

Country-specific case studies on fertility among the descendants of immigrants

Part 2

France: Ariane Pailhé

Spain: Amparo González-Ferrer, Teresa Castro-Martín and Elisabeth Kraus

Switzerland: Andrés Guarín and Laura Bernardi

© Copyright is held by the author(s).



The timing of childbearing among the descendants of immigrants in France

Ariane Pailhé

Abstract:

This study analyses the transition to the first, second and third births for four groups of second generation immigrants in France – women of North and Sub-Saharan African, Southeast Asian and Turkish origin. It analyses the extent to which descendants of immigrants have assimilated to host-country fertility norms and whether the observed differences arise from cultural or structural determinants. Using the Trajectories and Origins Survey (Ined-Insee, 2008) and event history techniques, we show a convergence towards French standards, which, however, differs across groups. Those of Southeast Asian descent clearly deviate from fertility pattern of their parents, whereas those of Turkish descent preserve their parents' cultural heritage the most. The differences in adaptation between groups depend on family social capital, family structure and family values. Access to a higher level of education is a crucial factor that erases differences between groups.

Keywords: fertility, second generation immigrants, birth order, France, adaptation, socialisation

Acknowledgement: The research leading to these results has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement no. 320116 for the research project FamiliesAndSocieties.

1. Introduction

Over the past few years, research has started to focus on analysing the life trajectories of the descendants of immigrants. This new interest stems from the fact that the great waves of immigration, which arrived in Europe between the end of the Second World War and the 1970s have produced a second generation of immigrants. The availability of new data allows categorizing the descendants of immigrants by country of origin, providing sufficient sample sizes for analysing their behaviours separately. Various fields have been analysed: their educational attainment, employment trajectories, partnership formation patterns and fertility (Alba, 2005; Meurs et al., 2006; Crul et al., 2012; Milewski, 2010; De Valk & Milewski, 2011). Hence, analysing the fertility of immigrants' descendants is a key issue for demographers, since it affects the structure of the future of the entire population (Sobotka, 2008).

Immigrant descendants' fertility is subject to multiple influences. One usually observes an intergenerational transmission of fertility behaviour, both in terms of completed fertility and of the timing of births (Barber, 2001; Steenhof & Liefbroer, 2008). This transmission may be altered for descendants of immigrants who are subject to having been socialised with their parents' specific values; it may also be affected by the norms and standards of the country where they were born and socialised (De Valk & Milewski, 2011). The process of adapting to the dominant fertility behaviour in the host society may vary according to origins, depending on the cultural distance between the parents and the host country (Adserà & Ferrer, 2014). It may also depend on the countries of settlement (Milewski, 2011), depending on the way they incorporate immigrants and their descendants.

While fertility behaviours have been extensively examined for first generation immigrants in France (Tribalat, 2005; Toulemon, 2004), much less attention has been paid to the descendants of immigrants who make up a sizeable and growing fraction of the French population, about 10%. This article explores the inter-generational transmission of fertility patterns in France. Specifically, it analyses the extent to which descendants of immigrants follow the fertility behaviour of either their parents or that of the native population. To do this, there are two main questions that need to be answered. First, in terms of timing of childbearing, to what extent have the children of immigrants assimilated to host-country norms? Second, how far apart are the observed differences that arise from cultural or

structural determinants (i.e., family background, belonging to a disadvantaged social milieu, lower level of education and disadvantageous position in the labour market)?

To answer these questions, we analyse the transition to first, second and third births among different groups of descendants of immigrants, and we compare them to the native-born. These parity-specific transitions are analysed because each has its own reasoning in France. Entry into parenthood is a key stage in the transition to adulthood, and it is much related to completing education, forming a partnership and starting employment. Transition to a second birth is quite uniform, given the strong two-child family norm, while transition to a third birth is more related to cultural background (Regnier-Loillier, 2006). Several groups whose cultural origins differ greatly from the host country are selected, most of them having high levels of fertility: North Africa, Sub-Saharan Africa, Turkey, and Southeast Asia. Our research design uses a data set that oversamples immigrants and their descendants; it is called the Trajectories and Origins Survey, conducted in 2008.

2. Theoretical framework

2.1. Fertility of immigrants

A huge amount of research has been conducted on the fertility pattern of immigrants, especially in the US context. Competing hypotheses have been developed concerning the impact of internal and international migration on childbearing patterns (Kulu, 2005; Milewski, 2007). According to the disruption hypothesis, migration is a stressful event in the life course, which may lead to the postponement of childbearing. This postponement may precede migration or occur shortly after migration. Alternatively, the family formation hypothesis underscores that migration and family formation are interrelated, which can explain high fertility in the first years following migration. With regards to fertility behaviour in the medium and long term, the socialization hypothesis considers that exposure to certain norms and values during an immigrant's childhood (i.e., those of their country of origin) have long-lasting effects and are dominant in shaping their fertility behaviour. Thus, fertility patterns should be close to that of the country of origin. By contrast, the assimilation or adaptation hypothesis emphasizes the adaptation of immigrant behaviours to the environment and norms of the society of settlement. So, their fertility behaviours should converge to those in the host country. Finally, according to the selectivity hypothesis, this convergence comes from the selection of migrants in the country of origin; in particular, migrants and non-migrants in the

country of origin may have different fertility preferences. This selection may lead to migrant fertility patterns that are close to those of the host country population.

