Household Resources and Demographic Resilience: Dynamics of Short-Term Fertility Intentions In Czechia, 2020-2022

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Introduction

The decreasing number of births and declining total fertility rates represent a major demographic challenge in most advanced countries, and Czechia is no exception. Moreover, it recently experienced a rapid and profound decline in its total fertility rate, from 1.71 to 1.37, between 2020 and 2024. The decline seem to reflect the polycrisis (**Lawrence** et al., 2024) that unfolded in that period and included the COVID-19 pandemics, related lockdowns, and Russia´s invasion of Ukraine, in Czechia accompanied by bankruptcy of several major energy providers and a major migration influx consisting of hundreds of thousands of refugees from Ukraine. These interconnected developments imposed high financial and emotional burdens on people (**Yang, Kao**, 2025) and resulted in an all-embracing uncertainty. Adaptability has emerged as a leading strategy for navigating life among young people (**Kajta** et al., 2025). Downward revision of fertility intentions (permanent or temporary, i.e. postponement) is arguably one such adaptation step.

The aim of this paper is to show how women's short-term fertility intentions changed in Czechia between 2020 and 2022 and, most importantly, how these trends varied across education groups and income levels. Based on the literature reviewed above, we may expect short-term fertility intentions to decline in Czechia between 2020 and 2022. We intend to answer **the following questions**: Did all education and income groups respond to the polycrisis in the same manner, i.e., was the decline the same for all education/income categories, or was fertility decline stratified? Did short-term fertility intentions return to the 2020 levels, or was the decline a more permanent phenomenon?

Data, variables, and method of analysis

We use data from the first wave of the second cycle of the **Czech Generations and Gender Survey (GGSII)**. In Czechia, this wave was conducted from November 2020 to July 2022. Data collection was longer than had been planned, mainly because COVID-19 required several fieldwork interruptions and modifications to the fieldwork organization (favoring recruitment over telephone/email and CAWI rather than CAPI interviewing) (**Kreidl** et al., 2023). Unexpected fieldwork prolongation is typically viewed as a nuisance, but its upside is that the sample can be effectively utilized to describe trends over the data collection period. We can divide the sample into subgroups depending on the interview date (in our case, the interview year) and compare the dependent variable across these subgroups. While the sample has not been designed to be representative of each fieldwork stage, statistical adjustments considering socio-demographic and economic covariates, as well as post-stratification weights, have been employed to reduce possible biases.

Our sample consists of **women aged 18 to 39 who were not pregnant at the time of the survey**. Our dependent variable of interest is an ordinal measure of having intentions to have a child in the next 3 years.

Our assessment of trends in short-term fertility intentions is entirely based on **predicted values inferred from multivariate models (ordinal logistic regressions).** We first estimated a series of ten models with short-term fertility intentions in the position of the dependent variable, with education, income, and year (and interactions) being the main predictors (while also controlling for age, education, partnership status, employment status, and parity. We use these models to formally test

changes over years in the (net) association between measures of socio-economic status and short-term fertility intentions. We identify the preferred models and evaluate them using **predicted probabilities of the lowest (Definitely not) and the highest (Definitely yes) short-term fertility intentions category**.

Results

Model evaluation using predicted probabilities

We use two preferred models (Models 4 and 10) to evaluate how inequality in short-term fertility intentions has changed over the years. This evaluation is based on model-based predicted probabilities of stating that the respondent "definitely intends" and "definitely does not intend" to have a child (or another child) in the next three years.

Probabilities are displayed in Figures 1 and 2. **Figure 1 displays predicted probabilities by education over calendar years, and Figure 2 by income level over calendar years**. The graphs in the top rows of Figure 1 and Figure 2 show strong positive short-term fertility intentions (definitely intends to have a child), while the graphs in the bottom rows show strong negative intentions (definitely does not intend to have a child). The left columns of both graphs, Figure 1 and Figure 2, focus on childless women, the columns on the right capture intentions among mothers.

All 4 graphs in Figure 1 offer a very straightforward picture. For all combinations of parity and year, both positive and negative intentions are in the same ranking order: positive intentions are the highest among university-educated women and the lowest among women with primary/lower secondary education (with high-school educated women in between, but closer to the least educated). Similarly, negative intentions are highest among the least educated, somewhat lower among women with a complete secondary education, and lowest among women with university degrees. Positive intentions are somewhat lower among mothers; negative intentions are somewhat higher among mothers. Otherwise, parity has very little effect on short-term fertility intentions.

