Stockholm Research Reports in Demography | no 2021:8

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ISSN 2002-617X | Department of Sociology

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Abstract

The current study examines the quantum of childbearing of migrants from low-fertility contexts (Poland and Romania) at multiple destinations (Italy and the UK), and compares them to stayers at origin and to non-migrants at destination, combining the multi-origin/multi-destination approach with the 'context-of-origin' perspective. Using data from the Labour Force Surveys (2009-2015) and adopting a gender and a couple perspective, we show that Polish and Romanian women have fewer children than non-migrants at destinations. Romanian migrant women and men have a fertility similar to that of stayers at the origin, especially in UK, suggesting a socialization pattern for this group. Our findings also suggest the presence of the disruption mechanism for migrants, mainly in the short term, combined with a 'catch-up' in the long run explained by family reunification, primarily in Italy. However, the 'catch-up' over time of residence is found to be slower compared to previous studies. Finally, we find selection into migration and into different destination play an important role.

Keywords: Fertility, Migrants, Poland, Romania, UK, Italy

Stockholm Research Reports in Demography 2021:8

ISSN 2002-617X

1. Introduction

The current study examines the quantum of childbearing of migrants from low-fertility contexts (Poland and Romania) at multiple destinations (Italy and the United Kingdom), and compares them to stayers at origin and to non-migrants at destination. Few studies have focused on the fertility of migrants from low-fertility countries, although these groups are less likely to have children prior to or around the time of migration (Tønnessen and Mussino, 2020) and have consequently been claimed to facilitate the testing of the adaptation 'from below' at net of the impact of interrelated demographic events. While most of the existing studies have found some evidence of adaptation among specific groups – e.g. Germans in Norway (Tønnessen and Mussino, 2020), migrants from the Soviet Union in Israel (Nahmias, 2004), Chinese in the US (Hwang and Saenz, 1997), and Polish in Britain (Lübke, 2015) – others contradict or do not fully support this hypothesis (e.g. Mussino et al., 2020; Okun and Kagya, 2012). However, these studies do not provide a multi-origin/multi-destination perspective, e.g. looking at the same origins at the same different destinations, and do not include the country of origin in the analysis.

Thus, the aim of this paper is to complement existing studies on fertility of migrants from low-fertility countries using a multi-origin/multi-destination approach, combined into a 'context-of-origin' perspective. Our emphasis on the influence of country of origin and different destinations will highlight the importance of cultural norms and practices from the origin country versus social norms and institutional contexts at destination. Context of origin reflects differences in cultural background, which can be maintained after migration (Milewski, 2007) and influences fertility patterns; the country of destination offers new norms and a new policy context. These differences may translate into different fertility models, reflecting underlying differences in integration into the new society.

This paper also contributes to the literature describing fertility among both migrant women and men. Although migration patterns may differ by gender, migrant men's fertility has rarely been studied (Cantalini and Panichella, 2019; Kraus, 2019; Wolf, 2016). However, when it comes to men, migration and fertility might be not interrelated to the same extent as for women (Lundström and Andersson, 2012). Men seem to need more time to settle in their new destination country, or may simply have more time to become fathers than women do to become mothers; or, they may react differently to gender norms at the destination.

Moreover, we not only include a male population in the analysis but also add a couple perspective, including information on the partner and distinguishing migrants according to the type of family migration. This empirical strategy allows us to study whether the fertility of Eastern European migrants can be related to their family migration strategies – which differ according to gender as well as countries of origin and destination – and to investigate the roles of family separation, interrelation of events, and family reunion.

The European focus in this paper is particularly relevant in a Europe that is still transitioning from Brexit. Intra-European migration is gaining attention (Castles et al., 2014), with Poland and Romania being two among the European countries that have experienced massive emigration, directed especially toward other EU-28 countries and, more specifically, toward Italy and the UK (Burrell, 2016; Simionescu, 2019).

2. Background

This section does not aim to be exhaustive regarding intra-European migration and/or fertility trends in the four studied countries, but provides some basic information that can be used in interpreting and discussing our results.

2.1. Polish and Romanian migration in Italy and the UK

In recent years, the intra-European migration by EU-28 citizens has been dominated by Romanians and Poles, and the main destinations for these country groups have been the UK for Polish migrants and Italy for Romanian migrants (Eurostat, 2015).

From the late 70s Italy has become an immigration country, initially attracting migrants from North Africa, the Middle East, and Southeast Asia. After the fall of the Berlin Wall and the dissolution of the Soviet Union, other groups began moving to Italy, primarily Albanians and Former Yugoslavians as refugees, as well as Poles and Romanians as job migrants (Buonomo et al., 2020). Today, the prominence of Central Eastern European migrants has increased in absolute and relative terms, and, due to the advantage of the free movement, is particularly driven by migrants from Romania and Poland (Strozza, 2019). In 2019, it was estimated that to there were 1,145,718 Romanians and 86,743 Poles in the country (see dati.istat.it). Romanian migration was initially male-dominated, comprising men employed in the construction and secondary sectors; later, especially with the entry of Romania into the European Community, this was followed by female migrants employed in the (health- and child-) care sector (Cela et al., 2013). Women currently represent more than half of the Romanian population in Italy (57%). Migration from Poland was always female-dominated and was also related to easy access to the domestic sector (Cela et al., 2013), with women today representing 74% of the Polish population in Italy.

The UK has a longer history as an immigration country in general, but also as a centre of the polarization of European migrants. While Poles originally settled in UK after the Second World War (Trevena, 2009, Mąkosa, 2018), it was upon the European Union's enlargement that Polish and Romanian people massively migrated to the UK, constituting one of the largest migration movements in contemporary Europe (Burrell, 2016). Today, Poles and Romanians are ranked the

second and fourth largest overseas-born populations in the UK and make up 818,000 (of whom 55% are women) and 427,000 (of whom 47% are women) of the UK population, respectively (see ons.gov.uk). Polish and Romanian migrants in the UK tend to be employed in the agriculture, light industry, and care sectors (Clark and Drinkwater, 2008; Drinkwater et al., 2009). However, while most of their migration is tied to work reasons, it also affects their family strategies and fertility behaviours, with the majority of women migrating to join their first-mover husbands (Ryan et al., 2009; Waller et al., 2014).

2.2. Fertility contexts

In a seminal paper, Kohler, Billari, and Ortega (2002) coined the term 'lowest-low fertility' for a period Total Fertility Rate (TFR) below 1.3. Among the European countries, for a long time Italy, Poland, and Romania experienced a TFR around this level, for different reasons. The low fertility in Italy was associated with the persistence of traditional family patterns, the postponement of leaving the parental home and becoming parents, the low female employment and the high unemployment among young adults (e.g. Dalla Zuanna, 2001). In Central and Eastern Europe, the reasons were associated mainly with the economic difficulties related to the collapse of state socialism around 1990 (e.g. Perelli-Harris, 2005).

Recently, Goldstein, Sobotka, and Jasilioniene (2009) discussed the 'end' of the lowest-low fertility, observing in most countries a slight increase in the average TFR to above 1.4. This was the case in Romania and Italy, where the postponement of family formation and first births characterized the fertility's rebounding (Mureşan et al., 2008; De Rose et al., 2008); but this was not the case in Poland, where the TFR has actually been back at 1.3 since 2011. Traditional norms

prevail in Poland, with an emphasis on marriage as the proper context for childbearing and low social acceptance of mothers working if they have young children (Matysiak and Vignoli, 2013).

On the other hand, the UK has been defined as a country with 'highest-low fertility' (Andersson 2008); in fact, despite experiencing sub-replacement fertility, until recently the TFR there had stabilized to an average of 1.8 children for women (Sigle, 2016). This relatively high level has been challenging to explain from a policy perspective, as it has been achieved with fairly high female employment but without generous universal welfare as in the Nordic countries (UN, 2015).

3. Previous theories, new perspectives

Previous research has outlined five, not mutually exclusive, hypotheses behind migrant fertility, which were developed with migration from high- to low-fertility contexts in mind. Although some of these explanations are applicable to our object of study, i.e. migration from low- to low-fertility or low- to high-fertility contexts, they may take on a different character.

The **socialization** hypothesis follows the idea that fertility preferences are formed during childhood through the role of social norms and cultural values. This would explain why migrants, even after spending time in the destination country, exhibit patterns similar to those of stayers at origin (e.g. Milewski, 2010), and also why in the same destination country we can find different levels of childbearing propensities between women from different origins (Andersson, 2004). Evidence for the socialization hypothesis has been found regarding migration from high- to low-fertility countries (e.g., Turks in Germany, Milewski, 2010; Moroccans in Italy, Impicciatore et al., 2020), as well as from low- to low-fertility countries (e.g., Romanians in Italy, Mussino and Strozza, 2012b). We thus expect that, if the socialization hypothesis applies, *migrants should have*

fertility similar to that of stayers at the origin, regardless of the time spent in the destination countries (H1).