Empirical analysis found that these hypotheses are more complementary than competitive. No evidence of a disrupting effect from migration has been found in Europe, contrary to Australia (Abbasi-Shavazi & McDonald, 2002). The fertility of female immigrants is even high in the first years following migration, due to a catch-up effect (Toulemon & Mazuy, 2005) and because migration, marriage and childbearing are interrelated (Milewski, 2007). Immigrants have more children in general than the native population (Sobotka, 2008), but a convergence to the host country behaviours generally appears with duration of stay (Sobotka, 2008; Andersson, 2004; Andersson & Scott, 2005 2007) and after taking into account age at migration (Toulemon, 2004; Roig Vila & Castro Martín, 2007). In the UK, this convergence of childbearing patterns is faster for groups from higher fertility countries (Dubuc, 2012). Few studies have analysed the drivers of this convergence. In Sweden, this adaptation of childbearing behaviours occurs through adaptation to the social and labour market conditions of the host country (Andersson & Scott, 2005). More generally, it has been shown that immigrants' assimilation takes time and occurs overall several generations (Alba and Nee, 2003). The convergence of fertility patterns may be thus observed for the second and subsequent generations.

2.2. Fertility of the second generation

As descendants of immigrants may be affected by their parent's norms and standards as well as by those in their country of residence, both the socialization and assimilation hypotheses may explain their fertility behaviour. The differing extent of adhesion to parental vs. country norms regarding childbearing depends on the social and cultural context in the country of destination. More generally, the literature on immigrant integration has stressed that the assimilation of descendants of immigrants is not uniform but rather segmented: they follow several paths of adaptation based on disparities in their parents' human and social capital, family structure and modes of incorporation in the host society (Portes, Fernandez-Kelly & Haller, 2009). These various paths of adaptation may result in various fertility patterns.

Little attention has been devoted to the fertility behaviour of the second generation in Europe, given that the second generation population has only recently reached the age of family

formation. In countries with longer immigration histories, like France, the category could not be identified in a large-scale survey, as mentioned previously. Thus, most analyses relate to the US context and focus on the fertility of Hispanics and Mexicans (Parrado & Morgan, 2008). This topic was recently addressed for European countries, as can be seen from the special issues of the journal *Advance in Life Course Research* (De Valk & Milewski, 2011). Studies have been possible with the availability of new data, such as the comparative research projects developed in Europe regarding the Turkish second generation (The Integration of the European Second Generation (2006-2008)). Given the young age structure of descendants of immigrants, only entry into parenthood has been analysed. No information is available regarding transition to subsequent births.

Empirical studies have found a general trend of converging fertility patterns across generations of immigration. This adjustment to host country behaviour among children of immigrants was found in Germany (Milewski, 2007; 2010), Sweden (Scott & Stanfors, 2011), the Netherlands (Garssen & Nicholaas, 2008) and the UK (Dubuc, 2012). It occurs at various rates across groups of origins. Convergence is lower for those with Turkish origins (Scott & Stanfors, 2011), given their strong attachment to the ‘Turkish family culture’ (Milewski, 2010). However, this attachment magnitude varies according to the country of destination, and thus to the national context. Turkish descendants tend to postpone fertility in countries where fertility is low compared to those in countries where fertility is higher (Milewski, 2011), which is a sign that they adjust their behaviours to the environment and norms of the society in the country of destination. Furthermore, labour market integration is a determinant factor of adjustment to majority population behaviour (Scott & Stanfors, 2011).

3. The French context

3.1. Migration history of France

Since the beginning of mass immigration in the middle of the nineteenth century, France has had a long history of immigration, with flows that continued during the twentieth century, even after the economic downturn of the 1970s provoked successive restrictive immigration policies. In 2010, the French metropolitan population was made up of 10.7% immigrants. The descendants of immigrants amounted to about 4.5 million in 2008, which represent about 10% of the whole population in France (Insee, 2012). The descendants of immigrants from Southern Europe (Italy, Spain and Portugal) are the most numerous, followed by those of

immigrants from North Africa (Algeria, Morocco and Tunisia) (Table 2). Half of all descendants are from parents of mixed origins, 20% having only an immigrant mother and 30% only an immigrant father. Mixed parenthood is more frequent for descendants of immigrants from the EU 27. Descendants of immigrants are on average younger than the French natives. Nearly 3/4 of descendants of immigrants from Europe are over 35, whereas about half of descendants of immigrants from Turkey, Southeast Asia or Sub-Saharan Africa are under 25. Descendants of North African immigrants are older: about one third is age 25-34 and 20% are 35-44.

Compared to the French native population, the four selected groups differ significantly in terms of educational level and background: they have on average a lower educational level, come more frequently from a lower social class and were born in larger and more religious families (Appendix 1). Women from the Turkish second generation are least educated and the French language was less frequently spoken at home during their childhood. In contrast, women of Southeast Asian descent more frequently reached a high level of education, with the share of women achieving a tertiary level of education (41%) being even larger when compared to the French natives. Compared to the other groups of descendants of immigrants, Southeast Asians were less often raised in large families (most of them have 2 or 3 siblings), religion was less important in their education, and they come from a higher social background. The Sub-Saharan and North African second generations are in between these two groups and quite close in terms of educational level. Like those of Turkish descent, they come more often from a lower social milieu and from families with a higher level of religiosity. They also come from larger families and, because their parents come from former French colonies, the French language was more frequently spoken by their parents.

