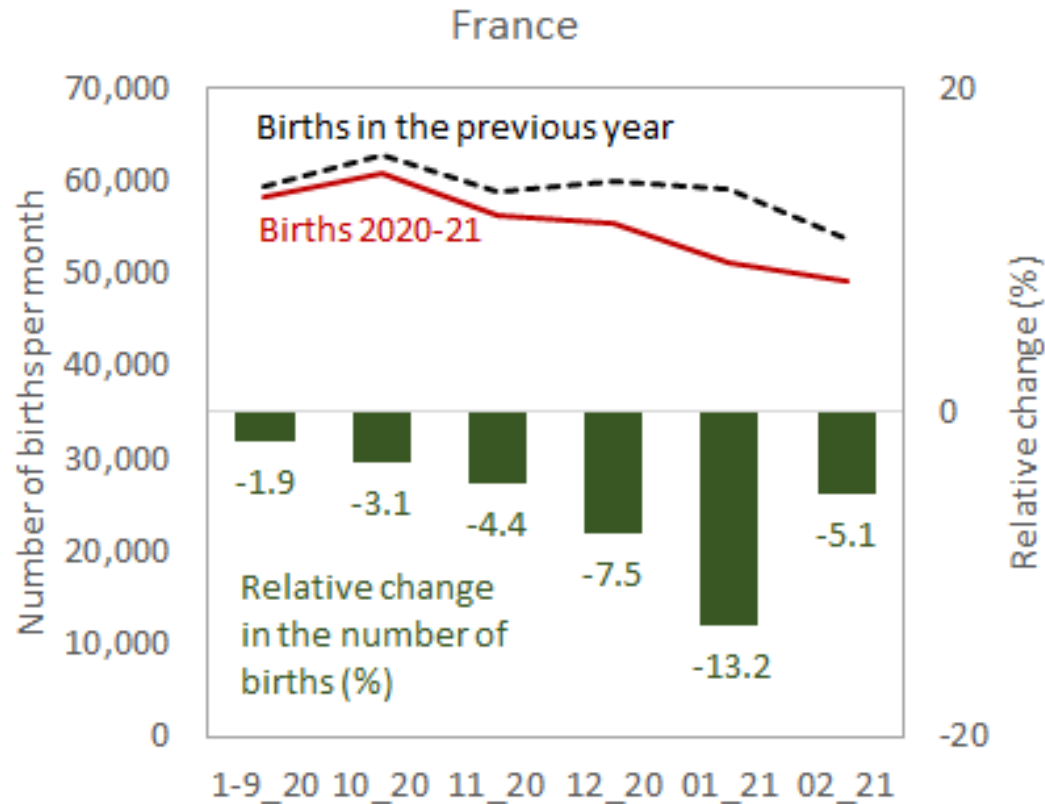
Findings: trends by country and region

United States



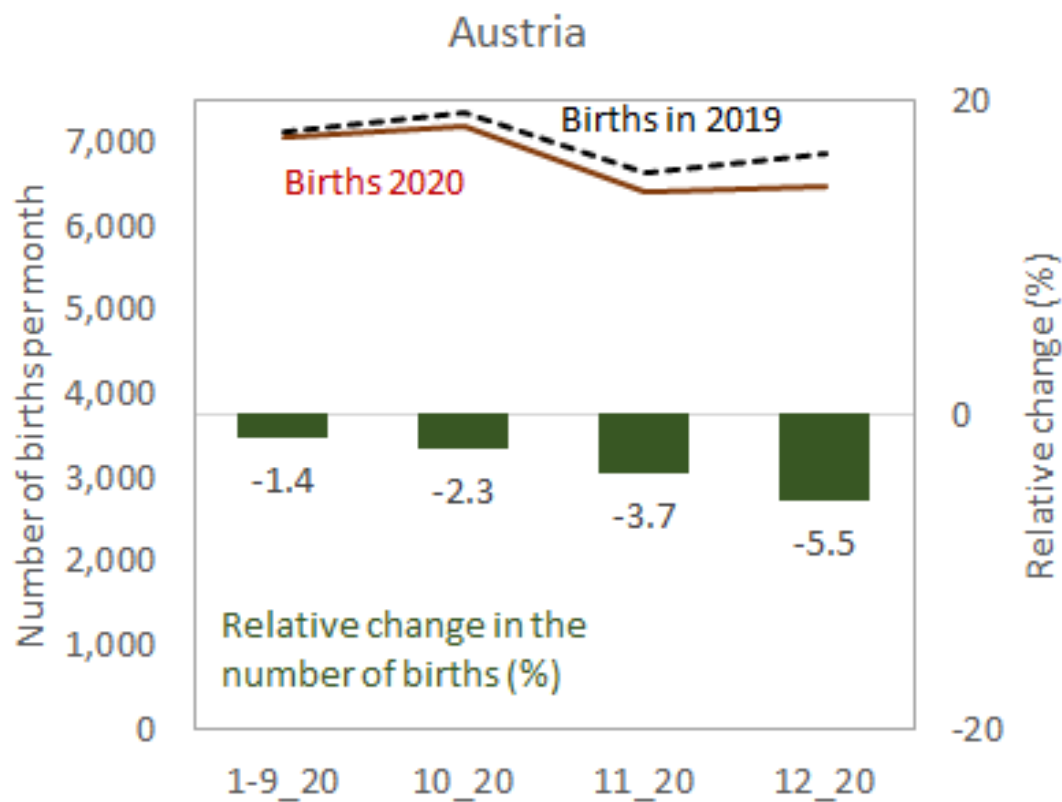
Relative year-on-year
change in the number of
births (%):
United States,
Jan 2020-Dec 2020

Western Europe: France



Relative year-on-year
change in the number of
births (%):
France,
Jan 2020-Feb 2021

