How do individual labour market trajectories mediate the relationship between economic context and family formation differently among individuals with a migration background?

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INTRODUCTION

Research on fertility patterns of majority populations has repeatedly demonstrated postponement of entry into parenthood in relation to deteriorating economic conditions [1], yet fertility responses to economic conditions can vary substantially according to migration background and migrant generation [2]. European labour markets are strongly stratified by origin, raising the question whether the different labour market positions held by women with a migration background may explain these varying fertility responses to aggregate-level economic conditions. Individual labour market trajectories often play a mediating role in theoretical mechanisms explaining the association between economic conditions and fertility. On the one hand, *actual job instability* during economic downturns (e.g., unemployment spells and income effects) may lead to postponement of fertility until a satisfactory labour market positions is reached (again) [3, 4]. However, job instability induced by economic deterioration may also provide a window of opportunity for childbearing, or entail normalization of adverse conditions for women facing limited labour market prospects anyway, making their fertility decisions unaffected by economic conditions [5]. Since (i) subsequent generations of migrants in Europe face structural barriers on the labour market resulting in less favourable labour market positions, trajectories and prospects, especially for non-European origin groups [6, 7], and (ii) deteriorating economic conditions disproportionately affect the most vulnerable groups [8, 9], individual labour market trajectories might be key factors in explaining the relationship between economic conditions and fertility. If this is the case, failing to include them might lead to inflation of the estimated effect of aggregate indicators on fertility. On the other hand, *expectations* about future employment prospects and economic sentiment may also form fertility behaviour [10]. Feelings of economic uncertainty might induce postponement themselves, apart from whether individual labour market trajectories are directly influenced by economic deterioration or not [11]. In this case, individual positions may not play a strong mediating role, but controlling for them may still alter the estimated effect of aggregate economic indicators through their impact on how women perceive economic deterioration. To date, little studies have empirically tested the possible mediating role of individual trajectories. While some studies have considered both aggregate-level and individual-level economic factors [12-14], variation by migration background has yet to be considered. Additionally, evidence on higher-order births remains absent for both majority as minority populations. Therefore, this paper aims to contribute to our understanding of the relationship between economic conditions and fertility of individuals with various migration backgrounds by addressing the potential relevance of individual labour market trajectories as mediating factors on the different stages of family formation.

This paper contributes to the literature in a threefold manner. First, we add to the theoretical debate on the importance of labour market positions and opportunities in shaping the relationship between economic conditions and fertility by addressing the potential mediating role of individual labour market trajectories. Second, this study explicitly considers variation by migration background and generation since differing labour market opportunities (or lack thereof) may form employment and family formation trajectories. Potentially different fertility responses to economic conditions of women of the 1.5 and second generation may in turn have implications for general fertility, which is especially relevant given the increasing shares of women of 1.5 and second generations of various origin groups in European populations [6]. Third, we empirically test this mediation for both entry into parenthood and subsequent parity progressions, which is novel for majority and minority populations. Distinguishing between the decision to become a mother as

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opposed to the decision to have a subsequent child when examining the impact of contextual economic indicators is necessary, since different theoretical mechanisms might be relevant (e.g., increasing relevance of situational factors [15] and income prerequisites [11] for higher parities). To conduct our analysis, we use Belgian longitudinal microdata from the Crossroads Bank for Social Security for 2005-2017, complemented by data from the National Bank of Belgium on contextual economic indicators. We then estimate pooled discrete-time hazard models for repeated events for the transition to a first, second, third, or any higher-order birth, stratified by migration background and generation. Belgium's long immigration history from both European and non-European countries, as well as the strong divide in labour market opportunities and outcomes between individuals with and without migration background in comparison to other European countries [6, 16] makes it a relevant case to examine.

THEORY

A multitude of theories explain how aggregate economic conditions may shape fertility decisions, yet they are often based on the fulfilment of individual preconditions that ought to be satisfied before having children, such as achieving actual job and/or income stability. Not achieving a stable income position may form an obstacle for childbearing [17], entailing fertility postponement when faced with actual job instability (i.e., *postponement hypothesis*) [18]. The feasibility and relevance of such preconditions may however vary across groups with different labour market opportunities, which might make them react in a different way to economic deterioration [11, 18]. On the one hand, unemployment spells might provide a window of opportunity to have children as a way to give meaning to life when labour market opportunities are structurally blocked, which might make some women with a migration background give up on the pursuit of a career [5, 19]. To the extent that relevant others - such as peers and parents - are also exposed to such disadvantages, economic hardship might become normalized and less salient in the decision to have a child, as prescribed by both the *normalization of disadvantage hypothesis* [17, 20] and the *reduced saliency hypothesis* [21]. On the other hand, the *minority status hypothesis* prescribes that when economic conditions worsen, migrant groups might attempt to offset the additional disadvantages they face on the labour market by postponing fertility even more than natives until a satisfactory labour market position is reached [22]. This might especially hold true for higher-educated members of minority groups, whose perception of risk can be considered higher since they already successfully coped with multiple barriers in education, on the labour market or in attaining higher positions, which might make them more hesitant than lower-educated members of minority groups to have children during economic downturns that temporarily obstruct the pursuit of their professional goals [23]. Additionally, income prerequisites might become more important with higher parities, which might be harder to achieve for individuals with limited prospects [11, 24]. These contradicting theoretical mechanisms all point to the importance of *actual job instability,* highlighting the relevance of including individual-level characteristics as potential mediators in the relationship between aggregate-level indicators and family formation.