According to the **selectivity** argument, those who migrate are a select group from the population at origin, with preferences towards fertility behaviours more similar to those of people living in the country of destination (Bagavos et al., 2008) compared to those they left behind (FitzGerald, 2012). Earlier studies on the selection hypothesis are largely from the US context (Lindstrom and Giorguli-Saucedo, 2002; 2007), and it is only recently that increased attention to 'context-of-origin' has led to some examinations in Europe as well (e.g., Baykara-Krumme and Milewski 2017; Güveli et al., 2016; Impicciatore et al., 2020). As both observed and unobserved characteristics may contribute to the selection process (Adserà and Ferrer, 2014; Kulu and González-Ferrer, 2014), it is essential to account for the role of sociodemographic characteristics in analysing migrants' fertility behaviour. Baykara-Krumme and Milewski (2017), looking at Turkish people in Germany and Turkey, especially confirm the importance of education on fertility behaviours: part of the fertility differences between migrant and stayer could be explained by the different educational compositions of the two groups. When considering the selection hypothesis, *the fertility differential between origin and destination should decrease or disappear once individual observable characteristics such as education are controlled for (H2a)*. However, as migrant fertility can be also explained by selection according to unobservable characteristics (including the same fertility preferences as those at destination), *we can expect migrant fertility to resemble the patterns of the destination countries to a greater degree, without noticeable change according to time since migration (H2b).*

Longer-term differences as well as the convergence of migrant to native fertility are explained in terms of the **adaptation** hypothesis, a gradual process in which exposure to new social structures

and ideas shifts one's preferences and behaviours toward those of the destination country. Previous research has found evidence of adaptation among migrant groups from high-fertility countries, decreasing their fertility over time (Andersson, 2004; Milewski, 2007), as well as for some migrant groups from low-fertility countries, increasing their fertility after some years spent in the new society (e.g. Germans in Norway, Tønnessen and Mussino, 2020). Sociocultural factors (e.g. have a native partner, Mussino and Strozza, 2012b) or economic factors (e.g. labour market attachment, Andersson and Scott, 2005) can accelerate this process. However, when studying migrants from high-fertility countries, adaptation is difficult to reach because migrants may migrate already with a number of children higher than the norm at the destination (Mussino et al., 2020). Additionally, in order to distinguish between the relative role of selection and adaptation, stayers from the countries of origin must be considered (Hwang and Saenz, 1997). In this study we address these shortcomings by focusing on migrants from low-fertility countries, including stayers in the analysis and adopting a multi-destination approach. *We thus expect increasing fertility over time since migration, especially for migrants from low- to high-fertility countries (H3a). Additionally, having a native partner should strengthen this adaptation process (H3b).*

The **interrelation** or life course hypothesis views migration and childbearing as synchronized parallel careers. Several studies in Europe and the US have confirmed an 'arrival effect' on fertility, manifested in the short timing between migration and first pregnancy (Andersson, 2004; Lindstrom and Giorguli-Saucedo, 2007; Milewski, 2007), underlining that migration is often driven by motives related to family formation. Focusing on migrants from low-fertility contexts will help in overcoming one of the main methodological issues involved in studying migrants' fertility. When migrants come from high-fertility countries, in fact, both the adaptation and interrelation hypotheses predict a decline in fertility by duration of stay. On the contrary, if

migrants from low-fertility countries move to a relatively higher-fertility destination, this will take one of two directions (Tønnessen and Mussino, 2020). Looking at migrants from low-fertility countries to those with comparably higher fertility, *we expect to see a decline trend in fertility by duration of stay if the two process are interrelated (H4a).* In order to study the interrelation argument, a couple perspective is particularly useful. Indeed, in order for this hypothesis to apply as it is, migrants should not move alone or as forerunners but rather need to move together with their spouse or join him/her for family reunion. Thus, according to the interrelation hypothesis, *we also expect higher fertility if migrants move together with their spouse or as tied movers (H4b).*

Finally, the **disruption** hypothesis views the migration process as a stressful event that has a direct negative impact on childbearing in the short term. Periods shortly before, during, or shortly after migration may show depressed fertility, subsequently compensated for by an acceleration in fertility after migrants have settled down in a new country (Ford, 1990). The degree of stress associated with migration is generally greater for those from less similar normative and institutional contexts (Milewski, 2010). The effect of the migration on fertility when information on time before migration is not included in the analysis is a pent-up demand for childbearing right at migration, followed by a positive arrival effect on fertility (Mussino and Strozza, 2012a).

Also in this case, a couple perspective might help in understanding and distinguishing the mechanisms behind migration and fertility. Indeed, an important disruptive factor depressing migrant fertility in the short term can be marital separation, i.e. migrants moving alone to the destination country without their families and children. Consequently, for this group, fertility can increase over the duration of stay because of family reunification, i.e. spouse (and children) joining migrants after the disruptive costs have been paid off. According to the disruption argument, *we expect migrants to have low fertility in the short period after migration (H5a), especially if they*

migrate alone or as the first migrant (H5b). However, since migrants from lowest-low-fertility contexts may consider to have more time to achieve their (low) fertility goals, it is also possible that they 'react' more slowly after migration (despite different norms at the destination) and not show any 'catch-up' of fertility in the long period, thus resulting in *lower fertility compared to both origin and destination (H5c)*.

Previous studies on gender and migration underline how women and men have different propensities and reasons for migrating, and how they have or build different social networks at destination (Caarls et al., 2018; Curran & Rivero-Fuentes, 2003; Eremenko & González-Ferrer, 2018). The case of Romanians and Poles is especially interesting in this respect, as the reasons behind migration and family strategies differ not only according to gender but also according to the destination country. For instance, among Eastern Europeans moving to the UK, families follow two main migration strategies (Ryan et al., 2009). Either men migrate first to reduce the costs of migration and women migrate later for family reunification, or couples migrate jointly and live together in the host country. Migration strategies for immigrants in Italy are more mixed, as both men and women often move alone – or as forerunners – for work reasons (see above). Moreover, among women moving alone, especially from Poland, a non-negligible proportion marry an Italian man (Kloc-Nowac, 2018). Given these differences in migratory patterns according to gender, origin, and destination, we can expect different migratory models to have other effects on the fertility of immigrant men and women.

4. Data, variables, and methods

4.1. Data, variables, and their critical use

Our analysis was based on three data sources, which have been merged in a unique large dataset covering the period 2009-2015. Data on *migrants* as well as *non-migrants* (i.e., natives) *in Italy*

were taken from the Italian Labour Force Survey (IT-LFS), whereas data on *migrants* and *non-migrants in the UK* were drawn from the British Labour Force Survey (UK-LFS). IT-LFS and UK-LFS give detailed information on country of birth, helping to distinguish specific groups of migrants and allowing us to select migrants from Poland and Romania. Information on Poles and Romanians in the origin countries (i.e., *stayers*) was taken from the European Labour Force Survey (EU-LFS). The final analytical sample included 1,161,175 women and 1,446,892 men.

Labour force surveys are the primary source regarding the labour market at household level in Europe, and provide information on employment status and other sociodemographic characteristics for all members of the household. Although fertility is not the main concern of these surveys, their large sample size allows us to study the fertility of Polish and Romanian migrants, comparing them not only with non-migrants at the destination but also with stayers in the country of origin. The main limitation of these data is their cross-sectional structure, which prevents the access to (time-constant and time-varying) information on the migrant population both before and after the geographical movement, making it difficult to measure the causal mechanisms linking migration and fertility and to control for the selectivity of migrants over time of residence in the destination country. Therefore, the aim of this work is not to directly test the mechanisms of socialization, adaptation, interrelation, disruption, and selection discussed above, but rather to describe the fertility of migrants from low-fertility countries and to study whether the trend over time of residence is consistent with these hypotheses.

Another limitation of these data is the lack of individual-level information on fertility behaviours. The dependent variable, i.e. number of children, was thus constructed using the 'own-child method' (Cho et al., 1986; Adserà and Ferrer, 2011). This method has been extensively used with the same aim on LFS data (e.g., Bordone et al., 2009), specifically to study migrant fertility

(e.g., Alderotti et al., 2019; Cantalini and Panichella, 2019; Coleman and Dubuc, 2010; Dubuc, 2012; Mussino and Cantalini, 2020; Waller et al., 2014). It links children to their (supposed) mothers (or fathers) in the same household, assuming that minor children recorded in a household comprise all the children born (and still alive) to the parents in that household. This technique enables us to detect only those children still living with at least one parent at the time of the interview. This issue is addressed in our analysis, including relatively young women (age 25-45) and men (age 25-50), which made it possible to assume that there were no (or few) children living outside the household. However, the number of children might still be underestimated, especially for men – due to the higher likelihood that a child lives with his/her mother in cases of separation or divorce – and for (short-term) migrants – because their children can stay in the country of origin and join their father or mother later through family reunification (see Appendix A).