(Table 1 about here)

3.2. Fertility in France

As elsewhere in Europe, entry into parenthood is increasingly delayed and the timing of fertility is changing rapidly in France (Toulemon et al., 2008). The fertility schedule is moving continuously to higher ages and the mean age at childbirth is continuing to rise. The mean age at first childbirth has increased since the mid-1970s, rising from 23.9 years in 1975

to 28.1 years in 2010. This increase is a result of both a decrease in fertility at young ages (before 25) and an increase at ages 28 and over (Insee, bilan démographique).

However, unlike the other European countries, this postponement seems to have little impact on completed fertility. France is one of Europe's most fertile countries. In 2008, with 1.99 children per woman on average, France ranked second in Europe behind Ireland. Since the end of the 1990s, France stands apart from many other European countries: fertility began to increase clearly from 1996, and the period total fertility rate has remained stable above 1.9 since 2000. Despite the recent economic crisis and rapidly increasing unemployment, the country's fertility continued to increase until 2010, even attaining a mean of two children per woman (Pison, 2011). However, beginning in 2011, the trend somewhat reversed: the deepening crisis and notable surge in youth unemployment were accompanied by a slight decrease both in the number of births and in the total fertility rate (Figure 1). In spite of this changing trend, fertility remains at a high level.

(Figure 1 about here)

The proportion of childless women has remained very low: only 11% of women born in 1970 will remain childless; and “the probability of a progression to a second, a third and a fourth child has not changed since 1975” (Toulemon et al., 2008). All in all, a higher proportion of women give birth to a first child in France than in other European countries, and the rates are similar for second and third births (Prioux, 2005). Finally, the two-child family is the norm (Regnier-Loilier, 2006); 41% of women born in 1960 have two children.

This relatively high level of fertility is related to a tradition of family orientations, i.e. an ideology that promotes the family as an institution (Revillard, 2006) and a rather generous and diversified family policy, i.e., a combination of allowances, tax deductions and child care facilities that allow combining family and work.

3.3. Immigrant fertility in France

Despite its long history, immigration has rather little impact on overall demographic increase (Héran, 2004); it accounts for one third of the increase between 1946 and 2004 (Bergouignan et al., 2005). Immigrant women, especially those born outside of Europe, have more children

than French natives (Tables 2 and 3). According to census data, less than one birth out of five comes from an immigrant woman, but since they only represent 12% of women aged 15 to 50, their contribution to fertility is low (Héran & Pison, 2007): without women born outside the European Union, the TFR would be 0.1 lower (Table 2).

(Table 2 about here)

(Table 3 about here)

3.4. Fertility of second generation immigrants in France

Little is known regarding the fertility of second generation immigrants in France, since it is not possible to identify this population category in the French census. Before the 2000s, only specific surveys such as the *Mobilité géographique et insertion sociale* (geographical mobility and social integration, MGIS) survey, conducted by INED in conjunction with INSEE in 1992, specifically identified the descendants of immigrants. Since then, many more surveys contain information that permits this identification, but few of them have sufficient sample sizes for comparing behaviours between groups of origin. Using the recent *Trajectories and Origins Survey*, Hamel et al. (2011) show that the median age at first childbirth is as high as – and even higher than – that of the native population.

4. Hypotheses

From this review of the literature and given the French context, we formulate the following hypotheses:

H1 Convergence towards French standards differs across groups of origins. The path of adaptation of a group depends on its family social capital and family structure

The larger socio-cultural distance between source and destination countries slows down the process of adjustment. Behaviours will be closer to those of the native population among groups whose parents come from countries that are culturally closer to the host country. The propensity to have children is expected to be higher in lower social classes, in families with numerous children and with strong religious beliefs. Thus, we expect the fertility behaviour of

descendants of immigrants from Southeast Asia to be closer to the French natives than to those from other selected countries who have often grown up in larger families.

H2 Access to higher levels of education and to employment is a factor that erases differences between groups

We expect that educational attainment and access to employment are key factors in shaping fertility behaviours. The higher educational level of the Southeast Asian second generation is expected to reinforce the convergence towards the French standards regarding fertility. Conversely, due to the lower educational background of Turkish descendant, we expect a lower convergence for second generation Turkish population, i.e., earlier childbearing relative to the French population.

H3 Due to the strong two-child family norm in France, cultural factors are more important determinants for the transition to the third birth

We expect the main differences across observed groups for the transition to the first and to the third birth. Educational level is expected to be a more important factor for the transition to the first birth, and culture for the transition to the third birth.

5. Data and method

5.1. Data

The data we use come from the Trajectories and Origins (TeO) survey, conducted in 2008 by the French National Institute of Demography (INED) and the French National Statistical Office (INSEE). This survey is particularly appropriate, since it investigates the living conditions and social trajectories of immigrants and second generation immigrants living in France. In total, 22,000 persons living in metropolitan France were interviewed, and immigrants and their descendants were oversampled (Beauchemin et al., 2010). Native French and immigrants were between 18-60 years old (cohorts 1948-1990), while descendants of immigrants were between 18-50 years old (cohorts 1958-1990).

The survey contains retrospective biographical data concerning family and employment history, in particular years of childbirths. We have thus randomly generated for each a month

of birth. The survey also contains standard socioeconomic information and very detailed information on family background, e.g.: parents' social class, religion, level of education, number of siblings, language skills, etc.