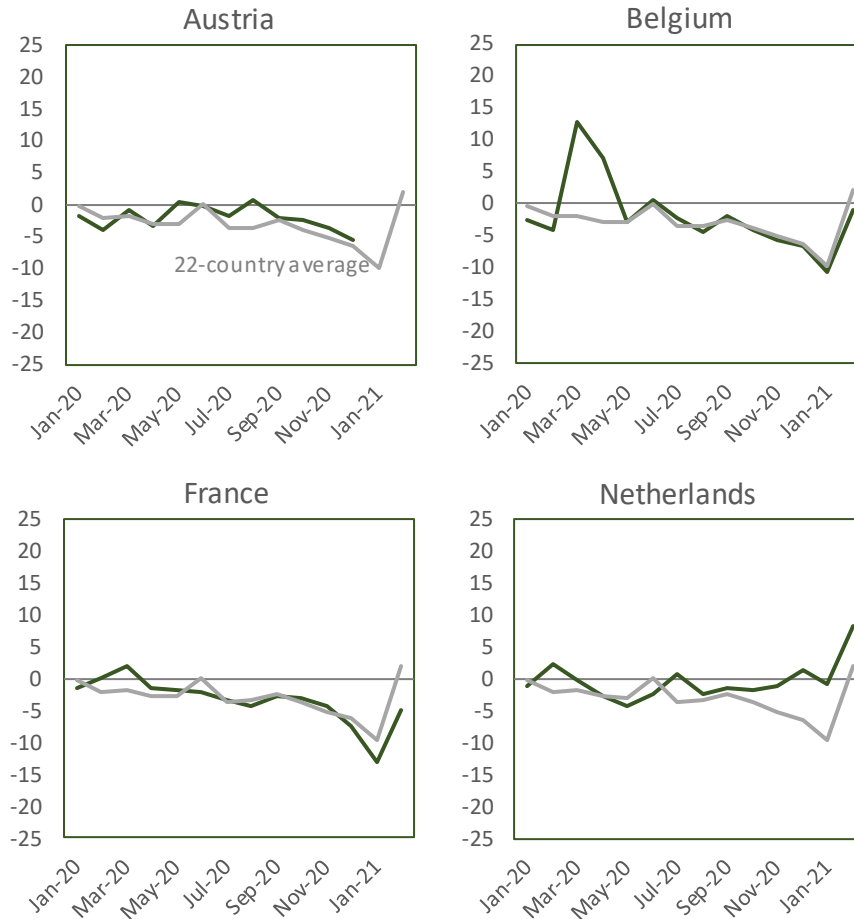
Western Europe: Austria



Relative year-on-year
change in the number of
births (%):
Austria,
Jan 2020-Dec 2020

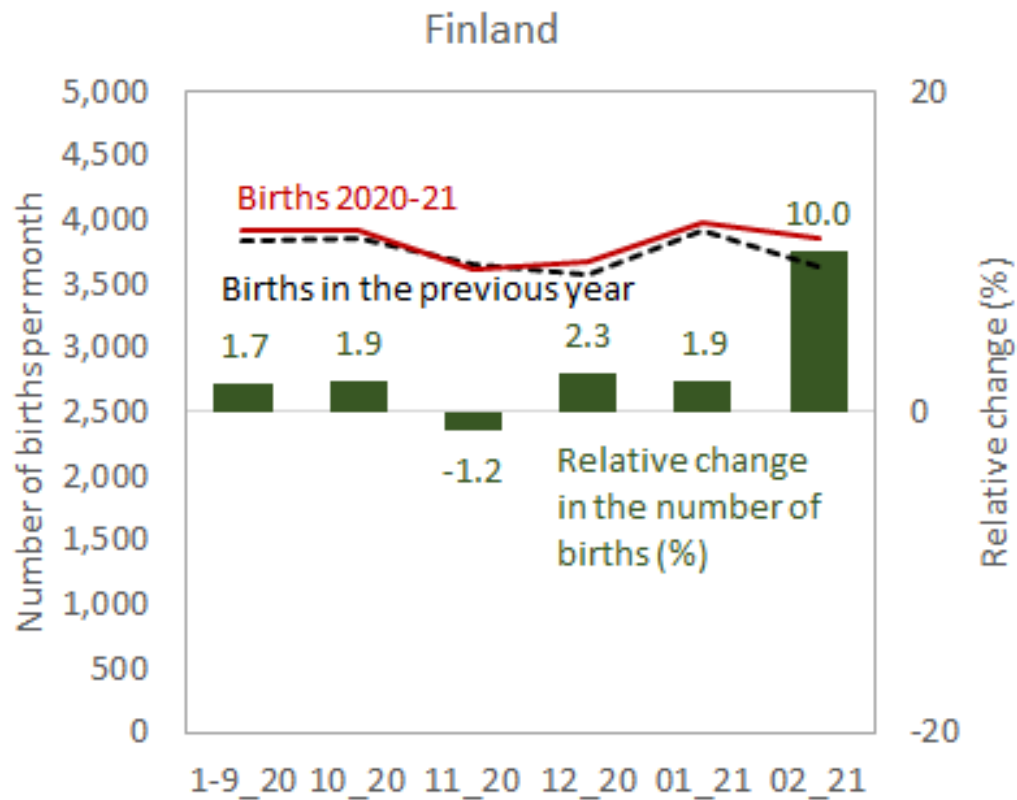
Western Europe (summary)

Relative year-on-year
change in the number of
births (%)



A fall in France, Belgium;
less intensive decline in
Austria; contrasting trend
in the Netherlands

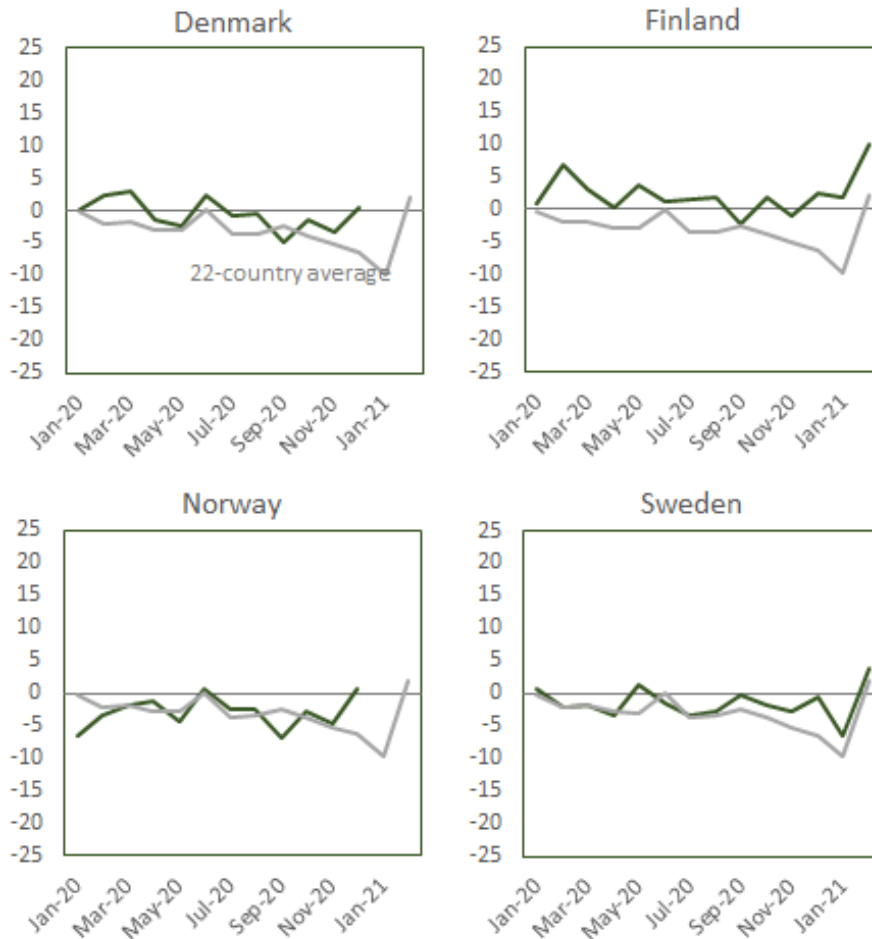
Nordic countries: Finland



Relative year-on-year
change in the number of
births (%):
Finland,
Jan 2020-Mar 2021

