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No worries?
Multiple crises, future economic expectations and fertility intentions

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Extended Abstract

Work in progress

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Introduction and prior research

The recent fertility decline lead to historical low levels of the total fertility rate in Austria. This decline has been related to the multiple crises Europe experienced in recent years, including the COVID-19 pandemic, the Russian aggression in Ukraine, and an economic recession. While the Austrian economy is slowly stabilizing, inflation and international uncertainties remain high, especially for the industrial sector. These crises are compounded by other factors that fuel uncertainty, foremost among them threats by climate change and a new global arms race. In addition, right-wing populists speak of a migration crisis. Altogether, present times do not seem to provide the perfect environment to raise kids. Against this background, the present paper examines the role of (a) worries about inflation, climate change, peace, and immigration as well as of (b) economic expectations regarding both the future personal financial situation and the future national economy.

Demographic research provided a lot of evidence demonstrating consequences of economic recession and economic uncertainty for fertility (e.g., Buh 2023; Comolli & Vignoli 2021; Matysiak et al. 2021; Novelli et al. 2021; Ranjan 1999; Sobotka et al. 2011). In short, employment and income uncertainty likely lead to postponement of childbearing plans. Usually, however, only a part of the postponed births will be realized later. Within this literature, the papers by Vignoli et al. (2020) and Lappegård et al. (2022) are particularly noteworthy. Vignoli et al. (2020) speak of the "shadow of the future," which influences fertility intentions alongside the "shadow of the past." They establish a concept that also takes future expectations into account and argue that these too create uncertainty. In a controlled laboratory experiment in Norway, Lappegård et al. (2022) showed that negative or positive future economic scenarios indeed affected fertility intentions of heterosexual couples. Although these authors refer mainly to economic uncertainty, this concept can also be extended to any other relevant expectations, concerns and fears about the future.

Another strand of literature dealing with the effects of crises on fertility trends and fertility intentions stems from research on the COVID-19 pandemic (e.g. Bujard & Andersson, 2024; Buber-Ennser et al., 2024; Guetto et al., 2022; Luppi et al., 2020; Malicka et al., 2021; Winkler-Dworak et al., 2024). Findings indicated both negative effects (baby slump) and positive effects (baby bump), often related to different phases of the pandemic, and probably changing with specific events like the first lockdown or the introduction of the vaccination. Overall, self-reported changes in fertility intentions seemed to be much more pronounced in studies conducted in earlier phases of the pandemic than in studies conducted in later phases. In Austria, only a minority of persons who intended to have (further) children before the pandemic reported to have changed their childbearing plans due to the pandemic (Buber-Ennser et al. 2024). The pandemic could, however, have had an indirect effect on fertility intentions, as it likely contributed to the inflation in the following years. Recent research analysing Austrian GGP data finds that a higher (subjectively perceived) burden caused by inflation has led to a reduction in the intention to have children (Buber-Ennser et al., 2025).

While much research has focused on the consequences of economic uncertainty and the pandemic, far less is known about the consequences of the current war in Ukraine or climate change. Regarding the war in Ukraine, findings of Golovina et al. (2025) indicate a negative impact on fertility intentions in Finland, which adds to previous research reporting reduced fertility in war zones and among refugees. Research on climate change unanimously points to the importance of the discourse for fertility intentions. However, while recent work by Bouchet-Valat and Toulemon (2025) for France and Puglisi et al. (2025) for Italy indicates clear associations between concerns about climate change and fertility intentions, conclusions about consequence for fertility are not clear in all studies (e.g., Jylhä et al. 2024). The present study's insights could thus be particularly valuable.

Data

The Austrian Socio-Economic Panel (ASEP) is planned to be a long-term research data infrastructure which enables the analysis of a variety of socio-economic topics from a life course perspective

(Statistics Austria 2024). Notable, ASEP survey data can be linked to the annual register data at individual level from the Administrative Data Collection for the Social Sciences (ADCOL) within the framework of the Austrian Micro Data Center (AMDC; Fuchs et al. 2024). The first wave of the main survey will include a net sample of around 5,000 households (11,000 people).

In 2023, an ASEP pilot wave has been conducted, comprising data from around 2,600 people from around 1,300 households (ASEP 2024). It contains self-reported data from all household members aged 15+ and data collected in proxy interviews for those under 15. The probabilistic sample aims to be representative for Austrian private households. The pilot wave included several questions on childbearing plans that were asked to women aged 19-45 and men aged 19-50. Our initial sample comprises 430 women and 422 men who provided answers to these questions. Due to single missing answers, the analytical sample for regression analyses includes 838 of these 852 respondents.

