

Trying under pressure: economic downturns and age-specific fertility behavior

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Introduction

The importance of context for fertility is well established: childbearing intentions require favorable external conditions, such as partnership, economic security or housing. Previous research shows that these contextual factors may matter differently by age. Comparative studies on recessions have demonstrated that fertility declines were concentrated among younger women, while older women's fertility was less affected (Goldstein et al., 2013; Matysiak et al., 2021; Sobotka et al., 2011). Some studies have indicated that even after controlling for individual characteristics, older women are less sensitive to recessions (Neels et al., 2013). Yet these studies, whether based on macro unemployment or register data, cannot disentangle whether older women's resilience reflects genuine behavioral differences or is instead an artifact of longer time-to-pregnancy and extended planning horizons. In contrast to existing studies based on births, this paper measures trying to conceive, which is a proximate indicator of intention formation itself and therefore avoids the well-known intention–outcome conflation (Philipov, 2009; Vignoli et al., 2020).

This study examines how the 2008–2009 recession in Germany affected trying to conceive behaviour. Using Panel Analysis of Intimate Relationships and Family Dynamics (Pairfam) wave 1–13 (2008–2021), we restrict the sample to women not trying in wave 1 and estimate the probability of trying across subsequent waves. The key contrast is the recession year in the sample (interviews in late 2008 and 2009) versus all non-recession waves. By focusing on the behavior of trying (rather than births), the design circumvents time-to-pregnancy differences and examines how the general economic context, parity, and women's age moderate trying behavior. We ask: *how did the 2008–2009 recession affect trying to conceive by age and parity?*

Background

Three mechanisms help explain why fertility responses to recessions vary by age and parity: biological constraints, the interaction of age with parity-specific fertility intentions, and differences in planned and unplanned births among parity and age of mothers.

Research highlights that a substantial proportion of births are unplanned (Bongaarts, 2001; Santelli et al., 2003; Sobotka et al., 2011). Studies relying on birth outcomes conflate age-related

compositional differences (between planned and unplanned conceptions) with behavioral responses to economic shocks. During economic downturns, women who are not actively trying may adjust their behavior to reduce the risk of an unplanned pregnancy, leading to sharper declines in unplanned conceptions. In contrast, planned conceptions may be less affected, as they result from deliberate decisions made before or despite the downturn.

In other words, the weaker fertility response among older women during recessions may partly reflect differences in planning composition rather than genuine differences in behavioral sensitivity to economic conditions. Fertility intentions themselves are forward-looking evaluations taken under uncertainty, not just retrospective reactions to past conditions (Vignoli et al 2020). Planned conceptions are also more common among women who already have at least one child (Goossens et al., 2016; Guzzo & Hayford, 2019), as they may be realizing remaining childbearing intentions to complete their desired family size. In contrast, childless women may face different constraints and decision-making processes, having not yet realized any of their intended fertility. Recent research emphasizes that short-term fertility behaviors, such as pregnancy avoidance, are key mechanisms shaping contemporary fertility patterns (Guzzo et al., 2025). These differences in short-term planning and avoidance behavior likely contribute to age and parity variations observed during economic downturns.

Age-related declines in fecundity are well documented. Female fecundity begins to decrease in the late twenties and accelerates after the mid-thirties, with sharp reductions in both the probability of conception and the likelihood of a live birth (Leridon, 2004; Schmidt et al., 2012; Te Velde & Pearson, 2002). Older women are often aware, explicitly or implicitly, of these biological constraints and face narrower windows for successful conception. As a result, they may feel a stronger sense of urgency to realize their fertility intentions once they decide to try. During economic downturns, this urgency may lead older women to maintain their attempts to conceive, despite worsening economic conditions. In other words, their behavior may be less sensitive to changing contexts than that of younger women, for whom postponement remains a feasible strategy. This mechanism provides a plausible explanation for the weaker fertility responses to recessions observed among older women in macro-level studies.