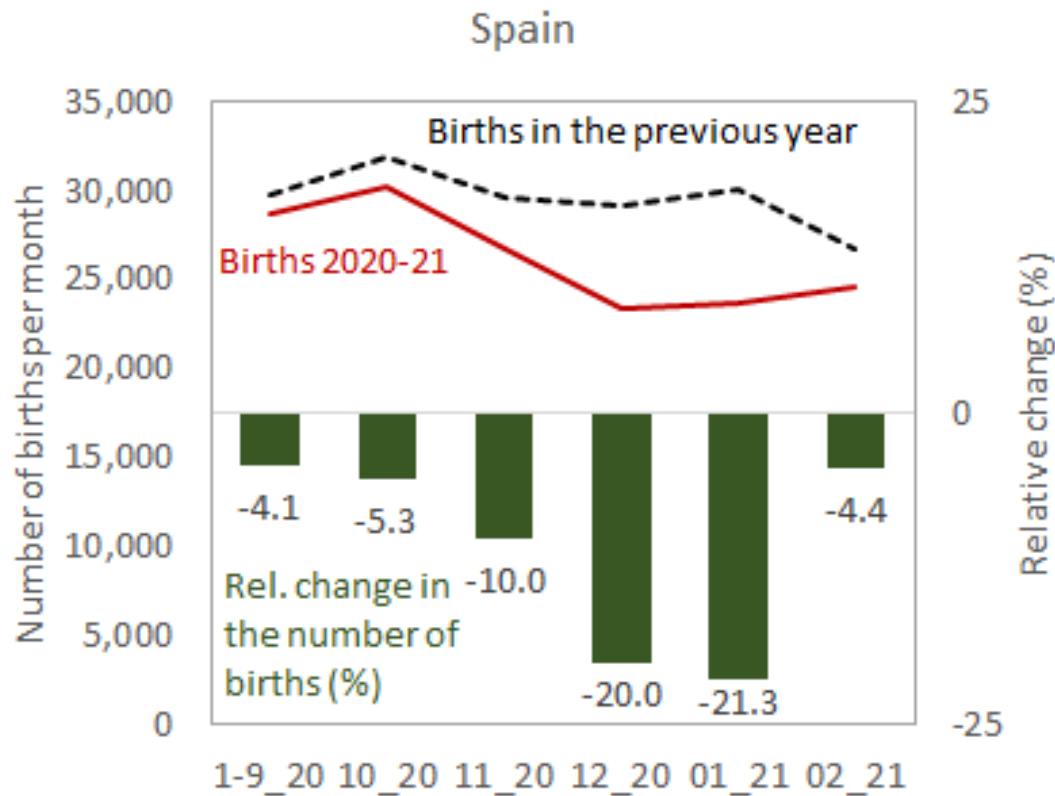
Nordic countries (summary)

Relative year-on-year
change in the number of
births (%)



No clear shift in DK,
Finland, Norway until Jan
2021, then strong upturn in
Finland; a small dip in
Sweden in Jan 2021,
followed by an upturn

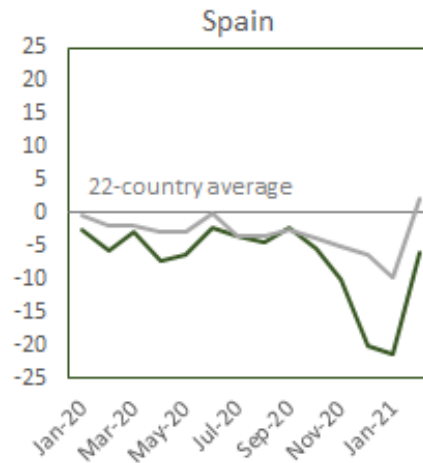
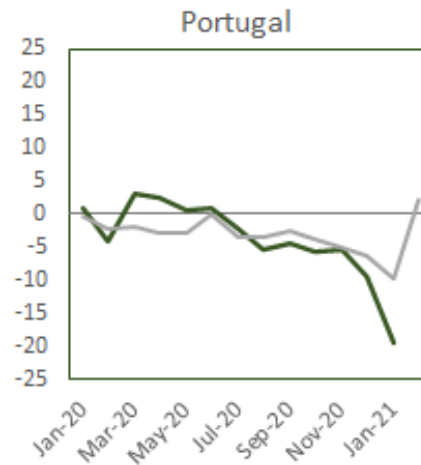
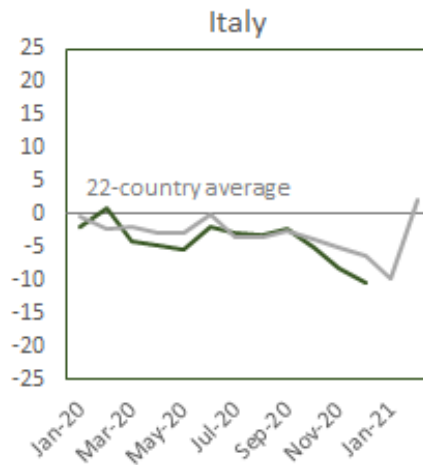
Southern Europe: Spain



Relative year-on-year
change in the number of
births (%):
Spain,
Jan 2020-Feb 2021

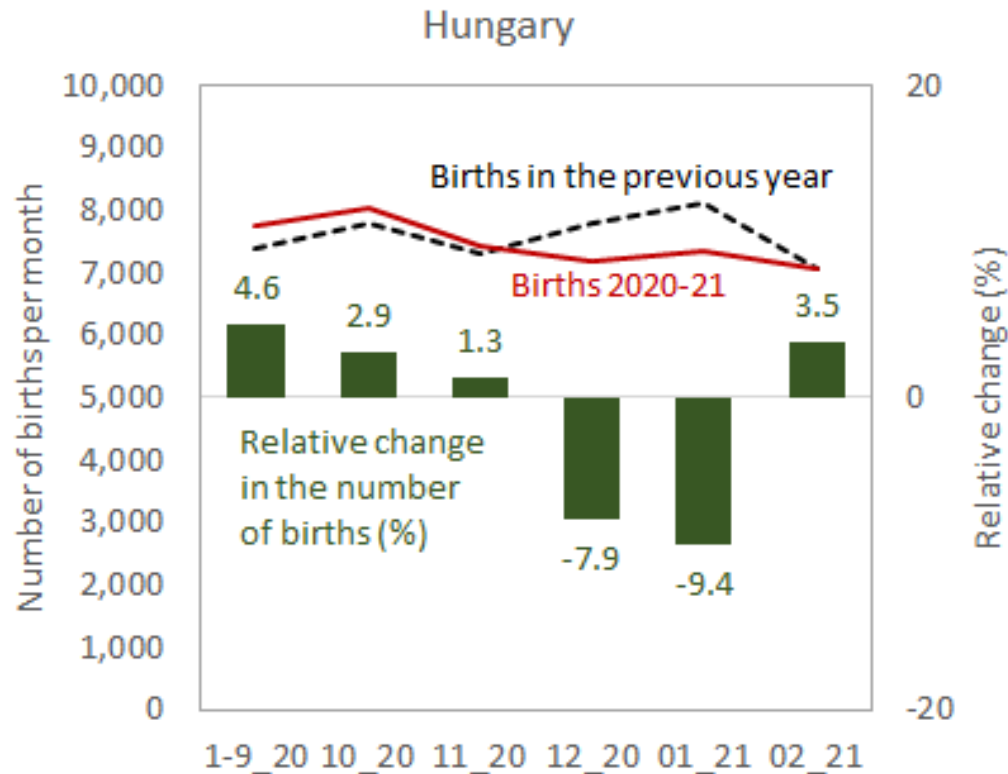
Southern Europe (summary)

Relative year-on-year
change in the number of
births (%)