While the general change between 2020 and 2022 (declining positive intentions and increasing negative intentions) seems to be almost identical across parenthood status and education, a detailed inspection of Figure 1 reveals that women with a tertiary education responded to the polycrisis differently: their positive short-term fertility intentions declined less than among the less educated women between 2020 and 2021. For instance, we see that among childless women with university education, the share with strong positive intentions remained practically the same, being 33 % and 32 % in 2020 and 2021, respectively. Yet, this share declined to 25 % in 2022 (see the top left panel in Figure 1). Among childless women with elementary/lower secondary education, the decline of strong positive intentions was fast between 2020 and 2021 (going from 20 % to 11 %, see the left bottom panel in Figure 1), only to rebound to 14 % in 2020.

We see a similar pattern of change when inspecting negative intentions. Looking, for instance, at mothers with elementary/lower secondary education, we see that their strong negative intentions increased from 28 % to 44 % between 2020 and 2021 and then declined to 36 % in 2022. Among mothers with university education, the share expressing strong negative intentions remained at the same level between 2020 and 2021, being 16 % in 2020 and 17 % in 2021. In 2022, we see, however, a significant increase to 22 % in this group of women. Overall, the educational gradient in both positive and negative intentions significantly increased between 2020 and 2021 and then shrank between 2021 and 2022 as evidenced by the amount of the vertical spread of the three lines in each panel of Figure 1.

Looking at short-term fertility intentions by household income (Figure 3), we see a more complex change than was evident in education (Figure 1). Overall, Figure 2 captures the trend of declining positive intentions and increasing negative intentions in most income quartiles, only in the 1st quartile,

there was (after a short-term shock in 2021) no permanent decline in positive intentions (and no increase in negative intentions) between 2020–2022.

Inspecting Figure 2 more closely, we can also see that the ranking of income categories changes over the years. For instance, positive intentions were most common among women in the 4th income quartile in 2020, but the highest share of women with positive intentions was in the 1st quartile in 2022. Similarly, negative intentions were most common among women in the 1st quartile in 2020, whereas they were most common among women in the 2nd and 3rd quartiles in 2022.

It appears that women in the 4th income quartile responded to the polycrisis most rapidly and profoundly. Looking at childless women in the 4th quartile, we see that their positive intentions declined from 26 % to 10 % between 2020 and 2021 to rebound to 17 % in 2022 (see the top right panel in Figure 2). On the other hand, their negative intentions increased from 14 % to 34 % between 2020 and 2021, and then declined somewhat in 2022 to reach 21 % (see the bottom left panel in Figure 2). In contrast, we see less dramatic change in short-term fertility intentions in the other quartiles. For example, among childless women in the 1st income quartile, positive intentions declined from 21 % in 2020 to 16 % in 2021 and then increased to 23 % in 2022 (see the top left panel in Figure 2).

Conclusion

Overall, our study demonstrates a decrease in the intentions to have a child in the near future between 2020 and 2022. While the positive intentions declined, the negative ones increased in most education and income groups. Only among women in the 1st income quartile, there is no apparent decline in short-term intentions from 2020 to 2022. Among women with low socioeconomic status (lower secondary education or 4th income quartile), short-term fertility intentions declined more rapidly than among women with high socioeconomic status (tertiary education or 1st income quartile), suggesting the response to polycrisis is stratified by socioeconomic status. These findings may indicate that there is a stronger demographic resilience (**Capdevila** et al., 2022) among wealthier individuals who were not only more resistant to an overall decrease in short-term fertility intentions but also able to restore the slight decline in the intentions within one year. Resilience among the rich might be boosted by the 2020 tax changes, which effectively reduced taxes, especially for individuals with high wages, which could weaken their sensitivity and vulnerability to the upcoming economic and energy crisis starting at the end of 2021.