In this respect, we decided not to distinguish children of migrants according to their place of birth but rather to include children born both at origin and at destination, thus describing the total contribution of Polish and Romanian migrants' fertility to Italy and the UK (see Cantalini and Panichella, 2019). Without longitudinal data providing time-varying information on reproductive and migration behaviours, focusing only on those children born after migration would have systematically shown lower fertility among migrants. Indeed, for migrants we would have considered only a portion of the life course, i.e. the period after migration, whereas for non-migrants we could have exploited the whole life course. Moreover, it has been shown that immigrants from low-fertility countries of origin are less likely to have children before migration (Tønnessen and Mussino, 2020), reducing the bias related to the inclusion of children born at origin and destination in the analysis. In order to further reduce this bias – as well as the possible

underestimation of the number of children of immigrants due to family separation – we also performed analyses considering only women and men living as a couple.

The independent variable was geographical origin, distinguishing immigrants from stayers at origin and non-migrants at destination according to the country of birth. Individuals were divided into six categories: *Polish stayers*; *Romanian stayers*; *Italian non-migrants*; *British non-migrants*; *Polish migrants*; and *Romanian migrants*. Moreover, in order to study the trends over time in the migrants' fertility (see below), the last two categories were further divided into four groups according to the number of years spent in the destination country (1-2 years; 3-5; 6-10; more than 10). Finally, in order to study the role of family migration (see below), migrants were also split into five categories according to the type of family migration, reconstructed using the elapsed time between the migration of both partners (see Ballarino and Panichella, 2018): *lone migrants*, residing in the country of destination alone, regardless of marital status; *first migrants*, residing in the destination country with a migrant partner and having moved before him/her; *tied migrants*, residing in the destination country with a migrant partner and having moved after him/her; *joint migrants*, having moved to the country of destination the same year as their partner; and *mixed couple*, migrants living with a partner born in the destination country.

We included a set of control variables in the analysis, measured at the time of the interview. The first was education, coded in three categories: lower secondary or less (ISCED 0-2); upper secondary or post-secondary non-tertiary (ISCED 3-4); and tertiary (ISCED 5-6). The second was employment condition, operationalized in dummy variables through the ISCO-88 code at one digit of the occupation, also including two additional categories for the unemployed and the inactive. Models also controlled for year of the survey and age group (four five-year dummies). When we focused on fertility among couples, we also controlled for the partner's age, country of origin

(whether the partner was born in the country of the interviewee's current residence), and employment condition (operationalized as above).

Descriptive statistics of the analytical sample are provided in Tables A1 and A2 in the appendix B, which also present additional information measured only among the migrant group (e.g., age at migration, percentage of educational titles obtained before and after migration, type of family migration).

4.2. Methods and analytical strategy

We estimated OLS regression models separately by gender and country (of destination). The empirical strategy was divided into three steps. The first aimed to offer a general picture of the fertility of migrants in the two destination countries, compared to non-migrants in the country of destination and stayers in the country of origin. The following three models were estimated:

Model 1: $y_i = \alpha_i + \beta_1 GEO\_ORIGIN + \beta_2 AGE + \beta_3 YEAR + \varepsilon_i$
Model 2: $y_i = \alpha_i + \beta_1 GEO\_ORIGIN + \beta_2 EDU + \beta_3 AGE + \beta_4 YEAR + \varepsilon_i$
Model 3: $y_i = \alpha_i + \beta_1 GEO\_ORIGIN + \beta_2 EDU + \beta_3 OCC + \beta_4 AGE + \beta_5 YEAR + \varepsilon_i$

Model 1 estimated the difference in the predicted number of children of migrants with respect to both non-migrants at destination and stayers at origin (GEO_ORIGIN), controlling only for age (AGE) and year of survey ($YEAR$). Model 2 also included educational attainment (EDU) in order to control for one of the main sources of selectivity of migrants according to observed characteristics. Finally, Model 3 controlled for the employment condition (OCC), in order to analyse whether the gap between migrants and non-migrants at destination depends on the different inclusion in the labour market and in the occupational hierarchy (Ballarino and Panichella, 2015; 2018).

The second step of the empirical strategy focused on the trends over time in the fertility of migrants. Model 3, with full controls, was estimated using a combination between geographical origin and the immigrants' years of residence in the country of destination as the main independent variable. The last step of the empirical strategy focused specifically on couples and family migration. This helped us to describe whether migrants' fertility (and its trend over time spent in the host country) can be related to family migration strategies, consistent with the disruption (e.g., marital separation) as well as the interrelation of events (e.g., family reunification) arguments. We investigated the role of family migration in two ways: first, the model analysing the trends over time of residence was replicated only among men and women living as a couple at the time of the interview. This model followed the same specification of Model 3, but also included additional controls for the partner's age, country of origin, and employment condition. Second, Model 3 was estimated using a combination between geographical origin and type of family migration as the independent variable.

We performed a wide range of robustness checks (available on request), which substantially confirmed the results presented here. They included: estimation of Poisson models; replication of the analyses excluding those migrants who had moved in school age (generation 1.5); replication of the analyses on samples with narrower age ranges; estimation of pooled models (i.e. not separated by country of destination) including all the groups of migrants, non-migrants, and stayers; estimation of models comparing migrants with non-migrants at destination, excluding stayers from the sample; estimation of models comparing migrants with stayers at origin, excluding natives from the sample; and estimation of models comparing the two groups of migrants (with controls for individual information by definition only available for them, such as age at migration and place of education), excluding non-migrants and stayers from the sample.

5. Empirical results

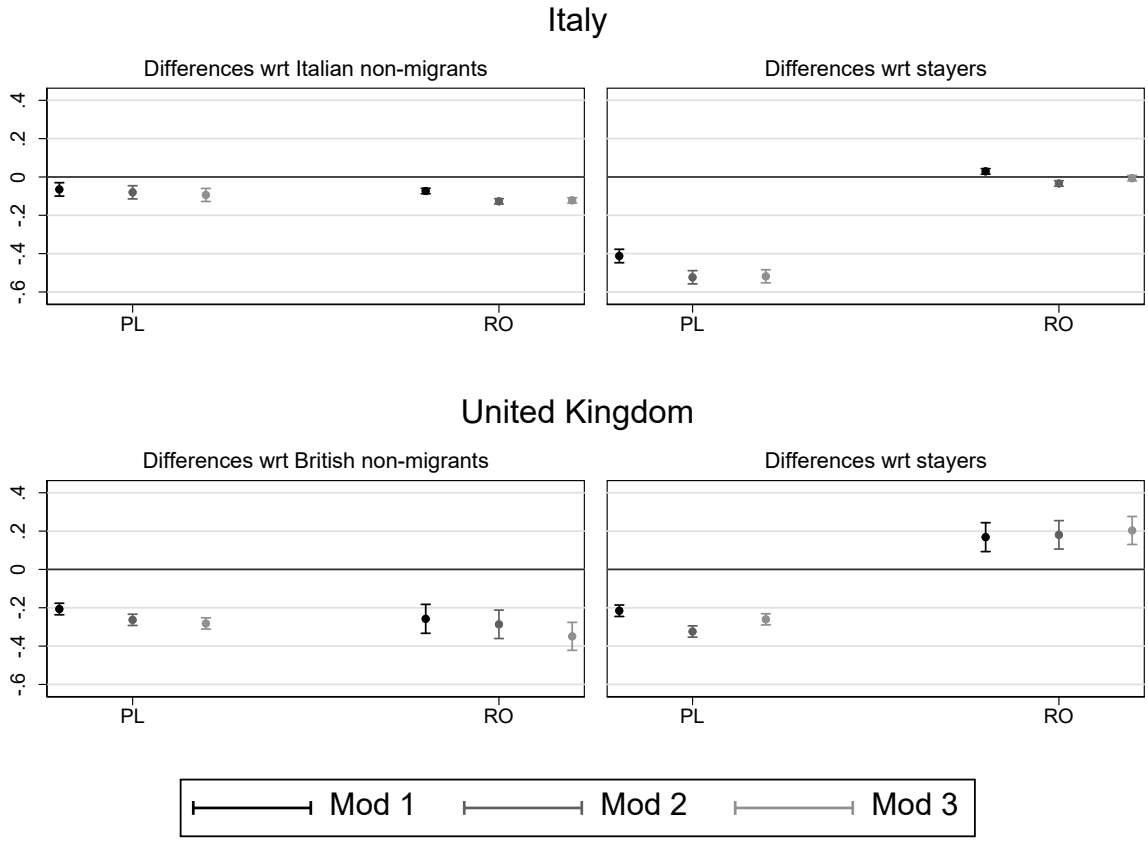
5.1. The fertility of Eastern European migrants: a comparison with non-migrants and stayers

Figures 1 and 2 show the results from the first part of the analytical strategy, focusing on the fertility of Eastern European migrants compared to both the non-migrants in the destination country and stayers in the origin country. Female Polish and Romanian migrants have a lower number of children with respect to non-migrants, regardless of country of destination, but with greater differences in the UK (Fig. 1, Mod. 1). The differences only slightly increase if education (Mod. 2) and employment condition are controlled for (Mod. 3), especially for Romanians in Italy and Poles in the UK, despite the different socio-economic composition compared to non-migrants at destination (see Tab A1).

