A Question of Security? Career instability and Family Formation.

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1. Introduction and background

Previous research has shown conclusively that uncertainties have substantial imprints on fertility. The direction of this effect has been argued to depend on the welfare context (Alderotti et al., 2021; Hsu, 2023) and social stratification patterns (Kreyenfeld, 2010). In the German context, employment uncertainty, typically defined as unemployment or fixed-term employment, is expected to accelerate the transition to parenthood among women with limited career prospects. Conversely, the fertility postponement effect of uncertainty is anticipated among women with higher education and among men. These predictions align with the theoretical differentiation between income and substitution effects (Becker, 1960).

The empirical evidence evaluating these theoretical expectations is, however, fragmented and often contradictory. For instance, Schmitt (2021) finds that unemployment delays the transition to parenthood among both men and women, while Kurz et al. (2005) finds the opposite effect among women. Contradictory evidence has been found in terms of fixed-term contracts as well among both, men and women (e.g. Gebel & Giesecke, 2009; Kreyenfeld, 2010; Kurz et al., 2005; Schmitt, 2012).

We argue that the challenges associated with identifying the direction of the effect is due to limitations in operationalizing career uncertainty. Specifically, prior studies have primarily concentrated on assessing labor market status shortly before childbirth. However, existing research has established that the decision to have a child is an outcome of a process, rather than a momentary event (Abbott, 2005). To address this shortcoming, our approach considers the entirety of an individual's activity spells leading up to childbirth, rather than their statuses at a specific point in time. This broader definition enables us to consider periods of inactivity or housework, which have often been neglected in previous approaches.

Moreover, while previous research predominantly focused on employment precarity, our study centers on defining the concept of uncertainty arising from activity instability. Within this conceptual framework, uncertainty is characterized as a perceptual and future-oriented phenomenon originating from an individual's prior labor market experiences. We argue against limiting the definition of uncertainty to precarious spells, as this may fall short of capturing the essence of an unpredictable future. Instead, we propose that the absence of stability in labor market participation may create a sense of perceived uncertainty concerning the continuous and secure connection to the labor market. For example, long-term unemployment represents precarity but doesn't inherently encompass uncertainty, as long-term unemployed individuals are expected to remain jobless in the near future. Conversely, frequent

transitions in and out of labor market participation may increase a sense of unpredictability and thereby, foster a perception of future uncertainty.

To capture instability in a time and life-course-sensitive manner, we employ time-varying composite measures of activity trajectories (Pelletier et al., 2020; Ritschard, 2021). By introducing a novel conceptualization and measurement strategy of instability, our study makes a significant contribution to the previous literature, deepening our understanding of the nexus between uncertainty and fertility.

2. Data and Methods

Analyses are based on monthly individual life-course histories from the German National Educational Panel Study (NEPS), collected between 2007-2022. We select adult men and women from Western Germany born between 1944 and 1982 (N=11000). We follow the individuals for a span of twenty years, equivalent to 240 months, starting from the time they first depart from school until nine months before childbirth if it takes place within this observation period.

Our measurement of activity instability is based on activity statuses documented by NEPS on a monthly basis for each individual. These statuses include spells of employment, unemployment, university, school, vocational education training, and inactivity/housework. The index of instability ($Inst$) is calculated based on the number of statuses (st) and transitions (t) experienced by the individual. ST represents the maximum number of possible statuses, while T represents the maximum number of possible transitions. The index is formulated as follows:

$$Inst = \frac{1}{2} * \frac{(st-1)}{(ST-1)} + \frac{1}{2} * \frac{t}{T}$$

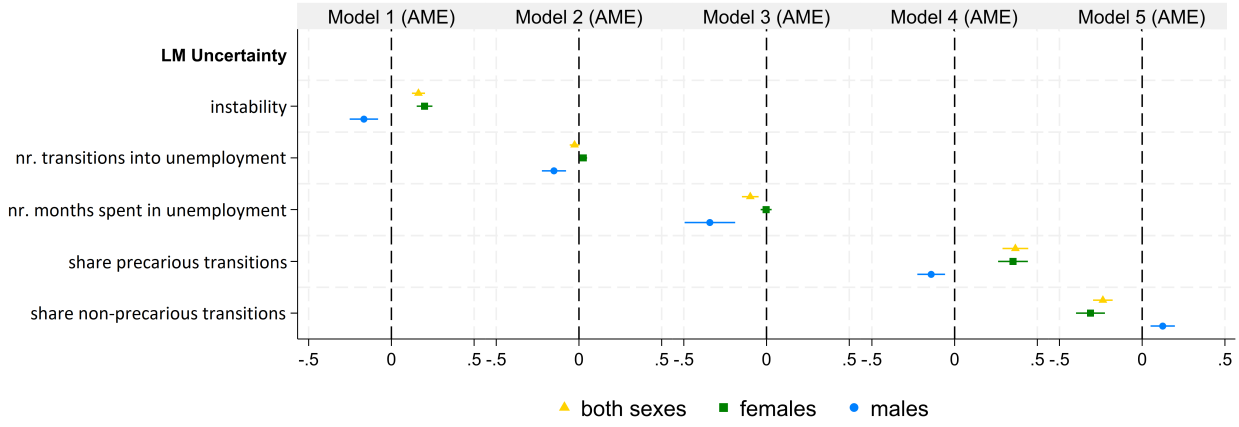
This index captures the degree of instability in an individual's trajectory, taking into account both the variety of statuses experienced and the frequency of transitions between them. It ranges from 0, indicating a perfectly stable trajectory, to 1, representing the highest potential instability. The index is measured as a time-varying variable at each observation point, taking into consideration the entire preceding period up to the month of observation. This approach allows us to employ a dynamic definition of instability that evolves over time (Pelletier et al., 2020). Moreover, it enables us to employ Event History Modelling, and combine its explanatory power (in terms of time-variance) with the exploratory power of sequence analysis (in terms of measuring instability).

To reflect to the nature of transitions, we further introduce two measurements: *share of precarious transitions* and *share of non-precarious transitions*. We classify unemployment and inactivity/housework as precarious states, and employment, school, vocational education training (VET), and university participation as non-precarious states. Here, *share of precarious transitions* refers to the proportion of transitions into precarious states within the individual's entire sequence spell. This is computed by dividing the number of transitions into precarious spells by the total number of transitions encountered by the individual. Conversely, *share of non-precarious transitions* refers to the proportion of non-precarious transitions within the trajectory. It is calculated by dividing the number of transitions into non-precarious spells by the total number of transitions experienced by the individual. Both indexes are time-varying - measured at each time point of observation within the trajectory.

3. Preliminarly Findings

Figure 1 presents the Average Marginal Effects illustrating the hazards of first childbirth based on the Cox Proportional Hazard Models for the entire sample. Additionally, we provide separate analyses for men and women. The findings reveal that instability, as represented in Model 1, accelerates the transition to parenthood among women but leads to postponement among men. A similar but more pronounced effect is observed when we consider the proportion of precarious states in Model 4. We also observe that a higher proportion of positive states results in postponement of first childbirth among women while accelerating it among men. Unlike the instability index, conventional measures, such as number of transitions into unemployment, as well as number of months spent into unemployment fail capture this effect for women as shown in Model 2 and Model 3, respectively.

Figure 1: Average Marginal Effects on Hazards of first childbirth among men and women from Western Germany born between 1944-1982.



AME with 95% confidence interval; turbulence z-standardised
control variables: foreign born, parental education, federal state, age (leaving school)

After stratifying the analysis by the level of education (not shown here), we continue to observe the accelerating impact of instability on first childbirth among women with lower levels of education. However, when we examine the interaction effects of higher education levels and instability, we encounter somewhat ambiguous findings.

This finding aligns with the previous theory of the uncertainty reduction hypothesis (Ranjan, 1999), which posits that women with limited career prospects may opt for family formation and, consequently, carework as an alternative to participating in the labor market as a means of attaining security.

4. Preliminarly conclusions

Our analysis demonstrates that activity instability effectively identifies the anticipated effect in previous literature of uncertainty on the timing of transitioning to parenthood among women. In contrast, we find that conventional measures such as the number of months spent in unemployment or the number of transitions into unemployment fail to capture this effect.