The results of our study indicate a shift from the lowest to the highest short-term fertility intentions among the wealthiest women, which reshapes the overall framework of inequality in fertility intentions. Whereas in 2020, at the end of the first year of the COVID-19 pandemic, there was a relatively small difference in the intentions between the two extreme income categories, with the strongest intentions among the women in the most challenging economic situation, during 2022, they were replaced by the wealthiest women, who are now the most intentional in planning their fertility. Despite the uncertainty about whether this trend will persist over time and the challenge of using even short-term fertility intentions as a reliable predictor of future fertility, our study provides insight into current fertility behavior trends and attitudes.

Figure 1: Predictive probabilities of definitely intending (upper panels) or definitely not intending (lower panels) to have a child in the next three years by parity, educational level, and year, based on ordinal logistic regression (Model 4). Czech women (aged 18–39) sampled between 2020 and 2022. Number of cases N = 1,097. Source: CZ GGS-II (wave 1).

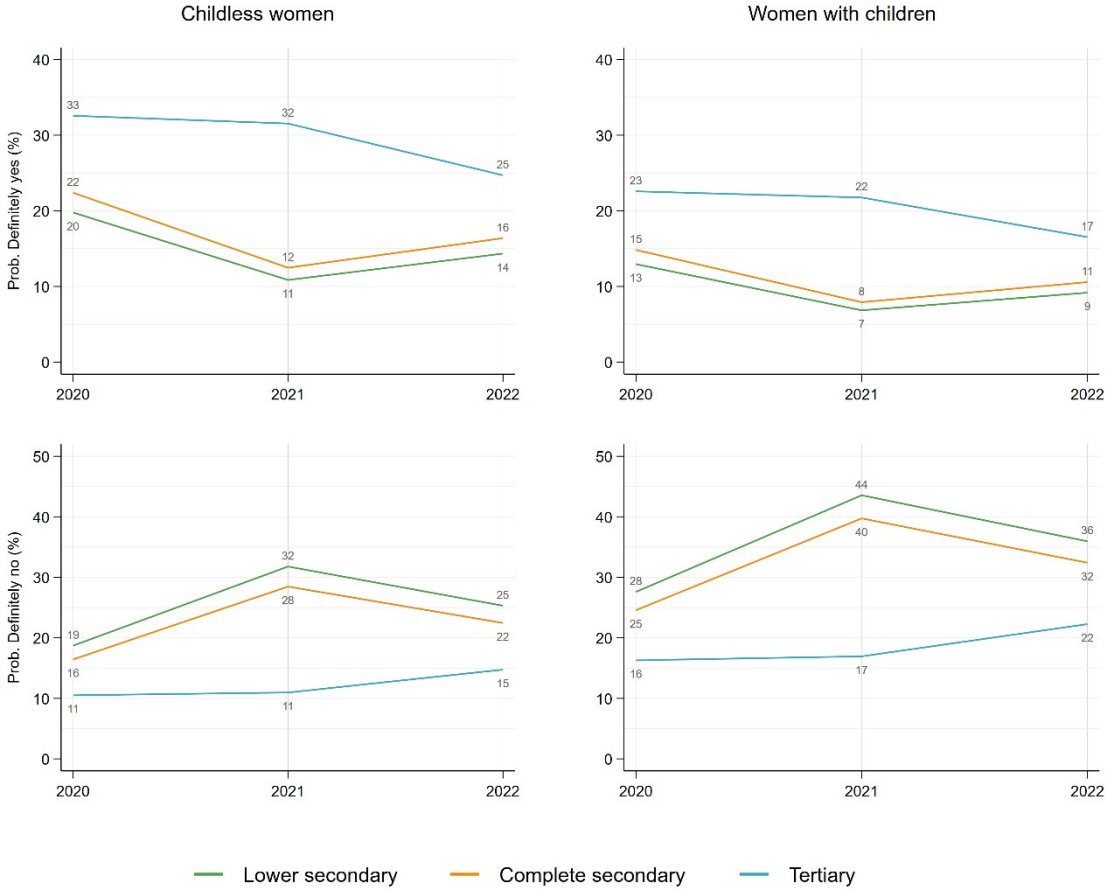

Figure 2: Predictive margins of definitely intending (or definitely not intending) to have a child in the next three years by parity, income quartile, and year, based on Model 10. Czech women (aged 18–39) sampled between 2020 and 2022. Number of cases N = 1,097. Source: CZ GGS-II (wave 1).