Detailed information defines groups of immigrants: individual place of birth and nationality at birth, parents' place of birth and nationality at birth, year of arrival in France and reasons for arrival. Native French are defined as individuals born to two French-born parents. Descendants of immigrants are persons born in metropolitan France with at least one immigrant parent. The following aggregated regions of origin are used: North Africa (Algeria, Tunisia and Morocco), Sub-Saharan Africa (Senegal, Mali, Cameroon, Guinea, etc.), Southeast Asia (Vietnam, Cambodia, and Laos), and Turkey. Cases with missing information, first childbirth prior to age 15 or with inconsistent dates in their life history were also excluded from the analysis. Our sample counts 3,965 individuals. Table 4 displays the sample size for each group and the share of each group in respect to the whole population. Appendix 1 provides characteristics of each group.

(Table 4 about here)

5.2. Method

We first estimate age at first childbirth and then duration in months between first and second birth and between second and third birth. Childless people are followed from age 15, and cases are censored at the interview date or at age 45 when no birth is reported. We first carry out a non-parametric duration analysis using the Kaplan-Meier method. The analyses are adjusted using sampling weights in order to account for the stratifying nature of the survey. Then Cox proportional hazards models (Cox, 1972) are estimated. For the transition to the third birth, Turkish, Southeast Asian and Sub-Saharan African second generations are excluded from the analysis, since the number of events is too low in these groups (Table 4).

5.3. Control variables

The same set of control covariates is used for the analysis of the transition to the first, second and third birth, with the covariates being added step by step in order to analyse how these covariates are related to the specific effect of country of origin. Model 1 controls for

migration background and birth cohort. Dummy variables for each group of origin are introduced (the reference category being native women), as well as a dummy variable indicating whether the woman has parents of mixed origins. Three birth cohorts are distinguished: born between 1958-1969; between 1970-1979 and between 1980-1990.

Model 2 controls for partnership status, i.e., two time-varying dummy variables indicating whether the woman started living in a partnership and whether this is a mixed partnership. A time-varying variable for being married is also included, since the formalisation of the union may be a pre-condition for having children. These time-dependent variables are lagged by one year in order to evaluate their effect on the conception of the child. Additional variables related to the first birth are added into the models for second and third births. The age at first union formation is added, since it is usually a good indicator of the quality of the partnership match. Early union formation promotes early parenthood. Contrary, couples formed at a later age may be prone to accelerate the second birth. The sex of previous children is also added, since there is generally a preference for children's sex diversity (Hank & Kohler 2003).

Model 3 controls for the level of education that shapes both individual preferences and age at first partnership (Furtado, 2012; Ní Bhrolcháin & Beaujouan, 2012). It is thus introduced with four dummy variables: no education, low education (primary), medium level (secondary) and high education (university).

Model 4 controls for some background variables, since immigrants and their descendants often come from a working-class background, and individuals may adhere to the behaviours, values, and norms that dominated their childhood years (Michaël & Tuma, 1985) and which may also influence family behaviours (Régnier-Loilier & Prioux, 2008). Social background is taken into account through parents' social class; and religiosity through dummies indicating its level of importance during childhood. We use this last variable rather than religion, since the type of religion is correlated to the country of origin. We also control for the number of siblings, specifically whether the respondent had at least two siblings. This is because growing up in a large family is usually a good determinant for higher preferred family size, because it may indicate that the respondent was raised in a family with strong family values (Michaël & Tuma, 1985). We also control for the main language spoken by parents during the woman's childhood (only French, French and foreign, or only foreign), since this may be a proxy for integration into the host society.

Finally, the timing of childbearing is usually strongly correlated with having completed education and with employment status (Mills et al., 2005). Model 5 controls for the activity status – whether the respondent is still in education or has been employed in a stable job, i.e., a job lasting at least one year. This time-dependent variable, computed for each calendar year is lagged by one year. Indeed, education and having a child are not very compatible; the majority of women in France wait until they have completed education and found a stable job before entering motherhood (Pailhé & Solaz, 2012).

6. Results

6.1. First birth

Figure 2 displays the Kaplan Meier estimates of the proportion of childless women by age. The transition to the first birth occurs faster for descendants of Turkish immigrants. Their median age at first birth is 23.7, about three and a half years lower than the French natives (see Appendix 2). By contrast, descendants of Sub-Saharan African immigrants tend to postpone childbearing. It is only by 30.7 years that 50% of women whose parents come from Sub-Saharan Africa have become first-time mothers. Although to a lesser extent, descendants of immigrants from Southeast Asia also postpone childbearing when compared to the native population. The timing of first childbirth of descendants of North African immigrants shows a close pattern to that of native French women. By age 24, one out of every four women in these two groups has had their first child. But descendants of North African immigrants tend to postpone childbearing even more: the median age at first childbirth is 28.3, one year later than the native French women. This later childbearing among the North African second generation does not however result in higher childlessness. By age 40, the share of childless women converges for the two groups.

(Figure 2 about here)

Table 5 presents the results of the Cox regression estimates. Model 1 compares the groups of origins controlling for the birth cohort. Results are in line with those of the Kaplan-Meier non-parametric analysis: women whose parents come from Sub-Saharan African and Southeast Asia have lower propensities to enter motherhood, while women of Turkish descent have a higher probability of an early birth when compared to native French women. There is

no significant difference between native French women and descendants of North African immigrants. Having parents of mixed origins also does not show any significant effect.