Moreover, female Polish immigrants in Italy and the UK have much lower fertility compared to their counterparts in Poland. The gap is especially large in Italy, where Poles' fertility is closer to that of Italian non-migrants than to that of Polish stayers. This gap increases further if education is controlled for, with Polish immigrants to Italy seeming to be negatively selected in educational attainment (Mod. 2; see also Tab. A1).

On the contrary, female Romanian immigrants' fertility is not different – or is even higher – compared to that of Romanian stayers. Moreover, the differences between migrants and stayers do not substantially change if one controls for individual characteristics such as education and employment condition. However, Romanian females' fertility is higher in the UK than in Italy compared to that of stayers, possibly because immigrants with higher fertility preferences can be attracted by a country with a keener policy interest in migrants' fertility (see Wilson. 2020).

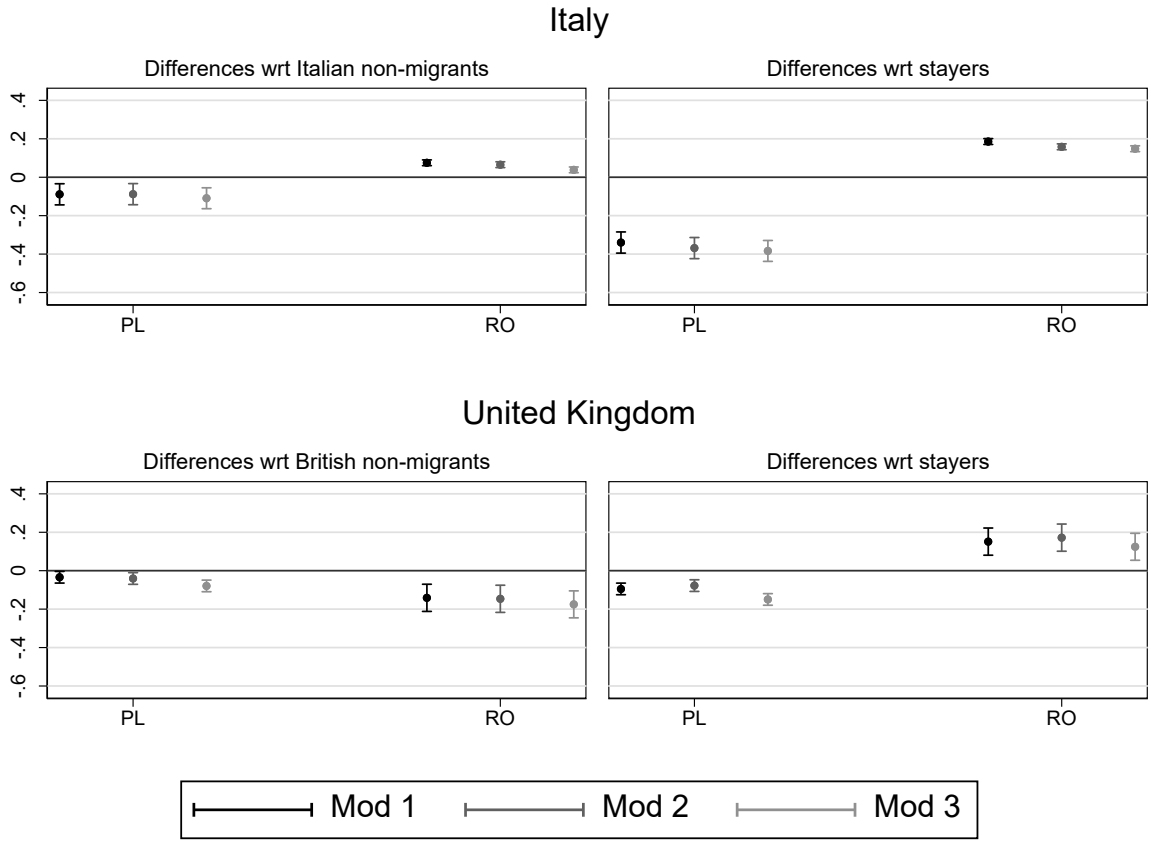
Fig. 1. Differences in predicted number of children for Polish (PL) and Romanian (RO) migrants with non-migrants and stayers, by country of destination: women. OLS. Beta coefficients. Controls: age, year of survey (Mod. 1), education (Mod. 2), employment condition (Mod. 3)



Looking at men (Fig. 2), Poles do not substantially differ from non-migrants in the UK and have small (lower) differences in Italy, whereas Romanians have a lower number of children in the former country and higher in the latter (Mod. 1). Education does not account for these differences (Mod. 2), although migrants have a lower educational level compared to non-migrants at destination – as well as compared to stayers at origin if immigrants to Italy are considered, confirming a negative selection according to education for Eastern Europeans moving to this country (see Tab. A2). Occupational condition does not cause the migrants' 'penalty' or 'premium' to substantially change, too (Mod. 3). Compared to the stayers in the country of origin, Polish

migrants have a lower number of children, especially if migrants to Italy are considered, which is also found for women. On the contrary, Romanians' fertility is higher compared to stayers at both destinations.

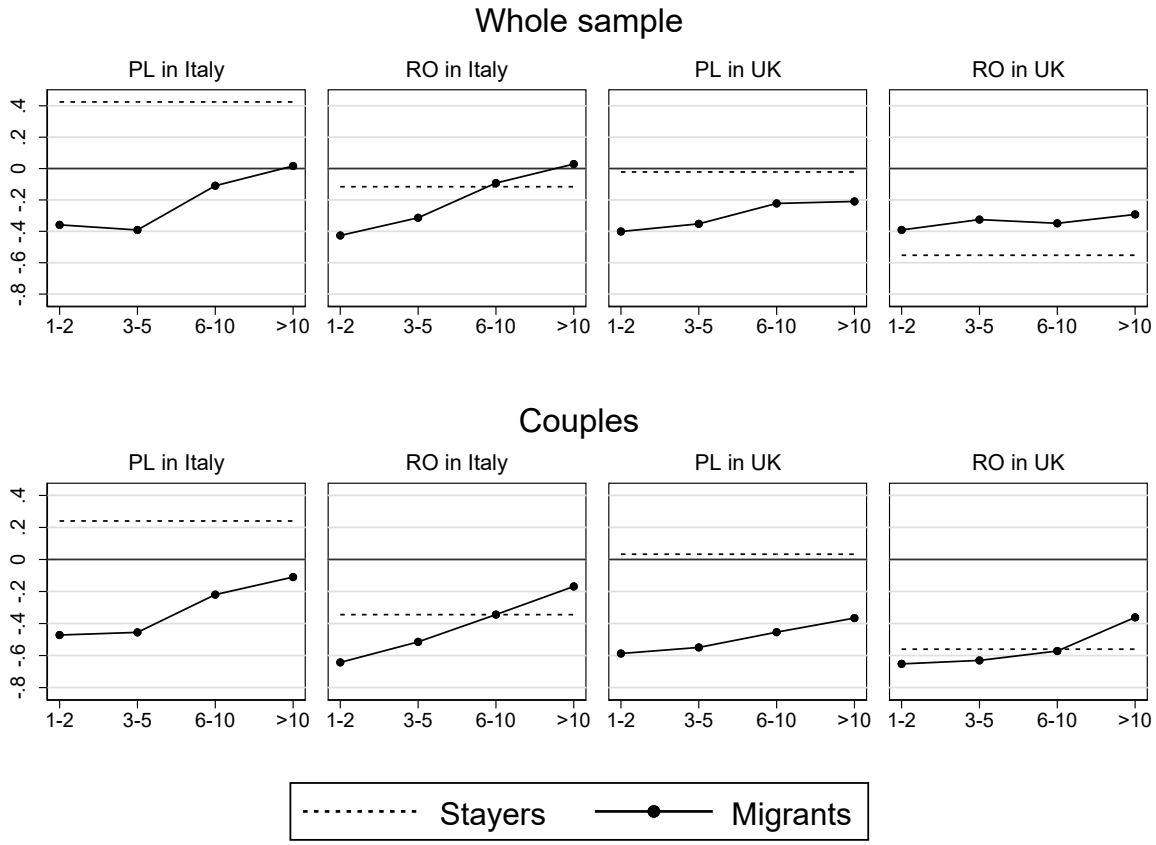
Fig. 2. Differences in predicted number of children for Polish (PL) and Romanian (RO) migrants with non-migrants and stayers, by country of destination: men. OLS. Beta coefficients. Controls: age, year of survey (Mod. 1), education (Mod. 2), employment condition (Mod. 3)



In the second part of the empirical strategy, we focus on migrants' fertility over years of residence in the destination country. The upper part of Figures 3 (female) and 4 (male) shows the difference in the predicted number of children of Eastern European migrants, settled in Italy and the UK for different numbers of years, and stayers at the origin (dashed line) compared to non-migrants at the destination. Concerning women, migrants' fertility increases over time of residence in the destination country, regardless of geographical origin and country of destination (Fig. 3). A partial exception to this involves Romanian immigrants in the UK, whose fertility does not substantially change over duration of stay.