ASEP covers both long-term and short-term *fertility intentions*. First, the survey asks "Would you like to have (further) children in the future?", before specifying "How many (more) children would you like to have?". Answers to these questions are referred to as "number of further intended children". The number of further intended children is also added to the number of children already born (parity). This number is referred to as "intended total number of children" (existing plus further intended). Short-term fertility intentions refer to a period of three years. The corresponding question asks "Do you intend to have a child in the next three years?". Respondents could answer with "definitely not", "rather not", "rather yes", or "definitely yes".

The multiple crises and the "*shadow of the future*" is approximated by two different kinds of indicators. The ASEP survey mentions a number of issues that may worry people. Respondents can indicate that they are not worried ("no worries"), somewhat worried ("some worries"), or very worried ("big worries") by a specific issue. Given the current situation of multiple crises, I selected four topics that are likely to have a particular impact on current (and future) concerns about having children: the development of prices (i.e., inflation), climate change, immigration, and peace (or war). In addition to worries about present and future states, the survey also collects expectations about the future economic development. Respondents have been asked to assess what (a) their personal financial situation and (b) the economic situation in Austria will be like in the next twelve months. They indicated whether, in their opinion, the economic situation will get much worse, get a little worse, remain roughly the same, get a little better, or get much better. For my analyses, I collapsed the scheme and differentiate between getting worse, staying roughly the same, and getting better.

Further variables that serve as controls in regression analyses include gender, age, education, unemployment, country of birth, religion, housing, and making ends meet. Parity is additionally controlled for in models focusing on the number of further intended children or short-term intentions.

Analytic strategy

Following descriptive analyses, my analytical strategy pursues two main approaches. First, regression models are employed to *explain* fertility intentions and to test for differences by worries and expectations as well as between societal subgroups (e.g., by gender, education, employment). Multinomial regression models on the intended *total* number of children differentiate between no children, one child, two children, and three or more children. Logistic regression models on further intended children differentiate whether respondents reported to intend at least one child in the future or not. These logistic regressions are conducted separately for selected subgroups. In particular, I compare women to men and childless/childfree respondents to parents. The results of both the multinomial and binomial logistic regression models are reported in terms of average marginal effects. This allows to interpret findings in terms of percentage points differentials in the share of persons who intend to have children (or no, 1, 2, 3+ children, respectively).

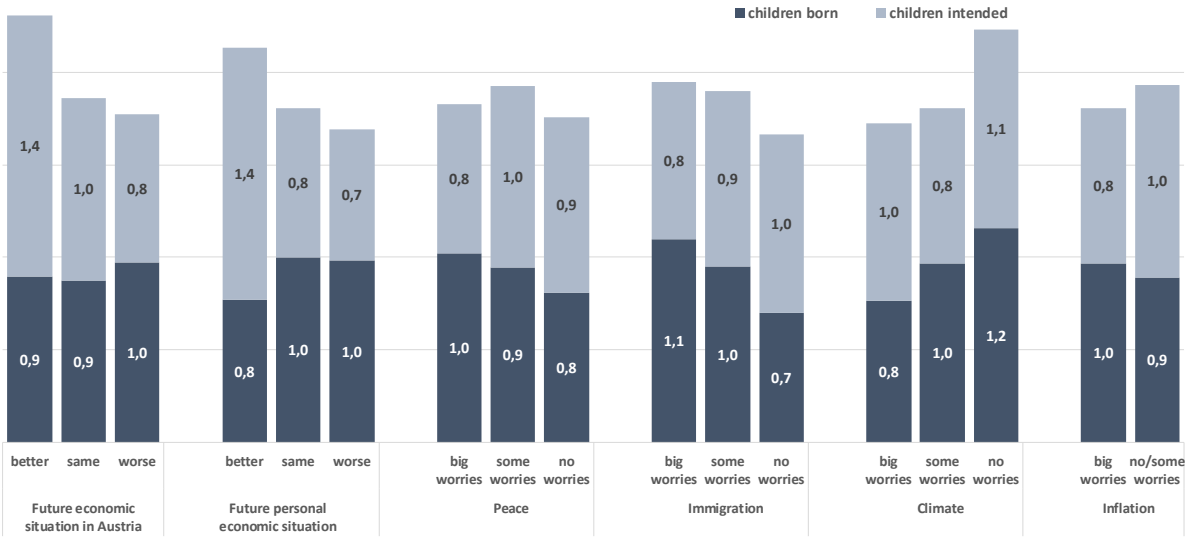
Second, random forest ensemble trees are used to *predict* fertility intentions. Machine learning methods allow to include further worries and covariates that had to be excluded from regression analyses due to problems of multicollinearity (e.g., worries about the environment, crime, or social cohesion). In addition, these analyses indicate how relevant specific worries and expectations are for predictions of fertility intentions.