Fertility intentions and their realization also differ systematically by parity. Women who already have one child have partly realized their intended family size and may approach subsequent childbearing differently from childless women. Previous research shows that unintended

pregnancies are disproportionately concentrated among childless women, whereas women who have already had a child are more likely to plan subsequent conceptions (Goossens et al., 2016; Guzzo & Hayford, 2019). During economic downturns, these patterns may interact with age. Childless women may postpone initiating childbearing due to contextual uncertainty, whereas older childless women may continue their attempts despite the downturn because of heightened biological time pressure. As a result, responses to economic shocks differ not only by parity but also by age, reflecting a combination of planning status, biological urgency, and the degree of realization of fertility intentions.

Using trying as the outcome variable provides a more direct measure of fertility intentions than birth data. Attempting to conceive reflects a deliberate behavioral decision, observed regardless of whether conception or birth ultimately occurs. This allows the analysis to separate intentional responses to economic conditions from biological success rates, which are age dependent. Moreover, trying is closely aligned with planned conceptions, so a decline in trying during economic downturns can be interpreted as a behavioral adjustment, whereas changes in births may conflate intentional shifts with fecundity constraints or gestational timing.

Data & Methods

The Pairfam panel survey covers 18,912 men and women, to whom questions on reproduction and childbearing are asked annually from wave 1 to 13, generating 99,260 person-years of survey data. The study sample is based on whether women were actively trying to conceive in the 2009 German recession, identified through the survey question: “Have you or your partner tried to have a child since the last interview?” This question is a more accurate measure of the population at risk when assessing the probability of conception compared to register-based data, where the absence of information on intent or partnership dynamics limits such analyses. I only examine women and exclude women who were trying in the first wave, using that as a reference point for whether they were trying to have a child during the peak period of the recession.

At this stage, we estimate OLS regressions of whether respondents reported trying to conceive in a given wave, stratified by parity. The analytical sample comprises 9,471 person-years (1,586 women) for childless women and 6,210 person-years (969 women) for parity-one women. In this preliminary specification, I include indicators for whether the respondent is an “older mother” (aged 35+), whether the observation falls in a recession wave (interviewed in 2009 or 2010), and

lagged partnership status, to assess the direct effects of age and recession exposure on trying behavior. In the final models, I will extend the specification to include a broader set of covariates.

Preliminary results

Table 1. Risk of Trying to conceive (weighted OLS, clustered by id). Population weights were provided by Pairfam.

	Childless	First-Parity
Intercept	0.0184*** (0.0046)	0.0380*** (0.0085)
Age 35+	-0.0111 (0.0093)	-0.0329*** (0.0084)
Recession	-0.0407*** (0.0082)	0.0177 (0.0184)
Lagged partner	0.0755*** (0.0061)	0.0220*** (0.0056)
Age 35+ × Recession	0.0392* (0.0175)	-0.0239 (0.0204)
Observations	9,471	6,210
Adj. R ²	0.0236	0.0113
RMSE	0.260	0.167

Standard errors in parentheses; clustered by id. Weighted by Pairfam's population weight: *cd2weight*. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 1 displays the estimated effects from weighted OLS models with standard errors clustered by individual. The results show that the recession had distinct effects by parity. Among childless women, recession exposure was associated with an approximately 4 percentage point lower probability of trying to have a child. By contrast, among parity-one women, recession exposure had no significant effect on trying behavior. This indicates that childless women and mothers differ systematically in how external shocks influence their childbearing decisions.

Age effects also differ by parity. Older childless women (35+) were more likely to be trying than their younger counterparts during the recession, suggesting that they are less sensitive to external circumstances, likely due to biological time pressure. In contrast, among parity-one women, older respondents did not differ significantly from younger ones in their propensity to try.

Taken together, these results highlight the interaction of age and parity as a key dimension in understanding fertility behavior during economic downturns. Whether a woman has already had a child or not shapes how external shocks translate into realized fertility intentions.

Discussion

By focusing on trying rather than births, this paper isolates behavioural adjustment to the macro environment from age-related biological timing. The results show that trying to conceive declined during the recession among younger but not older women, and this effect was concentrated among the childless. This pattern reflects differences in planning composition, biological urgency, and parity: younger women adjusted behavior more, older women maintained attempts

due to time pressure, and mothers showed little change. Age and parity jointly shape how economic shocks translate into fertility behavior.

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