The reduction in fertility differences with respect to non-migrants at destination is more visible in Italy. Here, the predicted number of children of female migrants recently settled in the destination society is greatly lower than that of the native population, whereas it is not distinguishable from the latter for those settled for more than ten years. This might be due to the low fertility rate of Italy compared to the UK, making it easier for migrants from low-fertility countries to approximate it in the long term. In line with the frequent movements of Eastern European women to Italy as first migrants (see also Tab. A1), evidence for this country thus suggests disruptive costs partially related to marital separation in the short term and family reunification in the long term.

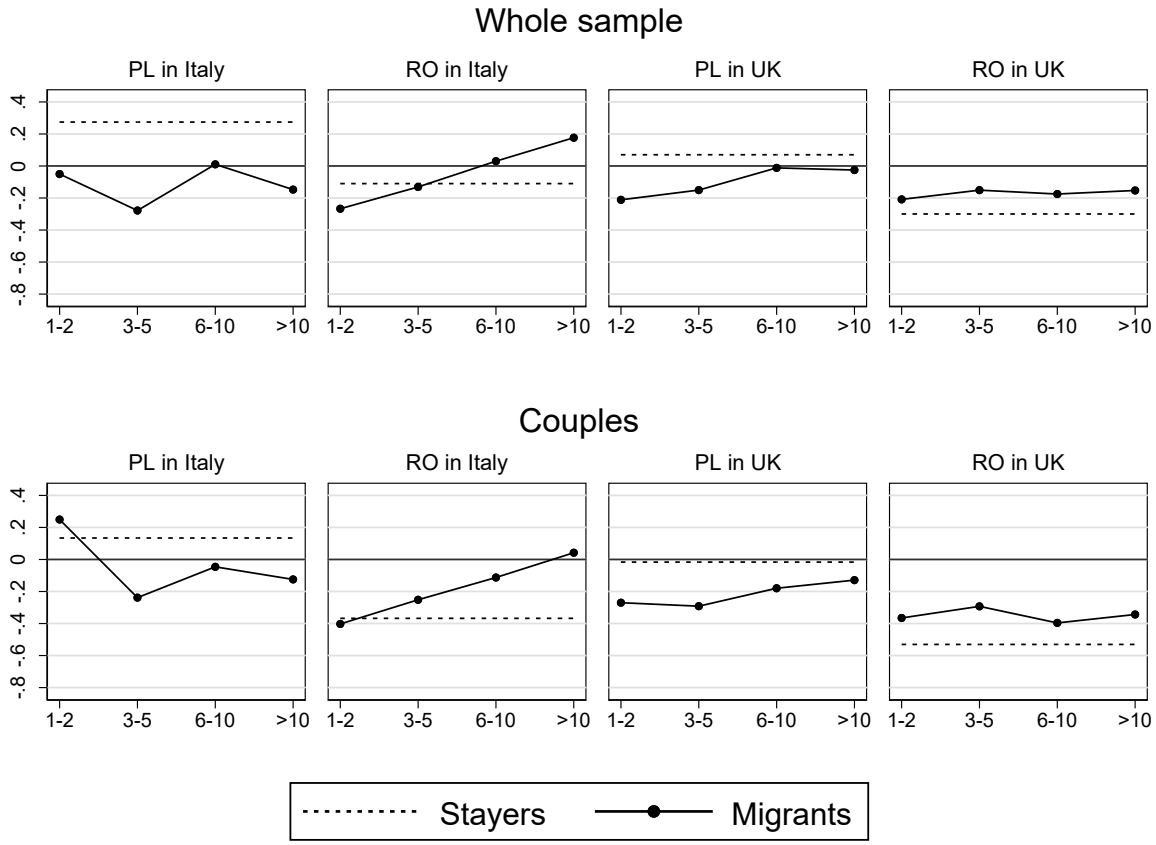
Fig. 3. Differences in predicted number of children for Polish (PL) and Romanian (RO) migrants and stayers (dashed line) with non-migrants (solid line), by countries of origin and destination and years since migration: women. OLS. Beta coefficients. Controls: age, year of survey, education, employment condition (whole sample), as well as partner's age, partner's country of origin, partner's employment condition (couples)



Concerning men, the evidence is mixed and migrants' fertility depends on both origin and destination effects. Poles' fertility in Italy is closer to that of the non-migrant population rather than that of stayers in Poland, although its trend over time of residence in the destination country is not clear. Meanwhile, Romanian migrants approximate the fertility of natives over the years spent in the host country. In Italy, for instance, they first exhibit lower fertility – compared to both non-migrants at destination and stayers at origin – if settled for less than two years in the new country, but after this their predicted number of children catches up with and even surpasses that of the reference groups. This is consistent with the pattern found for Romanian women in Italy, and can be explained by tied migrant men joining their spouses in the long term, often together with children born before migration. Moreover, this group of migrants includes a large proportion of couples moving together to the new country (see Tab. A2), which can account for the low disruption in the short term.

Finally, some differences emerge in fertility trends among Eastern European migrants in the UK. Romanians' fertility resembles that of stayers in the country of origin, without noticeable changes over time since migration, as also found among women. On the contrary, Poles face disruptive costs compared to both non-migrants and stayers in the short term, whereas their fertility becomes similar to that of the two reference groups in the long term.

Fig. 4. Differences in predicted number of children for Polish (PL) and Romanian (RO) migrants and stayers (dashed line) with non-migrants (solid line), by countries of origin and destination and years since migration: men. OLS. Beta coefficients. Controls: age, year of survey, education, employment condition (whole sample), as well as partner's age, partner's country of origin, partner's employment condition (couples)



5.2. The fertility of couples and the role of family migration

We finally move to the third step of the empirical analysis, focusing on couples and on the strategies of family migration. The lower part of Figures 3 and 4 presents results only for those individuals living as a couple (ethnically endogamous or mixed) at the time of the interview. Trends over time of residence among women in a couple are highly similar to those of the whole sample of women, showing a reduction in the fertility gap between migrants and non-

migrants/stayers over the years since migration (Fig. 3).[1] However, some differences emerge according to the country of destination. Different to the migrant-stayer gap, the gap between immigrants and non-migrants in Italy does not become lower for couples than for the whole sample. The migrant-native gap is indeed affected by the large increase in the predicted number of children of Italian couples compared to the whole sample, because in Italy fertility occurs primarily within stable relationships more so than in the UK.[2]

Moreover, we observe a reduction in the disruption among recently arrived Polish women in Italy, likely related to the fact that they primarily moved to the new country alone (see Tab. A1). As the group of lone migrants (i.e., not in a couple) is the largest among Poles in Italy, excluding it from the sample causes the 'penalty' of migrants – with respect to stayers – to decrease. The same occurs among Romanian women, although the reduction is less visible because a larger proportion of this group of migrants move together with their partner (see Tab. A1), presumably giving birth soon after migration or bringing children born at origin. Polish, and to a lower extent Romanian, immigrants frequently remain alone even several years after the geographical movement. Thus, the reduction in the migrant-stayer gap among those women living as a couple who have spent ten or more years in Italy can be partially driven by family reunification.

On the contrary, the 'penalty' of female migrants in a couple increases with respect to both stayers in the origin country and non-migrants in the UK. Indeed, Romanian and Polish women migrate to the UK primarily as tied movers or jointly with their spouse, whereas the proportion of lone migrants is comparatively low in both the short and long period after migration (see Tab. A1).

[1] Results involving couples are confirmed by additional analyses (available on request) that compare models controlling (or not) for marital status. Moreover, we estimated these additional models only on ethnically endogamous couples in order to control for the selection of migrants according to marital status. Also in this case, the interpretations of results are in line with those presented here.

[2] Albeit to a lower extent compared to Italian non-migrants, an increase occurs among Polish stayer couples as well, as family norms are traditional in Poland and children are born mainly within stable relationships.