This finding emphasizes the significance of considering entire trajectories rather than isolated events. It also highlights the importance of including periods of inactivity/housework, extending beyond the scope of unemployment alone. In contrast to women, we observe that the effect of uncertainty on the timing of transitioning to parenthood remains consistent across different measures among men. Specifically, whether we analyze episodes versus transitions or turbulence versus conventional measures, the outcomes are similar.

Additionally, our analysis shows that the nature of these transitions plays a critical role. For women, an accumulation of transitions into non-precarious states results in postponement, whereas an accumulation of precarious transitions leads to acceleration. In contrast, among men, we observe the opposite effect - an accumulation of transitions into non-precarious states accelerates the timing, while an accumulation of precarious transitions leads to postponement.

These findings highlight the critical importance of adopting a dynamic and life-course-sensitive approach when attempting to capture the direction of the effect within the uncertainty-fertility nexus.

References

Abbott, A. (2005). Process and temporality in sociology. The Idea of Outcome in U.S. Sociology Andrew Abbott. In G. Steinmetz & J. Adams (Eds.), *The Politics of Method in the Human Sciences* (pp. 393–426). Duke University Press. https://doi.org/10.1515/9780822386889-014

Alderotti, G., Vignoli, D., Baccini, M., & Matysiak, A. (2021). Employment Instability and Fertility in Europe: A Meta-Analysis. *Demography*, *58*(3), 871–900. https://doi.org/10.1215/00703370-9164737

Becker, G. S. (1960). *Demographic and economic change in developed countries, a conference of the Universities-National Bureau Committee for Economic Research* [OCLC: 2079323]. National Bureau of Economic Research, distributed by Columbia University Press.

Gebel, M., & Giesecke, J. (2009). Ökonomische Unsicherheit und Fertilität. Die Wirkung von Beschäftigungsunsicherheit und Arbeitslosigkeit auf die Familiengründung in Ost- und Westdeutschland / Economic Insecurity and Fertility. The Effects of Job Insecurity and Unemployment on Family Formation in East and West Germany [Publisher: De Gruyter Oldenbourg]. *Zeitschrift für Soziologie*, *38*(5), 399–417. https://doi.org/10.1515/zfsoz-2009-0504

Hsu, C.-H. (2023). How women's employment instability affects birth transitions: The moderating role of family policies in 27 European countries. *European Sociological Review*, jcad037. https://doi.org/10.1093/esr/jcad037

Kreyenfeld, M. (2010). Uncertainties in Female Employment Careers and the Postponement of Parenthood in Germany. *European Sociological Review*, *26*(3), 351–366. https://doi.org/10.1093/esr/jcp026

Kurz, K., Steinhage, N., & Golsch, K. (2005). Case study Germany: Global competition, uncertainty and the transition to adulthood. In *Globalization, uncertainty and youth in society* (pp. 47–78).

Pelletier, D., Bignami-Van Assche, S., & Simard-Gendron, A. (2020). Measuring Life Course Complexity with Dynamic Sequence Analysis. *Social Indicators Research*, *152*(3), 1127–1151. https://doi.org/10.1007/s11205-020-02464-y

Ranjan, P. (1999). Fertility Behaviour under Income Uncertainty [Publisher: Springer]. *European Journal of Population / Revue Européenne de Démographie*, *15*(1), 25–43. Retrieved May 9, 2023, from https://www.jstor.org/stable/20164053

Ritschard, G. (2021). Measuring the Nature of Individual Sequences. *Sociological Methods & Research*, 004912412110361. https://doi.org/10.1177/00491241211036156

Schmitt, C. (2012). Labour market integration, occupational uncertainties, and fertility choices in Germany and the UK [Publisher: Max-Planck-Gesellschaft zur Foerderung der Wissenschaften]. *Demographic Research*, *26*, 253–292. Retrieved May 2, 2023, from https://www.jstor.org/stable/26349898

Schmitt, C. (2021). The impact of economic uncertainty, precarious employment, and risk attitudes on the transition to parenthood. *Advances in Life Course Research*, *47*, 100402. https://doi.org/10.1016/j.alcr.2021.100402