The first results refer to the intended total number of children and the number of further intended children. Short-term intentions have not been analysed in depth so far. All analyses are still work in progress.

First findings / selected preliminary results

Figure 1 gives the intended total number of children and distinguishes its two components, the number of children already born and the number of further intended children. Descriptive findings on future economic expectations are very clear. People thinking that the economic situation in Austria and/or their personal economic situation will get better report higher childbearing intentions than those thinking that it will get worse (1.4 vs. 0.7 children and 1.4 vs. 0.8 children, respectively). Findings on worries reveal a similar pattern. Childbearing intentions are lowest among those expressing big worries regarding peace, immigration, and inflation (all 0.8 children) and highest among those expressing no worries about climate change (1.1 children).

Figure 1: Average born and intended number of children by future economic expectations and perceived worries in Austria



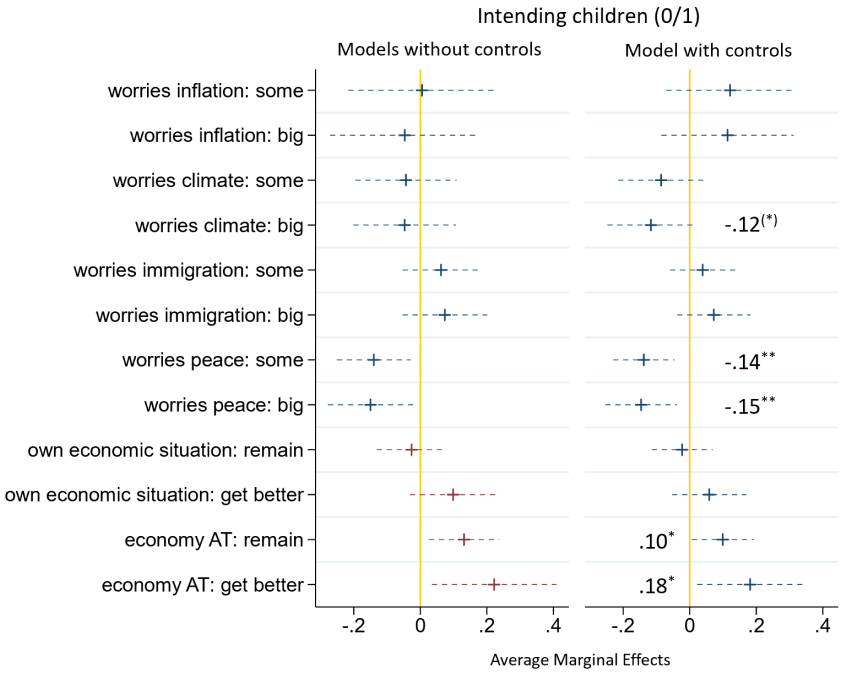
Source: ASEP (2024), authors computation; N = 852 respondents (age 19-49), weighted data

Findings from multinomial regression models on the intended *total* number of children indicate the following: First, respondents expressing worries about climate change tend to report more often that they intend to have no children and less often to intend three or more children. Second, respondents expressing worries about peace tend to report more often that they intend to have no children and less often to intend two children. Third, respondents thinking that the economic situation in Austria will get better tend to report less often that they intend to have no children and more often to intend three or more children. Fourth, coefficients regarding worries about the inflation and the expected future personal economic situation are not statistically significant in models including control variables (education, unemployment, making ends meet etc.). Fifth, findings regarding worries about immigration deviate from the general pattern: Respondents expressing worries about

immigration tend to report less often that they intend to have no children and more often to intend two children.

Subgroup analyses regarding further childbearing intentions also reveal important insights. Adding to the literature on consequences of economic uncertainty, results on gender differences, for instance, show that unemployment has a negative impact on men's intention to have children, but not on women's. Results shown in Figure 2 indicate that worries about climate change, peace, and future economic expectations may have a substantial impact on childbearing intentions of childless/childfree persons in Austria. Estimated coefficients suggest differentials between 10 and 18 percentage points in the share of persons who intend to have children. Although the confidence intervals in subgroup analyses are often quite large due to the small number of cases, these figures at least provide strong reasons for further research.

Figure 2: Differences in childbearing intentions among childless/childfree persons in Austria by future economic expectations and perceived worries, average marginal effects based on logistic regression



Note: The figure shows average marginal effects and 95% confidence intervals that have been derived from logistic regression models. Controls include gender, age, education, unemployment, country of birth, religion, housing, and making ends meet.
** p < .01, * p < .05, (*) p < .10.

Source: ASEP (2024), authors computation; N = 406 childless/childfree respondents (age 19-49)

Finally, first results from machine learning models, that can predict around 80% of intentions correctly, indicate that worries, in particular about the environment and peace, are among the most important predictors of fertility intentions.

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