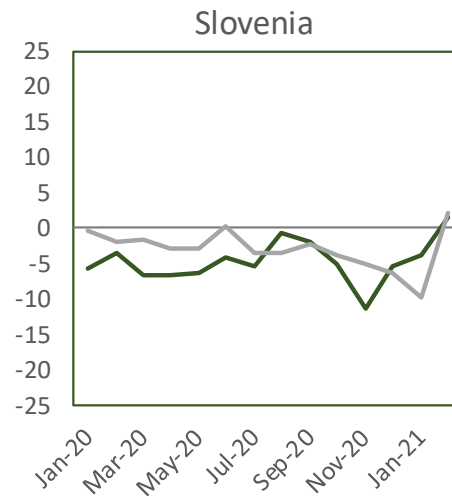
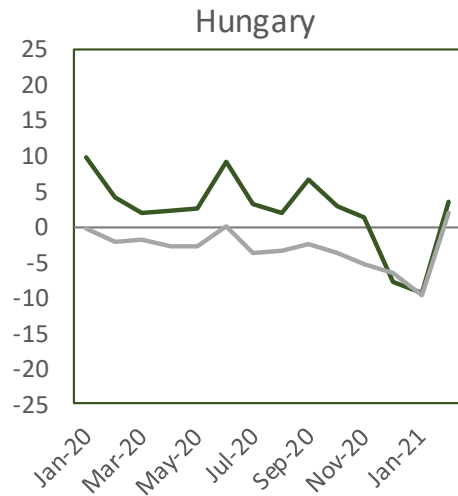
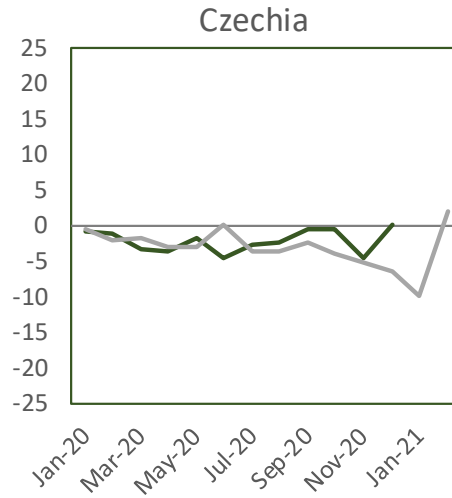
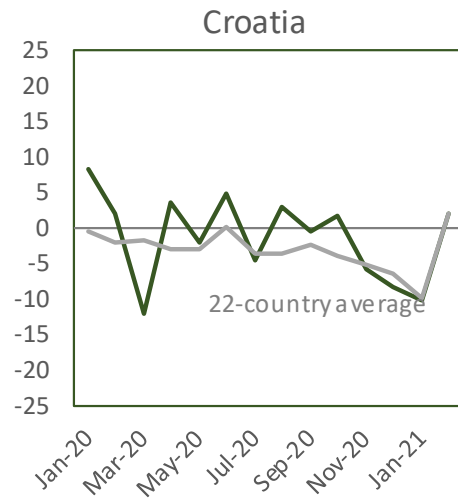
A sharp downturn in Italy,
Portugal and Spain
through Jan 2021

Central Europe: Hungary



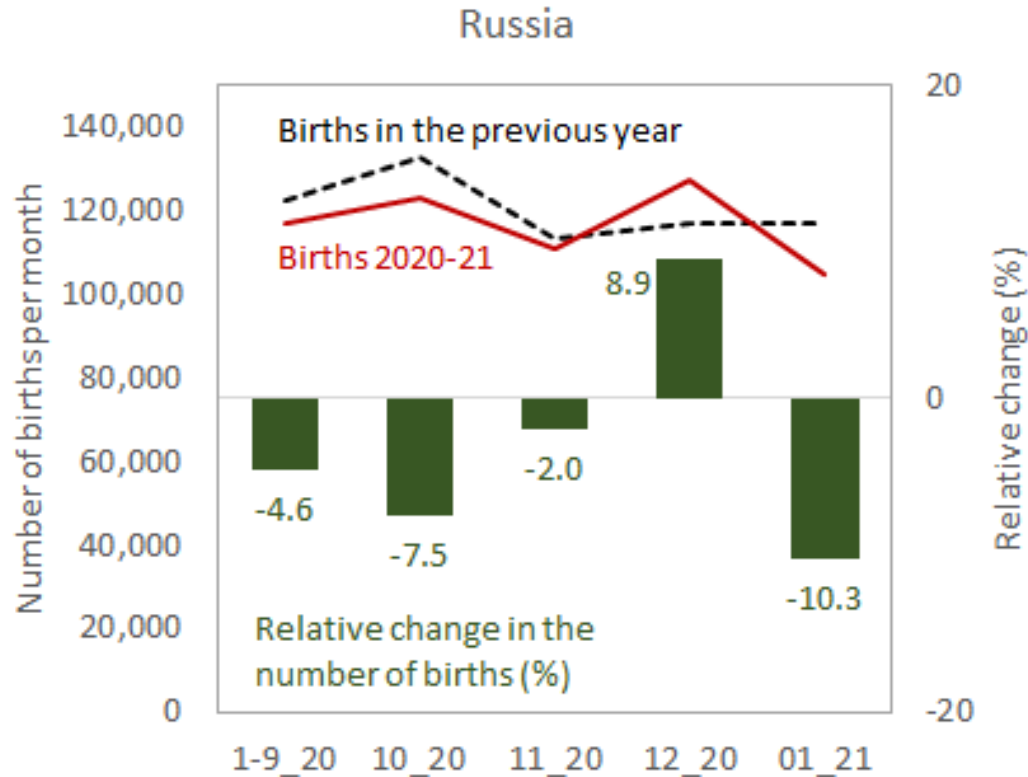
Relative year-on-year
change in the number of
births (%):
Hungary,
Jan 2020-Feb 2021

Central Europe (summary)



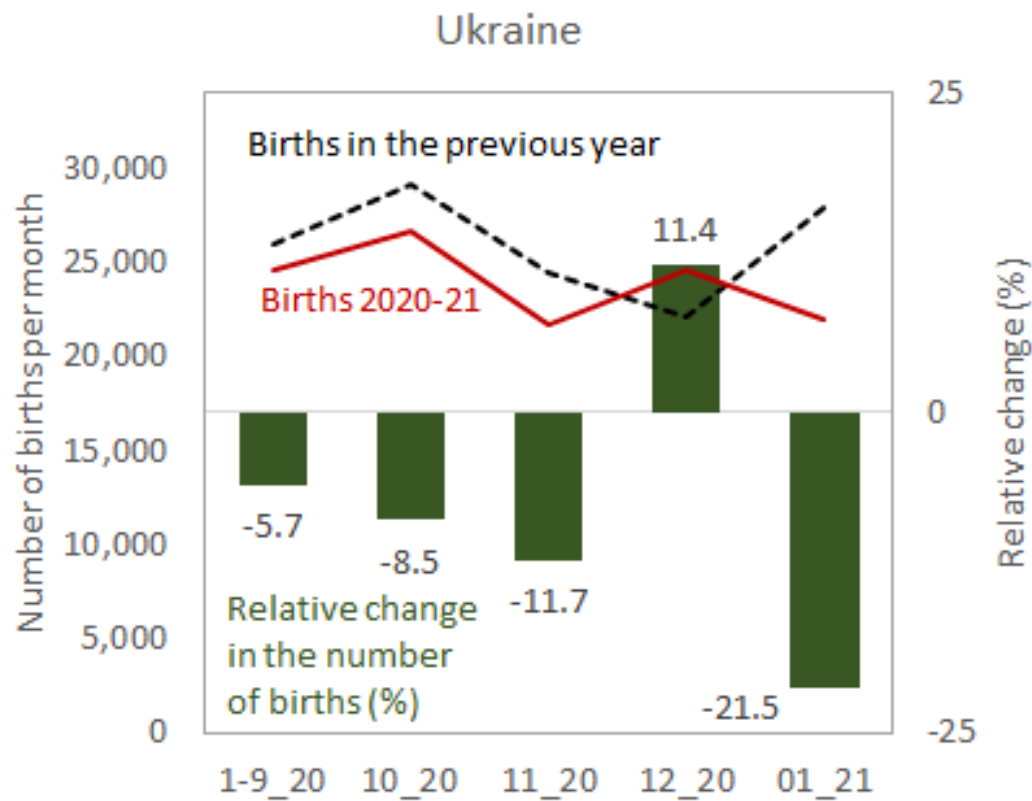
Relative year-on-year
change in the number of
births (%)