Model 2 controls for partnership history, since childbearing is highly dependent on couple formation and, for some groups, on marriage. Once controlled for partnership formation, the gap in first birth rates is not any more significant between descendants from Sub-Saharan Africa and native French. This indicates that the former have a lower propensity to form a union, which delays childbearing. Symmetrically, the odds-ratio for the Turkish second generation decreases, meaning that part of their earlier childbearing is linked with their early couple formation (Hamel et al., 2015).

Model 3 adds education level of the women. Compared to women with no qualifications, women with higher education enter into motherhood more slowly. Regarding the propensity to have children, differentials in education levels across groups of origins are key factors in shaping gaps. Hence, once educational level is taken into account, there is no significant difference between the Turkish second generation and the French natives. Similarly, the North African second generation appears to have a significantly lower propensity to have a first child, given the educational level. Model 3b excludes variables related to couple formation and shows that the odds-ratio for the Turkish second generation is significant (and above the value 1). In other words, the fastest transition to motherhood for women of Turkish descent stems from the combination of their lower human capital and their early couple formation.

Model 4 controls for background variables. Religious upbringing does not affect the transition to the first birth, whereas women with numerous siblings and for whom foreign language was spoken only during childhood are more prone to have a first child. On the contrary, all other things being equal, being raised in lower social classes tends to diminish the risk of having a first child. Controlling for background widens the gap between the North African second generation and the native French, and the odds-ratio for the Sub-Saharan African second generation becomes significant (and below the value 1). For a given background, their risk of first childbirth is significantly lower than that of natives. This result holds for North African and Sub-Saharan African second generations when we estimate this model by excluding the education level variable (results not shown here, available on request). Conversely, the origin becomes non-significant for the Turkish second generation, meaning that their fastest transition to motherhood also comes from an intergenerational transmission of family values.

In the final step, we control for activity status. Having completed education and having had a first job that lasts at least one year accelerate the transition to the first birth. Controlling for these time-varying variables does not significantly change the first birth risks of groups of origins, except that the fact of being raised in a mixed couple becomes non-significant. Estimating the same model without variables related to couple formation (Model 5b) results in the same outcomes.

(Table 5 about here)

6.2. Second birth

Overall, the transition to the second child with respect to origin follows some common patterns when compared to that of the first child (Figure 3): it takes place faster for the Turkish second generation, is slower for Sub-Saharan African and Southeast Asian second generations, and it is very close for the North African second generation and French natives. However, differences between origins are much less pronounced than for the first child. In particular, although the transition from one to two children is faster for the Turkish second generation, differences from French natives are quite small (the median duration from first birth is only 5 months lower, see appendix 3). Similarly, this median duration is only 3 months higher for the North African second generation when compared to the natives. The share of women with only one child ten years after the birth of the first one is a bit higher for the second generation from North Africa. When compared to the transition to the first child, the significant difference is the clear tendency to postpone the second birth for those with a Southeast Asian background.

Once controlled for characteristics, there is no significant difference between groups of origins, except that descendants of Sub-Saharan Africa have a lower propensity to have a second child (Table 6). This result is robust regardless of the set of variables included. The gap widens when background variables are added. More generally, the transition to the second birth appears to be mainly related to timing (i.e., age at first birth and having completed education), as well as to cohort (i.e., having married and being a highly educated).

(Figure 3 about here)

(Table 6 about here)

6.3. Third birth

Since the number of events is very small for Turkish, Sub-Saharan and Southeast Asian descendants of immigrants, the transition to the third birth is analysed only for natives and the North African second generation. These two groups show quite a different pattern: while the transition to the first and second child was slower for the North African second generation, it takes place faster for the third child (Figure 4 and appendix 4). Moreover, the share of those who still have two children ten years after the birth of the youngest is much lower for them: about one out of three compared to about 60% for the native French.

This gap between women of North African descent and French natives still holds when taking into account cohort, marital status, age at first birth, sex of the two first-born children and education level (Table 7). However, once background variables are considered, it does not persist. The higher propensity to have a third child for the second generation from North Africa appears to be related to family background, and thus to a transmission of the parents' fertility patterns.

(Figure 4 about here)

(Table 7 about here)

7. Conclusion

This study analyses the transition to the first, second and third births for four groups of second generation immigrants in France. We compare them to the native French in order to assess whether there is a convergence in fertility patterns.

We find various childbearing patterns according to the different origins. Those of Southeast Asian descent enter childbearing much later than native French women. They clearly deviate from the fertility pattern of their parents. Their higher educational level contributes to this postponement, and even to a deviation from the French childbearing pattern. Their will to be integrated through education and employment increases the cost of children for them.

In contrast, Turkish descendants of immigrants enter motherhood at younger ages when compared to the native French. This early childbearing is connected with their young age at partnership formation, with their lower human capital and with their cultural background.

Indeed, once these compositional effects are taken into account, there is no significant difference when compared to the French natives. This group is the one that preserves their parents' cultural heritage the most.