In other words, as the majority of Eastern European immigrants in the UK live as a couple regardless of time since migration, their predicted number of children does not substantially change if one considers the whole sample vs. couples only.

Trends over time of residence among individuals in a couple are highly similar to those of the whole sample for men as well (Fig. 4). As with women, the fertility gap between migrants and natives/stayers decreases over the years since migration, with the sole exception of Romanian immigrants in the UK. This group of immigrants maintains a fertility that resembles that of the stayers in Romania throughout the whole period spent in the destination country. Among Romanian immigrants living as a couple in Italy, differences with respect to the stayers are lower than for the whole sample. Indeed, although several Romanian men migrate to Italy together with their spouse or as tied movers (see above), there is still a large group who move to this country alone, facing disruptive costs related to family separation in the short term and benefiting from family reunification in the long term. The gap between Romanian immigrants and Italian non-migrants does not become lower for couples than for the whole sample, due to the large increase in the predicted number of children among Italian couples with respect to the whole sample, which affects the comparison between the two groups, as is shown for women as well.

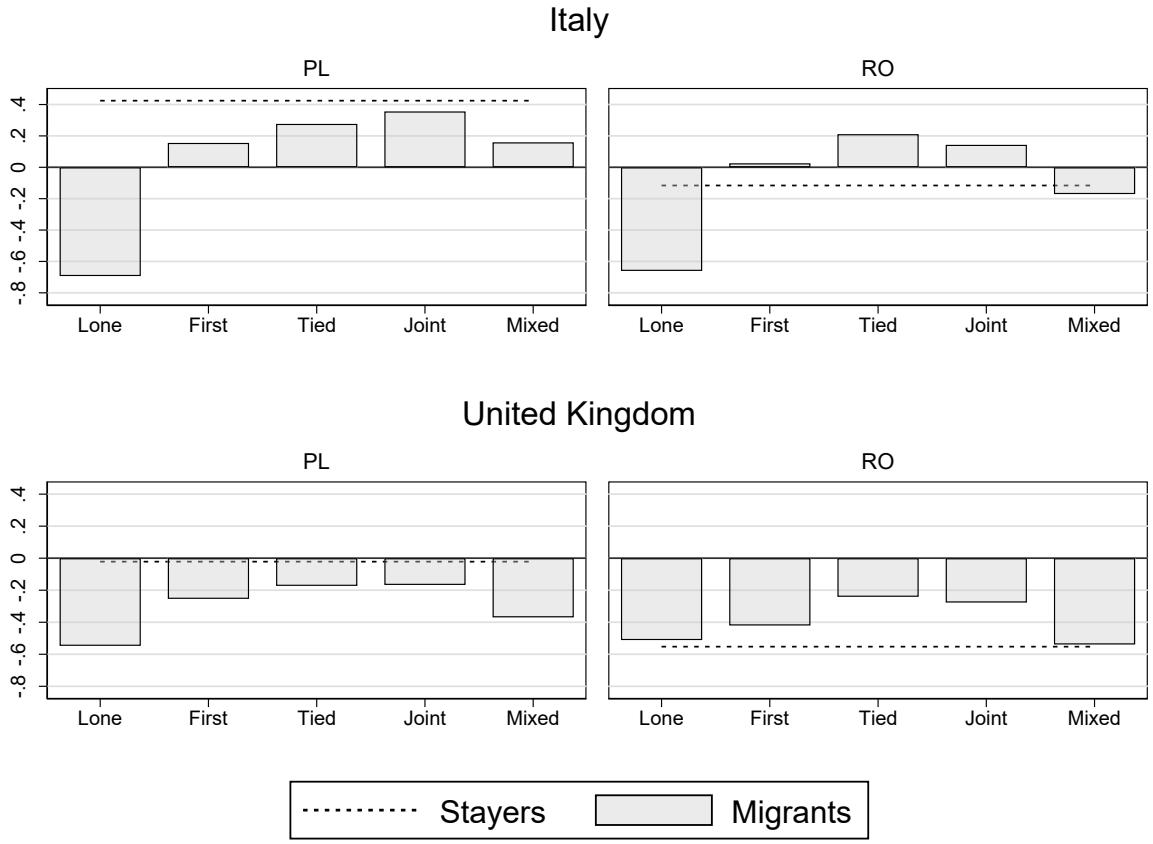
Concerning Poles living as a couple, the small sample size of those in Italy does not allow us to reach substantive conclusions. For instance, the positive gap between those settled for less than two years and both natives and stayers is driven by a very low number of cases (N=15), among which there is a large proportion of tied or joint movers with a very high number of children. In the case of the UK, the reduction in the migrant-stayer gap among couples is less visible, although Poles primarily move to the UK as first migrants and are joined by their spouse (and children) after

disruptive costs have been paid off (see Tab. A2). However, they frequently move together with their partner, which can contribute to reducing the disruptive effects on fertility in the short term.

Figures 5 and 6 shed further light on the relationship between family migration strategies and migrants' fertility. The bars show the difference in the predicted number of children among five groups of immigrants distinguished according to the migration strategy, compared to non-migrants at destination, whereas the dashed line refers to the stayers at origin. Migrant men and women moving alone are 'penalized' with respect to stayers and natives, regardless of origin and destination, confirming the lower fertility of those not living as a couple. Moreover, this is consistent with the disruption argument, as some lone migrants can actually be first movers who have left spouse and children behind, thus facing disruptive costs related to family separation.

Figure 5 additionally shows that women in a mixed-origin marriage are among those with the lowest fertility, with the only exception of Poles in Italy. First migrants have low fertility in UK, whereas in Italy their fertility is similar to the one of the non-migrant population, also because this group comprises all those women that have been joined by the partner in the long period with family reunification. Tied and joint-mover women, on the contrary, are among those with the highest fertility, confirming the interrelation between migration and family events. Indeed, these groups of migrant women can either bring their children born in the country of origin or give birth to new children in the destination society, especially in the case of those joining their spouse for family reunion. Among Romanian migrants in the UK, tied and joint movers are the only ones who more approximate the fertility of British non-migrants than that of Romanian stayers, whereas the fertility of those married with a non-migrant man is very similar to the one of the counterparts in Romania.

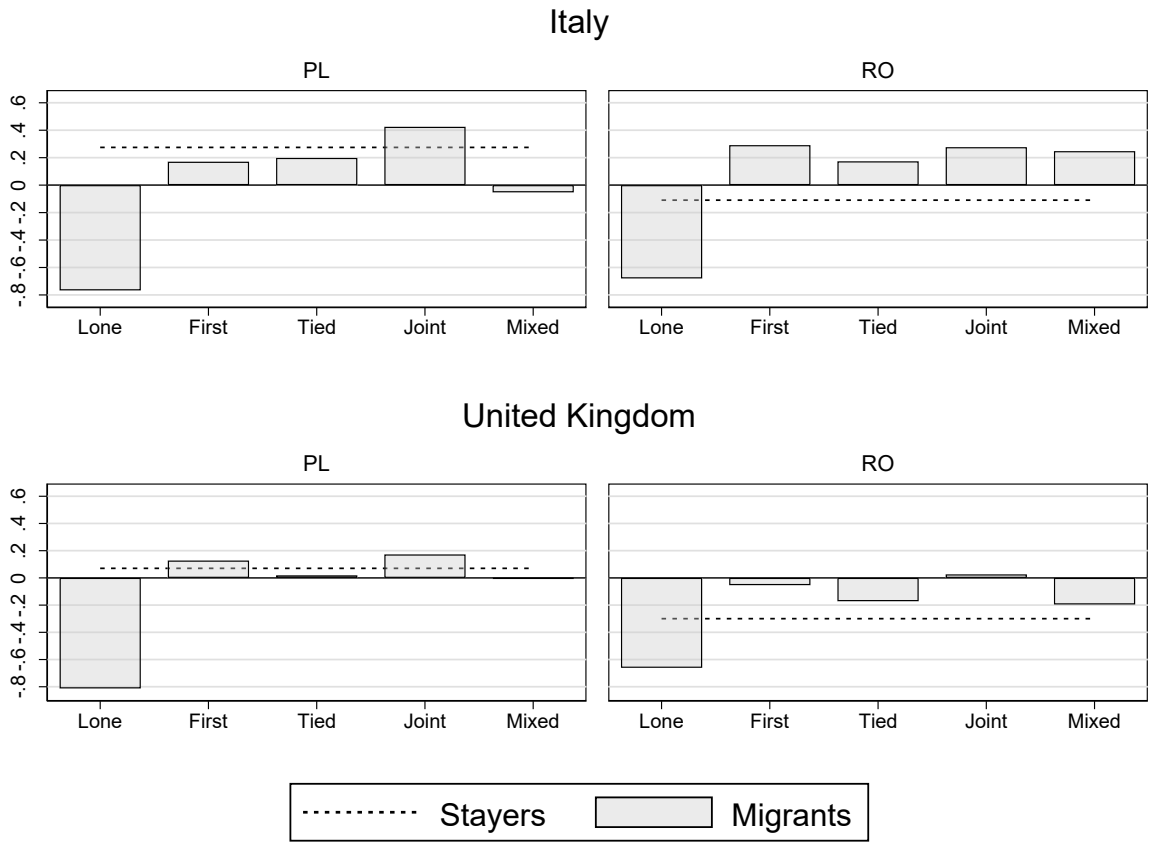
Fig. 5. Differences in predicted number of children for Polish (PL) and Romanian (RO) migrants and stayers (dashed line) wrt non-migrants (solid line), by country of destination and type of family migration: women. OLS. Beta coefficients. Controls: age, year of survey, education, employment condition