Eastern Europe: Russia



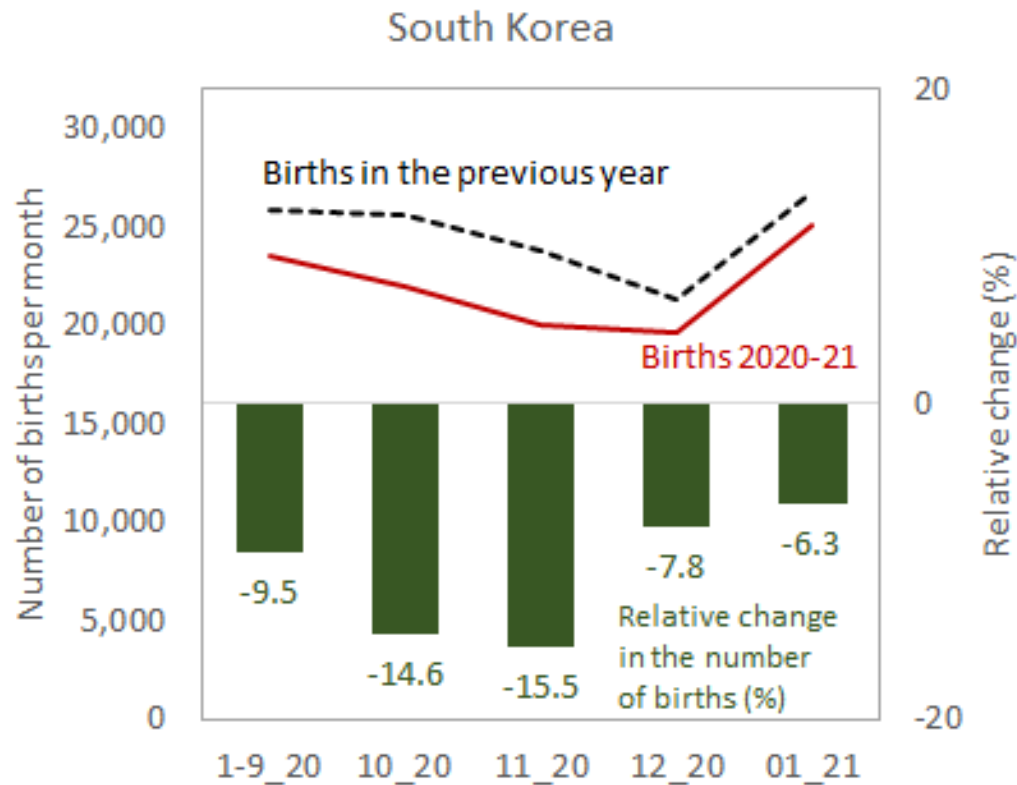
Relative year-on-year
change in the number of
births (%):
Russia,
Jan 2020-Jan 2021

Eastern Europe: Ukraine



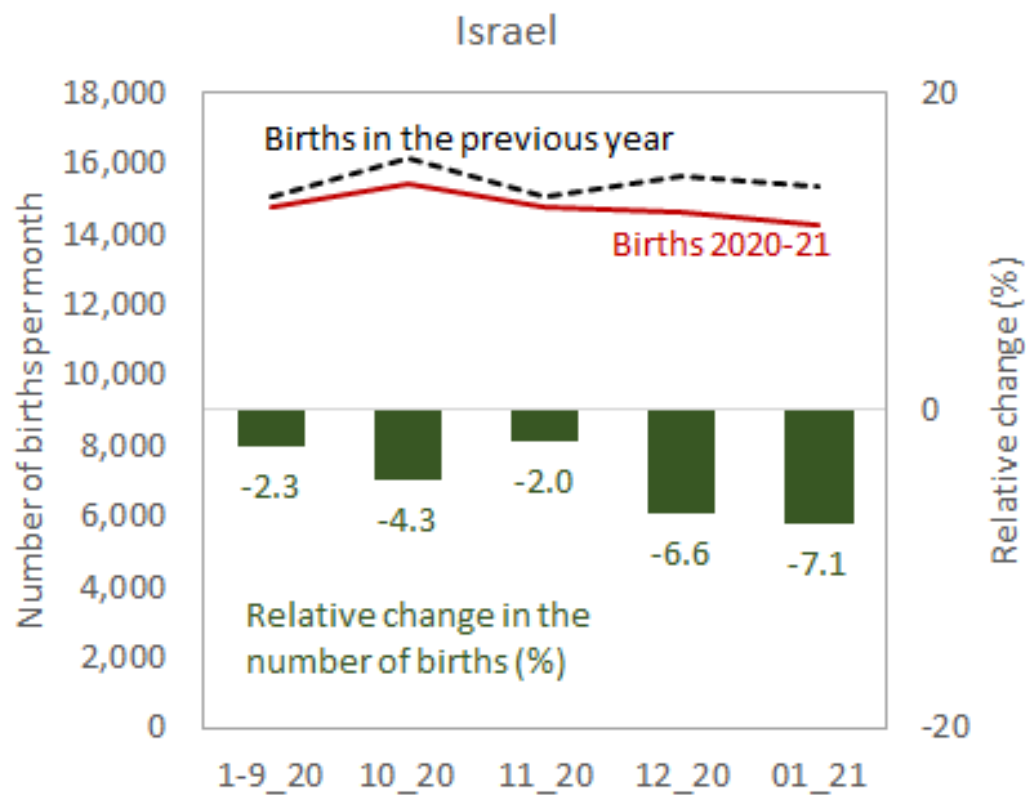
Relative year-on-year
change in the number of
births (%):
Ukraine,
Jan 2020-Jan 2021

East Asia: South Korea



Relative year-on-year
change in the number of
births (%):
South Korea,
Jan 2020-Jan 2021