The two groups of African descent are quite close in terms of characteristics, but adopt different fertility patterns. Descendants of Sub-Saharan immigrants tend to postpone both first and second births, partly because they form their first union later, but also because they adopt the French model of late childbearing and a small family. It appears they adapt to the society of settlement. However, this group is still rather young, and further research needs to be conducted in order to analyse more deeply the transition to the second and subsequent births.

Regarding transition to the first child, descendants of North African immigrants converge with the majority French fertility pattern. They follow the same pattern when compositional effects are not taken into account. But once level of education and background are considered, they appear to deviate from the native population, i.e., they postpone childbearing. Even the less educated postpone the birth of the first child and adhere to the average standard. However, they have a higher propensity to have a third child when compared to the native French. This higher propensity is related to their family background. It seems they adapt in terms of timing, but less in terms of quantum. It would be worth studying their completed fertility in order to evaluate to what extent they preserve the North African family pattern.

In line with our first hypothesis, convergence towards French standards differs across groups of origins. The path of adaptation of a group depends on its family social capital, family structure and family values. But some groups diverge more than others in their family background. Access to a higher level of education is a crucial factor that erases differences between groups. Contrary to our expectations, access to employment does not appear to be a key factor in explaining differences across groups with different national backgrounds. The universal and rather generous family policy that is not based on past employment record may explain this similarity across groups in spite of their various paths of entry into stable employment. Our third hypothesis was that convergence occurs differently according to the birth order, and that cultural factors are more important determinants for the transition to the third birth. It appears that there is clearly no difference for the transition to the second child. That confirms the strong norm regarding the timing of transition to the second birth. By contrast, differences are huge regarding the transition to the third child. It seems that, for the

only groups for whom we could have analysed the transition to the third birth, there is both an adaptation to the timing of the first and second childbirth as well as a transmission of their parents' family oriented values for higher birth order.

References

- Adsera, A. (2011). The interplay of employment uncertainty and education in explaining the second births in Europe. *Demographic Research*, 3(16), 513-544.
- Anttonen, A., & Sippilä, J. (1996). European social care services; Is it possible to identify models?. *Journal of European Social Policy*, 6(2), 87-100.
- Behnke, C., & Meuser, M. (2012). Look here mate! I'm taking parental leave for a year – involved fatherhood and images of masculinity. In M. Oechsle, U. Mueller & S. Hess (Eds.) *Faterhood in Late Modernity. Cultural Images, Social Practices, Structural Frames*. Opladen/Farmington Hills: Verlag Barbara Budrich.
- Abbasi-Shavazi, M. J., & McDonald, P. (2002). A comparison of fertility patterns of European immigrants in Australia with those in the countries of origin. *Genus*, 58(1), 53-76.
- Adserà, A., & Ferrer, A. (2014). Immigrants and demography: Marriage, divorce, and fertility. *IZA Discussion Paper, No. 7982*.
- Alba, R. (2005). Bright vs. blurred boundaries: Second-generation assimilation and exclusion in France, Germany, and the United States. *Ethnic and Racial Studies*, 28(1), 20–49.
- Andersson, G. (2004). Childbearing after migration: fertility patterns of foreign-born women in Sweden. *International Migration Review*, 38(2), 747–775.
- Andersson, G., & Scott, K. (2005). Labour-market status and first-time parenthood: the experience of immigrant women in Sweden, 1981–97. *Population Studies*, 59(1), 21–38.
- Barber, J.S. (2001). The intergenerational transmission of age at first birth among married and unmarried men and women. *Social Science Research*, 30, 219–247.
- Beauchemin, C., Hamel, Ch., & Simon, P. (2010). Trajectories and origins: Survey on population diversity in France. *Document de travail de l'Ined*, 168.
- Booth, A., Alison, L., Kee, H. J., & Hiau, J. (2006). Intergenerational transmission of Fertility patterns in Britain, 2437, Institute for the Study of Labor.
- Cox, D.R. (1972). Regression models and life tables. *Journal of the Royal Statistical Society, Series B* 34(2), 187–220.
- Crul, M., Schneider, J., & Lelie, F. (2012). *The European second generation compared: Does the integration context matter?*. Amsterdam University Press, Amsterdam.
- de Valk, H., & Milewski, N. (2011). Family life transitions among children of immigrants: An introduction. *Advances in Life Course Research*, 16(4), 145-151
- Hamel, Ch., Moguerou, L., & Santelli, E. (2011). L'entrée dans la vie adulte des filles et fils d'immigrés. *Politiques sociales et familiales*, 105, 47-58.
- Hamel, Ch., & Pailhé, A. (2015). Avoir des enfants en contexte migratoire. In C. Beauchemin, Ch. Hamel & P. Simon (Eds.), *Enquête trajectoires et origines*, Paris, Collection Grandes enquêtes, Ined, *forthcoming*.
- Hank, K., & Kohler, H.-P. (2003). Sex preferences for children revisited: New evidence from Germany. *Population*, 1, 133-143.
- Héran, F., & Pison, G. (2007). Two children per woman in France in 2006: are immigrants to blame?. *Population and Societies*, 432.
- Kristen, C., Reimer, D., & Kogan, I. (2008). Higher education entry of Turkish immigrant youth in Germany. *International Journal of Comparative Sociology*, 49(2–3), 127–151.
- Kulu, H., (2005). Migration and fertility: Competing hypotheses re-examined. *European Journal of Population*, 21, 51–87.