If we look at men, the gap between first migrants and natives/stayers is generally positive or not substantially relevant, because this group of migrants includes first movers joined by their spouse (and children) after several years spent in the country of destination, whose contribution to fertility more than compensates for the disruption related to the marital separation of recent migrants (Fig. 6). Tied, and especially joint, movers have high fertility in all contexts, confirming the importance of migrating with one's spouse and, to a lower extent, joining the woman already settled in the destination country, according to the interrelation of events argument. Finally, the evidence for Eastern Europeans married to a woman born at destination is mixed. Following our expectations, Poles living in a mixed couple seem to 'adapt' to the fertility norms of the country

of destination, although the cases are very few, especially in the UK. On the contrary, the fertility of Romanians living with a British woman is more similar to that of stayers in Romania.

Fig. 6. Differences in predicted number of children for Polish (PL) and Romanian (RO) migrants and stayers (dashed line) wrt non-migrants (solid line), by country of destination and type of family migration: men. OLS. Beta coefficients. Controls: age, year of survey, education, employment condition



6. Discussion

This study focused on women and men from low-fertility origins (Poland and Romania) in two relatively different fertility contexts (Italy and the UK), including a 'context-of-origin' perspective (stayers). Looking at men and women with the same background in different destination countries should help to distinguish – at least from a descriptive point of view, as in our case – the main

hypotheses on migrants' fertility outlined in literature, and to better study the role of the cultural and normative effect of the destination country in fertility behaviour. Despite methodological advances (Wolf and Mulder, 2019), few studies in Europe to date have compared the fertility of migrants to that of stayers at origin, taking a 'context-of-origin' perspective (e.g. Güveli et al., 2016), or looked at the same origins at the (same) different destinations simultaneously (Mussino and Cantalini, 2020).

In general, we showed that Polish and Romanian women have fewer children than non-migrants at destinations, confirming previous research (e.g., Waller et al., 2014). Romanian migrant women – as well as men – also have a fertility similar to that of stayers at the origin, especially in UK, where patterns do not change over time spent in the destination country, consistently with the socialization hypothesis (H1). Among Romanian women, the socialization argument is also confirmed by findings on mixed couples, who exhibit fertility similar to that at origin.

We also found relevant compositional/selection effects, as the two migrant groups have different sociodemographic profiles at origin and at destination. Indeed, regardless of gender, Eastern European immigrants seem to be differently selected – in terms of individual characteristics such as education – depending on the country of destination. Although they have a lower education compared to non-migrants at destination, only the low- and medium-educated migrate to Italy, whereas the UK attracts a larger proportion of tertiary-educated compared to stayers, especially if Romanians are considered (Clark and Drinkwater, 2008; Drinkwater et al., 2006). Whereas these compositional effects do not contribute to decreasing the fertility differences between migrants and non-migrants, they slightly reduce the gap between migrants and stayers in the UK, given that Eastern European migrants are more similar to British non-migrants than to their counterparts at origin, in line with H2a. However, despite the relevance of observable

characteristics, unobserved factors (e.g., fertility preferences, family and career orientations, ambitions, etc.) seem to be at play in explaining fertility differentials between migrants and non-migrants as well as stayers, as expected (H2b).

Moreover, our findings suggest the presence of the disruption mechanism for migrants, primarily in Italy. Eastern European immigrants have low fertility in the first years after the geographical movement, both because of the costs and difficulties encountered immediately after migration (e.g. search for a job, interruption of social networks, change in life conditions, etc.) and due to family separation (Milewski, 2010). Indeed, both male and female migrants to Italy frequently move as forerunners, leaving their spouse and children in the country of origin and thus depressing fertility in the short term (H5a). Similarly, the 'catch-up' of Eastern Europeans in Italy can be partially driven by family reunion; i.e., partner and children joining the spouse/parent after the disruptive costs of migration have been paid off. In this respect, our couple perspective allowed us to find family reunification as the main sign of interrelation of events, confirmed by the high fertility of tied movers (H4b). On the contrary, although joint movers – a frequent group especially in UK – exhibit relatively high fertility, we found no evidence of a decline trend in fertility for women with different duration of stay (H4a rejected).

However, the 'catch-up' over time of residence was found to be slower compared to previous studies (e.g., Lübke, 2015). This slower fertility increase with duration of stay seems consequently linked more to the disruption hypothesis – coupled with family reunification in the long term – rather than to the adaptation hypothesis. This would also explain why particularly Poles overall have lower fertility compared to both non-migrants and stayers (H5c). However, a finding supporting the adaptation hypothesis involves Polish men and, especially, women living in a mixed couple in Italy, who seem to 'adapt' to the fertility norms of the country of destination. In general,

however, migrants in a mixed couple are predicted to have a lower number of children compared to non-migrants and, to a lower extent, stayers, rejecting the expectation that having a native partner would strengthen the adaptation process (H3b rejected).

Despite the data limitations discussed above (Section 4.1), this paper contributes to the literature on international migrants in several ways. Firstly, despite the rising number of Eastern European migrants in the EU, few studies have looked at Romanian and Polish migrants, both in general and particularly focusing on fertility. Secondly, without the innovative combination of the multi-origin/multi-destination approach with the 'context-of-origin' and looking at migrants from low- to low- as well as high-fertility countries, it would not have been possible to reach the same conclusion regarding the role of selection in migrants' fertility as well as the importance of the norm at the destination. Smaller differentials between migrants and non-migrants in Italy are explained by the smaller fertility differentials between the origin and destination countries compared to the UK, and the destination effect explains the overall higher fertility of migrants in the UK than in Italy. Thirdly, we find evidence of disruption for both origins regardless of the context in which the migration took place – although in Italy to a greater extent, presumably because of the different family migration strategies –, while most of the previous literature from migrant from high fertility countries to other European countries does not (e.g., Andersson, 2004; Baykara-Krumme and Milewski, 2017). Fourthly, we raise the potential of using a male and couple perspective when looking at migrants' fertility, which can indeed be affected by the family migration strategies (Ortensi, 2015).

Acknowledgments

This research was supported by the Swedish Research Council for Health, Working Life and Welfare (FORTE), grant number 2018-00310.

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Appendix A: How to compare our results with the official statistics

The number of children of non-migrants at destination and stayers at origin predicted by our regression models may not reflect the exact estimate of the related countries' period TFRs. This is not only due to the limitations of the own-child technique, which are related to the possibility to detect only those children living with at least one parent at the time of the interview (see Section 4.1). It is also explained by the fact that own-child counts are rather cohort data and period and cohort measures do not always come out with the same outcomes.

Additionally, country's period TFR measures the average number of children among the whole population, including both native- and foreign-born, whereas our estimates only refer to the native populations. For instance, the TFRs in the period under study (2009-2015) were 1.34 in Poland and 1.87 in the UK, with an average difference of 0.53 (source: World Bank). Our estimates predict a much lower difference (0.02, see Section 5.1) as they only compare the populations born in Poland (*Polish stayers*) and the UK (*British non-migrants*), respectively. Indeed, the percentage of immigrants in Poland is very low (and mostly come from low-fertility countries such as Germany and Ukraine), meaning that our predictions are in line with the total fertility rate of the country. On the contrary, the UK has a large proportion of immigrants from countries such as India, Pakistan, and Bangladesh, who continue to give birth to a high number of children after migration, contributing to increasing the country's total fertility rate, consequently causing our predictions related to British non-migrants to be underestimated.