DATA AND METHODS

This study uses the *Belgian Administrative Socio-Demographic Panel* (BASD Panel), which links longitudinal microdata from the Belgian population register and social security register. The panel provides us with detailed quarterly information on socio-demographic features (birthdate, sex, (parental) origin), labour market positions (activity, (un)employment, working hours, sector, income), and family characteristics (household type, parity, birthdate of all children) of a representative sample of women aged 18-50 years old in Belgium for the period 2005-2017. Censoring occurs due to reaching the age of 50, emigration, death, or reaching the end of the observation period (31st of December 2017). Individuals with a migration background are disproportionately overrepresented, allowing us to effectively cope with lower cell counts when considering multiple intersections. We distinguish between women of (i) Belgian, (ii) Northern & Western European, (iii) Southern European, (iv) Eastern European, (v) Turkish, (vi) Maghrebi, and (vii) other non-European origin groups. For all non-Belgian origin groups, we further differentiate our analyses by

distinguishing between the 1.5 and second generation. The 1.5 generation is defined by women of non-Belgian origin who migrated before the age of 18. The second generation consists of women of non-Belgian origin who were born in Belgium.

To add the economic context into our model, *contextual economic indicators* from the National Bank of Belgium are used. We use the annual harmonized unemployment rate, lagged by one year, to proxy varying access to work during economic booms and downturns [25]. Apart from varying access to income, actual changes in income may also be important in influencing fertility decisions. Therefore, we use the inflation rate lagged by one year to proxy the effect of variations in purchasing power on fertility [26].

We use *pooled discrete-time hazard models for repeated events* to model the conditional probability of having a first or higher-order birth. All parity progressions are pooled within the same model, which we divide into four compartments – distinguishing between the transition to a first, second, third, or any higher-order birth. Pooling all transitions into the same model allows us to study which stages of family formation are affected most, while controlling for unfolding selection over subsequent parity transitions by adding an unobserved heterogeneity term. All models are estimated separately for each origin group and generation. In model 1, first births are modelled as a function of age in years (centred at age 18), level of education, the interaction of age and education, and a contextual economic indicator. Second, third, and all higher-order births are modelled as a function of duration since index birth in years, age at index birth, an interaction between duration and age, level of education, an interaction between duration an education, and a contextual economic indicator. Hence, the compartments for second, third, and higher-order births consist of the same array of covariates, but with different parametrization. The results of model 1 are presented in this abstract. Future work comprises the estimation of model 2, which will include individual labour market positions and income to examine their mediating role.

PRELIMINARY RESULTS

Preliminary results include the estimated hazard ratios from model 1, for which we used population-wide register data for the period of 1990-2023, drawn from the 2011 Belgian Census for 1990-2010 and the population register for the period of 2012-2023. Subsequent models will use data from the BASD panel, enabling us to add individual-labour market characteristics.

Figure 1 presents the results of model 1, showing the birth hazard ratio associated with a 1% increase in either the unemployment (figure 1a and 1c) or inflation rate (figure 1b and 1d), stratified by migration background and parity. We only present the results for the Belgian and Turkish 1.5 and second generation for the transition to a first, second, or third birth for sake of illustration. Women of Belgian origin postpone fertility (all parities) when faced with rising unemployment rates and postpone entry into parenthood with rising prices. Fertility postponement when access to work diminishes can indicate the relevance of the precondition to have a stable job before having children, as well as rising perceived uncertainty creating bad economic sentiment leading to postponement of long-term commitments. However, rising inflation entails elevated birth hazards for second and third births among this group (figure 1b). When preconditions of having a stable job are satisfied when starting a family, this might make rising prices less of an obstacle for subsequent childbearing. Results are different for both the Turkish 1.5 and second generation. Here, first births are accelerated when faced with higher unemployment rates, second births are postponed, and no significant results are found for third births. The countercyclical results for entry into parenthood point to the relevance of the *normalization of disadvantage* or the creation of a *window of opportunity* when faced with unemployment. For the inflation rate, the results differ: rising prices entail postponement of first births for the 1.5 generation and of second and third births for the second generation. Considering the results for the unemployment rate, with diminished access to work being beneficial for entry into parenthood, the results in figure 1d might indicate that having a stable income is not necessarily achieved yet, making especially the transition to higher-order births more difficult.

The preliminary results present substantial variation by migration background in the relationship between economic conditions and fertility, yet model 1 does not allow to identify potential underlying mechanisms for this variation. Future steps therefore include adding individual-level characteristics, to contribute to our understanding of why variation by migration background might be present in this association.

Figure 1: Hazard ratio associated with 1% increase in contextual economic indicator, by origin and parity

Note: On figure 1c and 1d, the 1.5 generation is represented in red and the second generation in blue. 95% confidence intervals are shown on each graph. Muted colours present insignificant results (p>0,05).

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