Israel



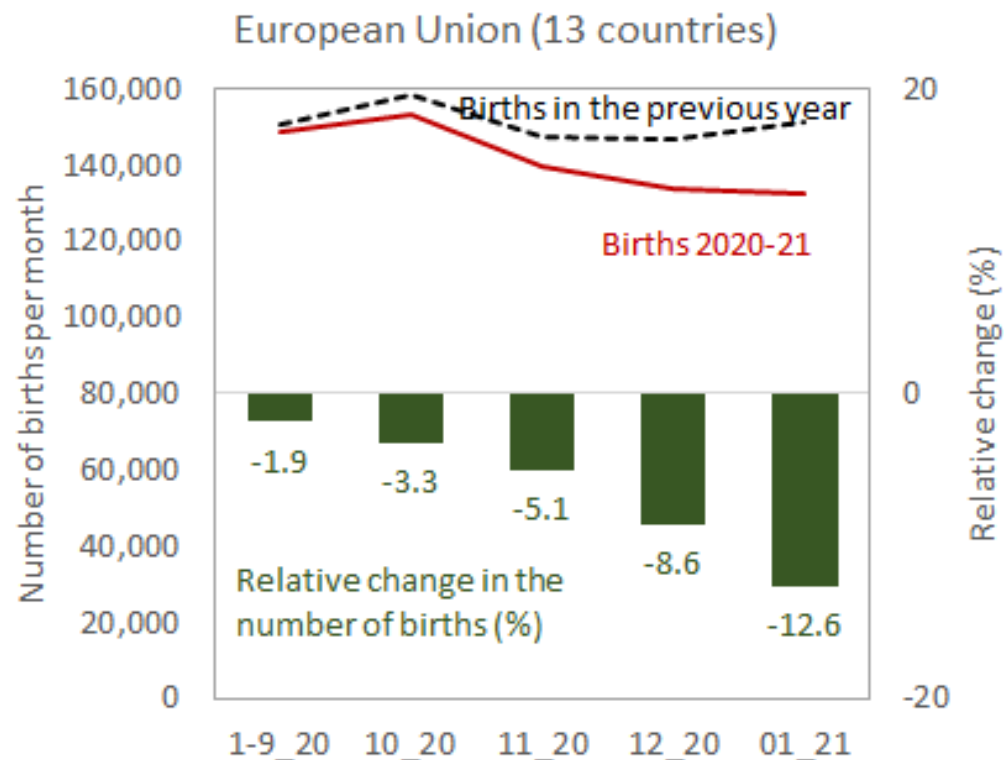
Relative year-on-year
change in the number of
births (%):
Israel,
Jan 2020-Jan 2021

Baby bust in the wake of the COVID-19 pandemic?