- Meurs, D., Pailhé, A., & Simon, P. (2006). The persistence of intergenerational inequalities linked to immigration: Labour market outcomes for immigrants and their descendants in France. *Population*, 61(5–6), 763–801.
- Michaël, R. T., & Tuma, N. B. (1985). Entry into marriage and parenthood by young men and women: The influence of family background. *Demography*, 22(4), 515-544.
- Milewski, N. (2007). First child of immigrant workers and their descendants in West Germany: interrelation of events, disruption, or adaptation?. *Demographic Research*, 17(29), 859-896.
- Milewski, N. (2011). Transition to a first birth among Turkish second-generation migrants in Western Europe. *Advances in Life Course Research*, 16(4), 178-189
- Mills, M., Blossfeld, H.-P. & Klijzing, E. (2005). Becoming an adult in uncertain times. A 14-country comparison of the losers of globalization. In H.-P. Blossfeld, E. Klijzing, M. Mills & K. Kurz (Eds.), *Globalization, uncertainty and youth in society* (pp. 423-441). London/New York: Routledge Advances in Sociology Series.
- Ní Bhrolcháin, M., & Beaujouan, É. (2012). Fertility postponement is largely due to rising educational enrolment. *Population Studies*, 66(3), 311–327.
- Pailhé, A., & Solaz A., (2012). The influence of employment uncertainty on childbearing in France: A tempo or quantum effect?. *Demographic Research*, 26(1), 1-40.
- Pison, G. (2011). Two children per woman in France in 2010: Is French fertility immune to economic crisis?. *Population and Societies*, 474.
- Pla, A., & Beaumel, C., (2012). Bilan démographique 2011. La fécondité reste élevée, *Insee Première* n° 1385, available at http://www.insee.fr/fr/themes/document.asp?ref_id=ip1385.
- Regnier-Loilier, A. (2006). Influence of own sibship size on the number of children desired at various times of life. The case of France. *Population - E* 61(3), 165-194.
- Régnier-Loilier, A., & Prioux, F. (2008). Does religious practice influence family behaviours?. *Population & Societies*, 447.
- Revillard, A. (2006). Work/family policy in France: from State familialism to State feminism? *International Journal of Law, Policy and the family*, 20, 133–150.
- Scott, K., & Stanfors, M. (2011). The transition to parenthood among the second generation: Evidence from Sweden, 1990–2005. *Advances in Life Course Research*, 16(4), 190-204.
- Sobotka, T. (2008). The rising importance of migrants for childbearing in Europe, *Demographic Research*, Special Collection 7: Childbearing trends and policies in Europe, 19(9), 225-248.
- Steenhof L. & Liefbroer A. (2008). Intergenerational transmission of age at first birth in the Netherlands for birth cohorts born between 1935 and 1984: Evidence from municipal registers. *Population Studies*, 62(1), 69-84.
- Roig Vila, M., & Castro Martín, T. (2007). Childbearing patterns of foreign women in a new immigration country: The case of Spain. *Population-E*, 62(3), 351-380.
- Toulemon, L. (2004). Fertility among immigrant women: new data, new approach, *Population & Societies*, 400.
- Toulemon, L., & Mazuy, M. (2005). Mesurer la fécondité des immigrants. In C. Lefèvre & A. Filhon (Eds.), *Histoires de familles, histoires familiales*, Paris, Ined, coll. Les Cahiers de l'Ined, n°156.
- Toulemon, L., Pailhé, A., & Rossier, C. (2008). France: High and stable fertility. *Demographic Research*, 19(16), 503-556.

- Tribalat, M. (1996). *De l'immigration à l'assimilation. Enquête sur les populations d'origine étrangère en France*, La découverte, Paris.
- Tribalat, M. (2005). Fécondité des immigrées et apport démographique de l'immigration étrangère. In Ch. Bergouignan, Ch. Blayo, A. Parant, J.-P. Sardon & M. Tribalat, *La population de la France. Évolutions démographiques depuis 1946*, Pessac, CUDEP, 727-767.
- Tavan, C. (2005). Les calendriers de constitution des familles immigrées. In C. Lefèvre & A. Filhon (Eds.), *Histoires de familles, histoires familiales*, Les Cahiers de l'Ined, n°156.
- Weiss, Y., & Willis, R. (1997). Match quality, new information and marital dissolution, *Journal of Labor Economics*, 15 (suppl.), 293-329.

Tables and Figures

Table 1: *Repartition of adult descendants of immigrants according to parents' place of birth in 2008*

	In thousands	%
Italy	880	20
Other UE 27 countries	780	17
Algeria	640	14
Spain	580	13
Portugal	450	10
Morocco	310	7
Other African countries	200	4
Tunisia	180	4
Other European countries	160	4
Cambodia, Laos, Viet Nam	90	2
Turkey	80	2
Other Asian countries	80	2
America, Oceania	60	1
Total	4,480	100