Appendix B: Tables

Tab. A1. Descriptives of the analytical sample, by geographical origin and country of destination: women. Column percentages and means (standard deviations in brackets)

			Italy			UK			
	PL stayers	RO stayers	Non-migrants	PL migrants	RO migrants	Non-migrants	PL migrants	RO migrants	Total
N. children	1.31	0.93	1.03	0.97	0.91	1.32	0.99	0.94	1.13
	(1.08)	(0.97)	(1.03)	(0.97)	(0.95)	(1.19)	(0.95)	(1.12)	(1.07)
Age	34.52	35.64	35.70	35.25	34.72	35.07	32.12	32.72	35.24
	(5.54)	(5.51)	(5.50)	(4.91)	(5.40)	(5.64)	(4.73)	(5.28)	(5.56)
Age at migration				24.69	26.58		25.77	27.68	26.26
				(4.91)	(5.75)		(4.81)	(5.39)	(5.54)
Low-educated	6.22	21.31	30.61	25.29	34.01	37.81	51.70	45.80	36.38
Upper sec at ori	55.54	59.26	45.51	53.35	51.46	19.60	6.94	8.82	42.96
Upper sec at dest				5.99	3.62		1.36	0.98	3.42
Tertiary at ori	38.24	19.42	23.88	9.01	7.28	42.58	25.44	35.29	11.30
Tertiary at dest				6.36	3.64		14.56	9.10	5.94
Isco 1	3.64	1.14	2.07	1.08	0.55	7.28	2.86	3.22	3.02
Isco 2	18.58	13.62	9.93	1.38	0.57	16.81	5.43	10.36	13.78
Isco 3	9.26	7.13	13.34	6.42	4.16	12.49	5.62	5.18	10.74
Isco 4	6.52	5.10	12.40	3.53	1.58	15.37	10.12	5.74	9.59
Isco 5	14.13	14.28	12.94	18.74	19.59	16.81	14.82	17.09	14.18
Isco 6	7.18	12.45	0.68	0.44	0.46	0.15	0.09	0.00	4.60
Isco 7	3.20	5.94	2.18	3.43	3.37	1.52	3.11	1.82	3.10
Isco 8	2.38	4.83	2.02	1.35	3.40	0.87	8.13	1.54	2.53
Isco 9	4.87	6.34	4.04	20.99	25.29	5.28	27.47	22.27	5.36
Unemployed	7.42	4.45	5.81	7.74	9.84	4.18	4.39	5.60	5.86
Inactive	22.77	24.61	34.57	34.91	31.19	19.18	17.95	27.17	27.22
Lone migrant				33.54	28.54		21.70	16.67	27.61
First migrant				5.15	7.69		7.68	6.44	7.38
Tied migrant				14.06	29.05		27.51	23.67	27.00
Joint migrant				8.17	19.52		31.00	37.68	20.71
Mixed couple				39.09	15.19		10.92	12.75	17.02
Partner's age	37.85	40.11	40.78	40.96	38.99	38.33	34.70	36.26	39.39
	(6.79)	(6.50)	(6.13)	(7.90)	(7.78)	(7.33)	(6.43)	(8.08)	(6.74)
Native partner	99.69	99.93	96.57	58.81	21.26	93.72	14.21	15.80	96.01
Isco 1 partner	6.89	2.79	5.93	4.73	1.51	15.71	6.68	8.09	6.80
Isco 2 partner	10.53	9.09	9.15	3.10	1.41	18.09	6.76	11.64	10.57
Isco 3 partner	8.69	5.08	18.01	9.01	3.92	13.10	5.88	6.07	11.67
Isco 4 partner	3.24	2.41	6.29	5.60	1.82	4.39	3.35	2.02	4.26
Isco 5 partner	6.87	7.98	9.35	10.59	4.34	6.28	3.94	5.90	7.82
Isco 6 partner	8.95	13.80	2.53	1.53	3.68	1.64	1.03	0.84	6.60
Isco 7 partner	22.71	22.21	21.08	28.80	39.84	16.29	25.06	26.64	21.52
Isco 8 partner	14.60	15.94	10.31	8.96	12.54	9.52	22.59	15.01	12.71
Isco 9 partner	3.36	8.02	6.04	9.87	14.09	6.38	20.29	16.36	5.90
Unemployed p.	4.25	4.63	4.67	6.82	9.08	3.28	2.47	3.04	4.42
Inactive partner	8.39	6.43	5.77	10.64	7.71	4.82	1.94	4.38	6.59
Total	326,754	213,563	437,185	2,973	18,837	156,526	4,623	714	1,161,175
Couples	236,976	158,502	273,645	1,976	13,460	104,199	3,610	593	792,961

Tab. A2. Descriptives of the analytical sample, by geographical origin and country of destination: men. Column percentages and means (standard deviations in brackets)

			Italy			UK			
	PL stayers	RO stayers	Non-migrants	PL migrants	RO migrants	Non-migrants	PL migrants	RO migrants	Total
N. children	1.02	0.73	0.87	0.75	0.86	1.02	0.83	0.73	0.90
	(1.09)	(0.94)	(1.01)	(0.91)	(0.97)	(1.15)	(0.95)	(1.06)	(1.04)
Age	36.75	37.89	38.45	37.17	36.49	38.04	33.76	34.22	37.79
	(7.08)	(6.87)	(6.90)	(6.21)	(6.39)	(7.05)	(5.72)	(6.18)	(6.99)
Age at migration				26.95	27.59		27.54	29.08	27.60
				(6.45)	(6.37)		(5.64)	(5.93)	(6.23)
Low-educated	8.81	19.22	41.31	33.86	40.89	43.92	68.63	58.75	28.64
Upper sec at ori	68.64	65.23	43.39	52.65	52.63	18.98	5.90	11.62	42.19
Upper sec at dest				3.74	2.75		1.15	0.26	2.40
Tertiary at ori	22.56	15.55	15.30	6.18	2.70	37.10	18.13	24.41	6.61
Tertiary at dest				3.57	1.03		6.18	4.96	2.30
Isco 1	5.42	2.31	4.88	1.31	0.44	14.13	3.41	4.70	5.67
Isco 2	9.41	9.29	8.48	3.22	0.38	16.52	4.23	6.92	9.80
Isco 3	7.77	4.91	16.68	3.31	1.92	12.38	3.72	4.18	11.27
Isco 4	3.34	2.34	6.38	1.22	1.11	4.99	2.80	0.78	4.54
Isco 5	6.51	7.87	8.88	3.66	2.84	6.30	2.96	5.61	7.62
Isco 6	9.01	14.23	2.48	2.96	3.93	1.59	0.61	0.65	6.36
Isco 7	20.64	20.05	18.10	39.16	42.04	15.02	26.92	30.42	19.08
Isco 8	13.15	13.83	8.80	11.31	11.70	8.91	26.05	19.06	11.04
Isco 9	3.93	8.43	5.53	16.80	17.21	7.15	24.48	19.97	6.03
Unemployed	6.65	6.18	6.14	7.75	10.02	5.10	2.77	4.05	6.19
Inactive	12.97	9.18	13.02	9.31	8.40	7.49	1.98	3.66	11.50
Lone migrant				35.07	24.30		21.98	21.67	24.32
First migrant				24.28	37.99		30.47	25.33	35.38
Tied migrant				14.01	10.43		8.39	7.96	10.14
Joint migrant				22.02	26.19		35.60	40.21	28.28
Mixed couple				4.61	1.09		2.21	2.35	1.53
Partner's age	36.23	37.05	38.78	36.16	34.27	37.41	31.81	31.95	37.41
	(7.21)	(6.82)	(6.30)	(6.64)	(6.86)	(7.86)	(6.11)	(7.11)	(7.01)
Native partner	99.76	99.98	93.36	7.10	1.44	92.10	2.89	3.11	94.71
Isco 1 partner	3.73	1.09	2.25	0.27	0.33	7.84	2.24	2.85	3.22
Isco 2 partner	18.45	11.81	9.79	1.34	0.27	17.91	4.24	8.05	13.71
Isco 3 partner	9.03	6.77	13.24	7.77	3.58	12.61	4.67	5.54	10.51
Isco 4 partner	6.00	5.00	11.94	2.68	1.21	16.76	8.24	6.38	9.37
Isco 5 partner	13.69	14.19	11.87	15.01	14.50	16.70	12.72	14.60	13.56
Isco 6 partner	8.54	13.46	0.78	0.94	0.61	0.19	0.15	0.00	5.40
Isco 7 partner	3.28	6.27	2.42	4.02	3.51	1.55	2.88	1.85	3.30
Isco 8 partner	2.37	4.95	2.11	1.61	3.90	0.90	9.60	1.17	2.61
Isco 9 partner	5.09	6.39	4.66	26.01	24.67	5.19	27.87	23.32	5.56
Unemployed p.	6.20	3.68	4.61	8.18	10.11	2.73	4.30	6.04	4.72
Inactive partner	23.58	26.30	36.32	32.17	37.30	17.55	23.08	30.20	28.00
Total	399,661	268,288	573,641	1,149	15,874	183,260	4,253	766	1,446,892
Couples	274,048	176,288	330,579	746	12,017	128,326	3,303	597	925,904

Stockholm Research Reports in Demography
Stockholm University,
106 91 Stockholm,
Sweden
www.su.se | info@su.se | ISSN 2002-617X

Stockholm University

Demography Unit