Findings: summary

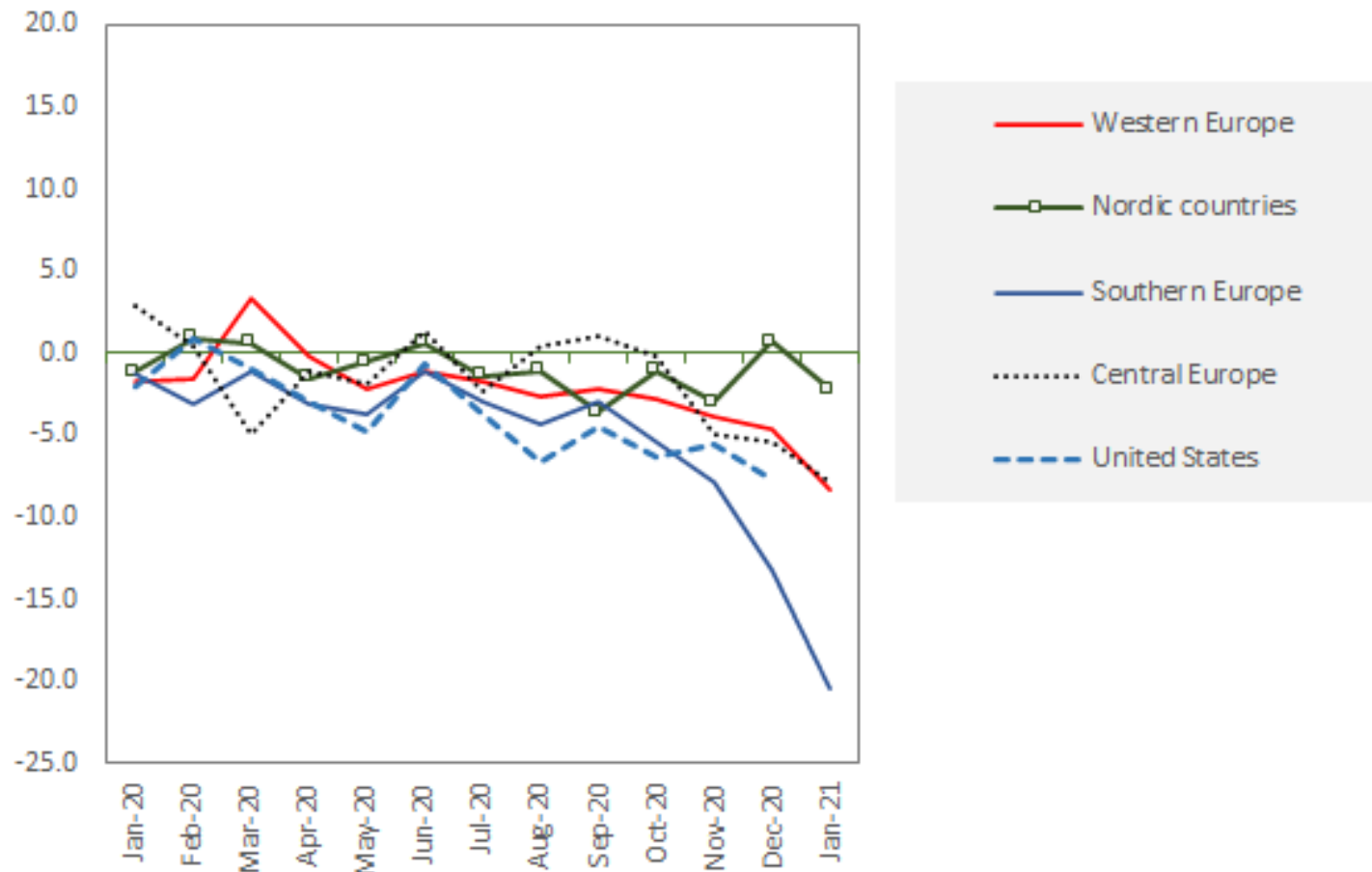
European Union

13 countries with data until Jan 2021, excluding Romania



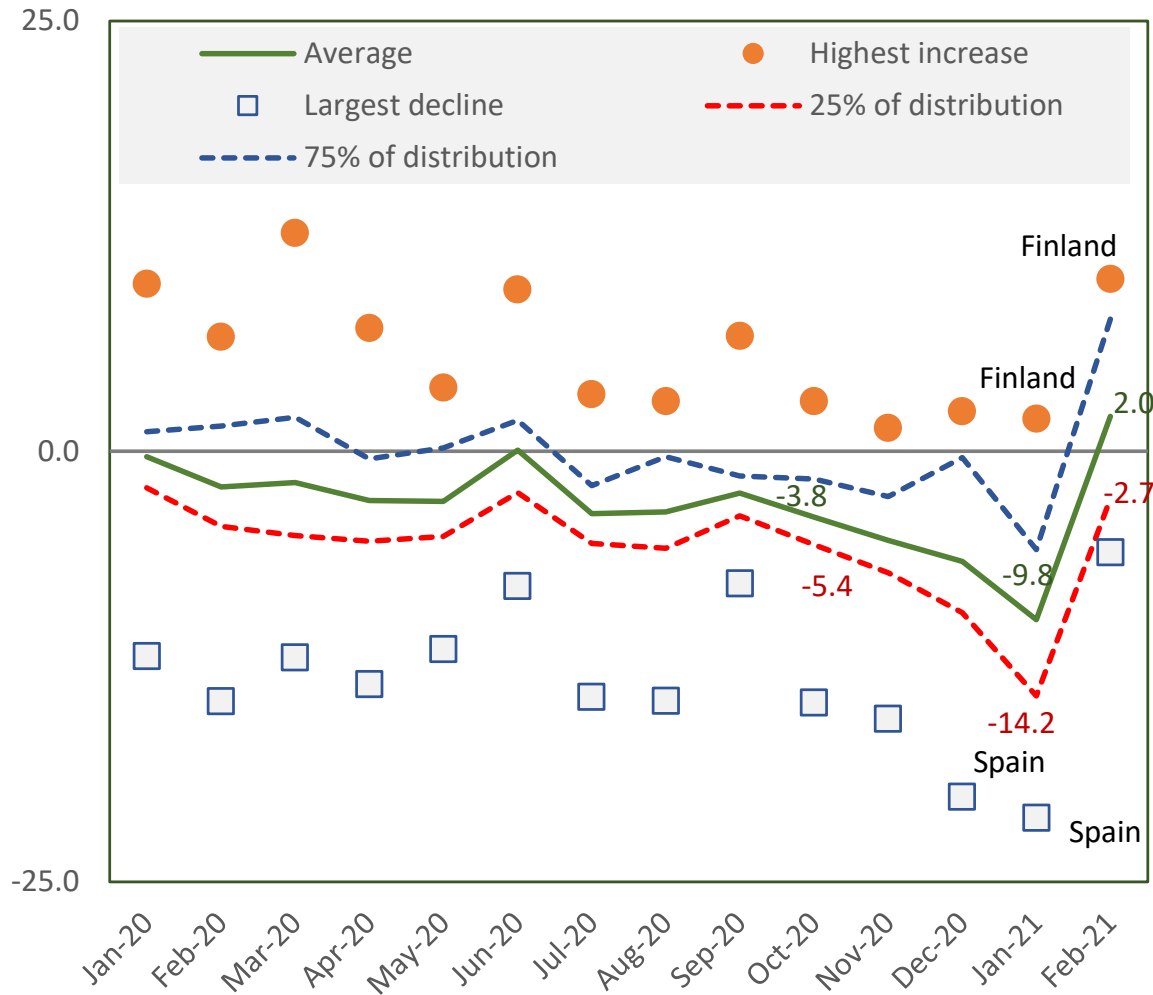
Relative year-on-year change in the number of births (%):
European Union (13 countries),
Jan 2020-Jan 2021

Regional differences until Jan. 2021



Average relative year-on-year change in the number of births (%):
European regions and the United States, Jan 2020-Jan 2021

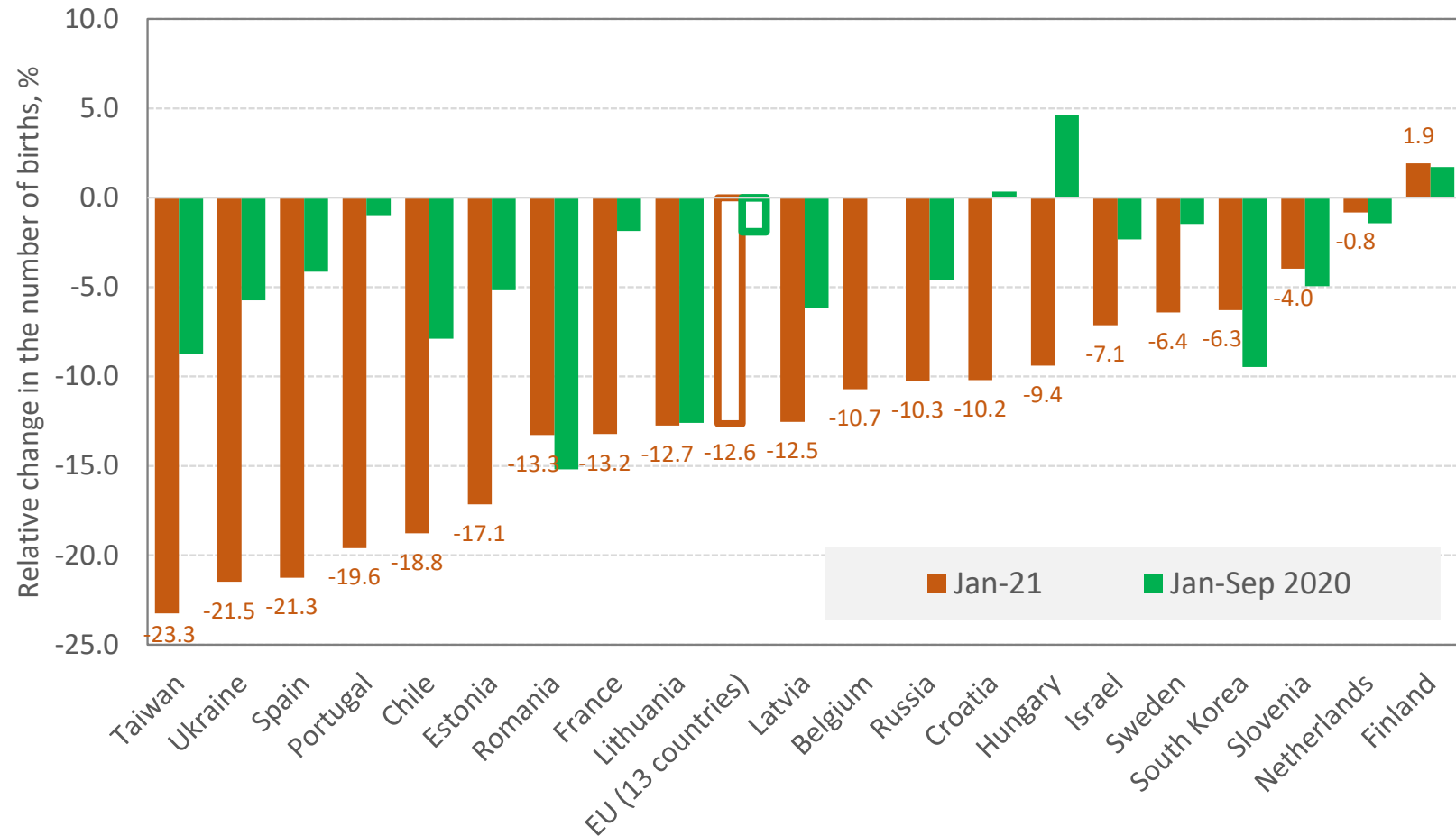
Monthly trends across analysed countries



Average relative year-on-year change in the number of births (%): 21 countries with data until at least Dec. 2020

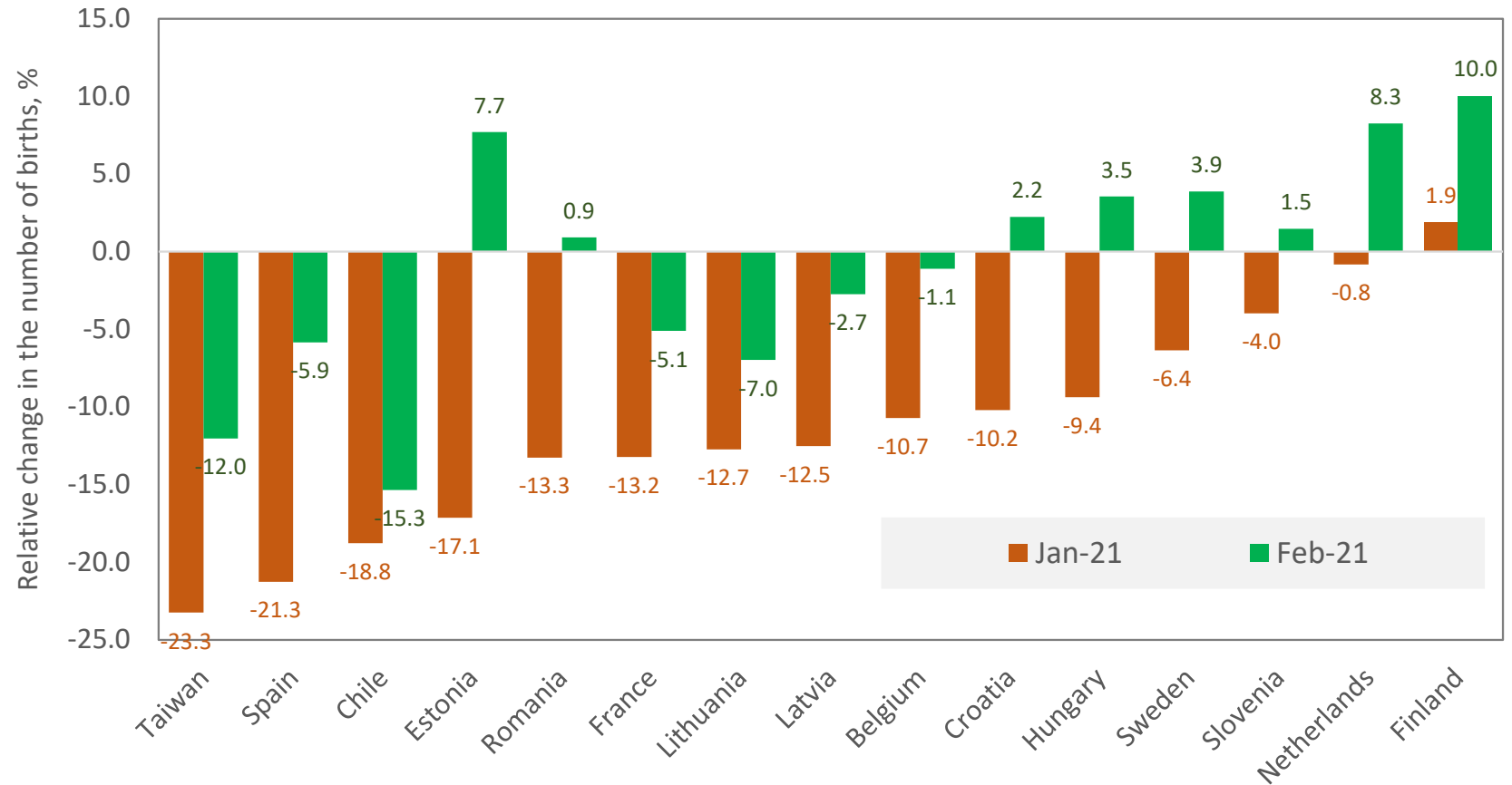
Figure excludes six countries with large fluctuations in data: Lithuania, Romania, Russia, Ukraine, Taiwan, Chile

Baby bust in Jan. 2021



Relative year-on-year change in the number of births (%): January 2021 and Jan-Sep 2020 compared with the same period in the previous year (all countries with available data)

Birth upturn since Feb. 2021?



Relative year-on-year change in the number of births (%): January 2021 and February 2021 compared with the same month in the previous year (all countries with available data)

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Concluding discussion

Key findings: trends and countries

- 1st wave of the COVID-19 pandemic associated with baby bust in most countries: accelerated downturn in the year-on-year number of births from Nov 2020 to Jan 2021
- Mostly in line with the expectations

Regional differences

- Strongest impact: Southern Europe, also Belgium, France, Estonia, probably Taiwan, Ukraine, Latvia
- Clear, but more moderate downturn in Austria until Dec 2020
- No negative impact in some countries: Nordic countries, the Netherlands, Slovenia, Czechia (until Dec 2020), South Korea
- Large fluctuations in the data: Romania, Baltic countries (esp. Lithuania, Latvia), Eastern Europe, Taiwan: more difficult to establish a clear trend

Period trends: birth recovery after the baby bust?

Downturn in the number of births after Oct 2020 accelerating until Jan 2021

- Consistent across countries: avg. decline by 10% across all analysed countries, 12.6% in 13 EU countries
- These pregnancies mostly started in April and (early) May → peak of the 1st COVID-19 wave & lockdowns

The biggest surprise:

Trend reversal in Feb-Mar 2021: consistent across countries

- February 2021 data show much weaker downturns than January 2021 and some unexpected upturns (esp. Finland, Netherlands, Estonia, Hungary)
- Further accelerating in Mar 2021?
- A short-term baby boom associated with ending of the 1st wave?

Future trends

Short-term trends

- Birth trends might move in cycles of busts and recoveries, similar to the cycles of the COVID-19 pandemic and lockdowns
- Widening cross-country differences in fertility response?

Pregnancy

Lockdown baby boom may be on the way as NHS antenatal bookings rebound

Appointments in third quarter of 2020 at five-year high despite dip earlier in pandemic

- [Coronavirus - latest updates](#)
- [See all our coronavirus coverage](#)

Neil Puffett and Rachel Hall
@rachela_hall
Tue 20 Apr 2021 13.35 BST

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▲ Antenatal appointments in the final three months of 2020 were 11.1% higher than the same period in 2019, NHS

The Guardian, 20 April 2021

Longer-term trends

- Downturns more likely if COVID-19 leaves long-lasting scars in economy, labour market and if it affects government spending
- Different “starting” position: fertility in some countries record low in 2019
- Moderating impact of social and family policies

Thank you!

➔ also to the fantastic HFD team at the MPIDR!

STFF (Short-Term Fertility Fluctuations) dataset:

<https://www.humanfertility.org/cgi-bin/stff.php>

STFF Visualisation Toolkit:

<https://mpidr.shinyapps.io/stfertility/>



Report on monthly birth trends (to be updated soon, 😊)

<https://osf.io/preprints/socarxiv/mvy62>

(Sobotka, Tomas, Aiva Jasilioniene, Ainhua A. Galarza, Kryštof Zeman, Laszlo Nemeth, and Dmitri Jdanov. 2021. “Baby Bust in the Wake of the COVID-19 Pandemic? First Results from the New STFF Data Series.” SocArXiv. March 24.

doi:10.31235/osf.io/mvy62)

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