Source: Insee, 2012

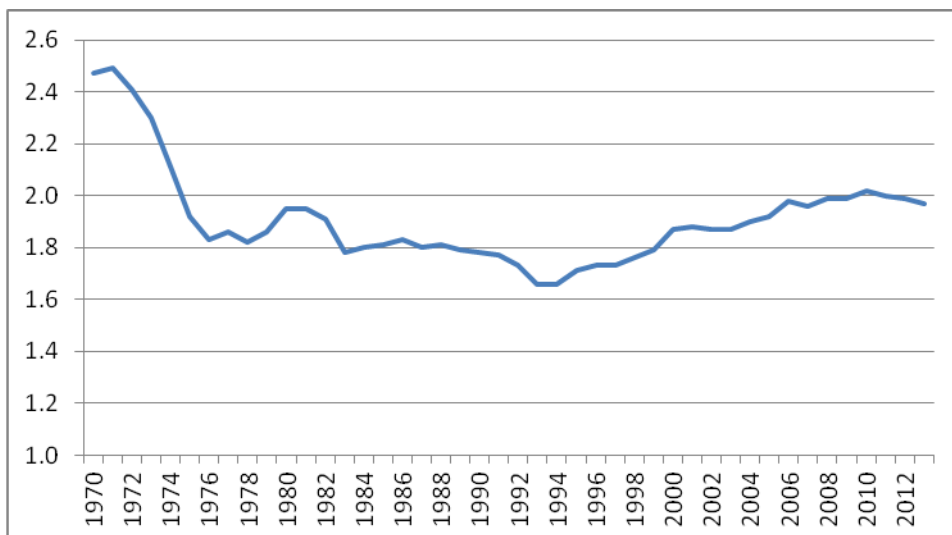


Figure 1: *Total fertility rate since 1970 in France*

Source: Insee, register data

Table 2: Fertility by place of birth in France in 2008

	Births		Women aged 15-50		TFR
	Number	Share (%)	Number (thousands)	Share (%)	
Women born in France	679,909	82	13,423	88	1.89
Women born abroad	148,495	18	1,865	12	2.89
EU-27	18,824	2	432	3	1.86
Outside EU-27	129,671	16	1,433	9	3.14
Total	828,404	100	15,288	100	2.01

Source: Pla and Beaumel, 2012

Table 3: TFR by country of birth for immigrants in France in 2008

	TFR
Spain, Italy, Portugal	1.8
Other European countries	2.0
Algeria	3.5
Morocco, Tunisia	3.3
Other African countries	2.9
Turkey	2.9
Other Asian countries	1.9
America, Oceania	2.6
All immigrants	2.6
Total	1.9

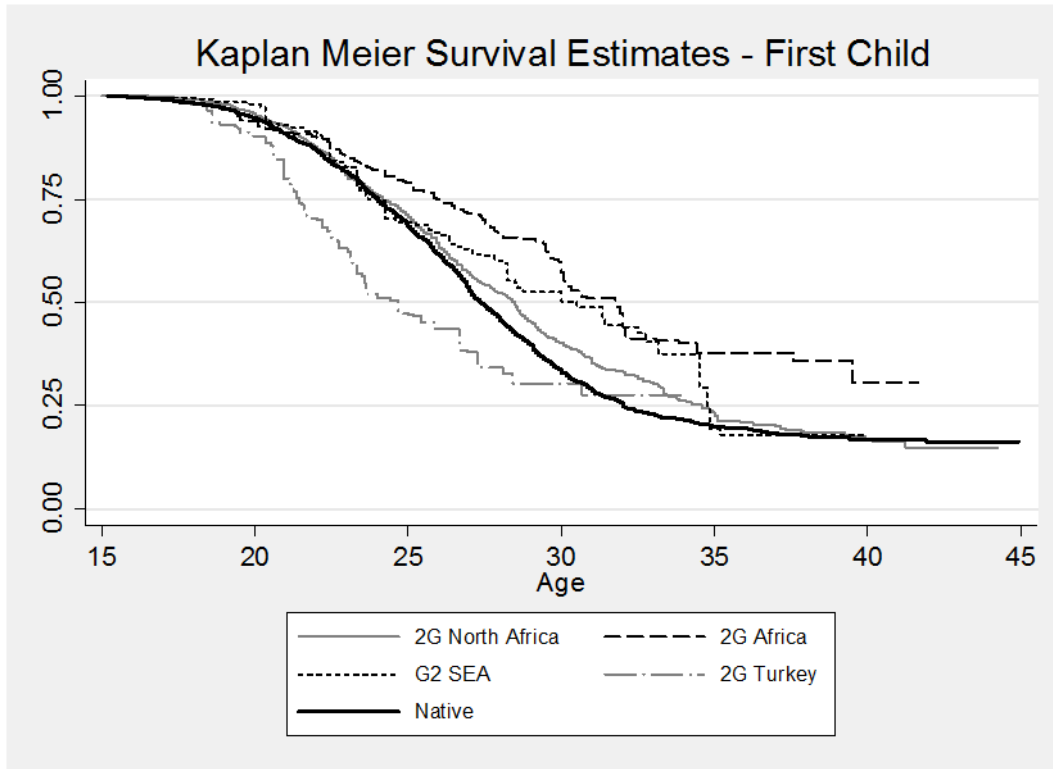
Source: Insee, Population census

Table 4: Sample size and number of events

	2G North Africa	2G Sub Saharan Africa	2G SEA	2G Turkey	Native	Total
No birth	690	326	206	149	592	1,963
1st child	667	117	67	85	1,066	2,002
2nd child	434	57	30	51	754	1,326
3rd child	197	19	8	14	274	512
N	1,357	443	273	234	1,658	3,965

Source: Calculations based on TeO 2008

Figure 2: Kaplan-Meier estimates of the proportion of childless women at different ages, by origin



Source: Calculations based on TeO 2008

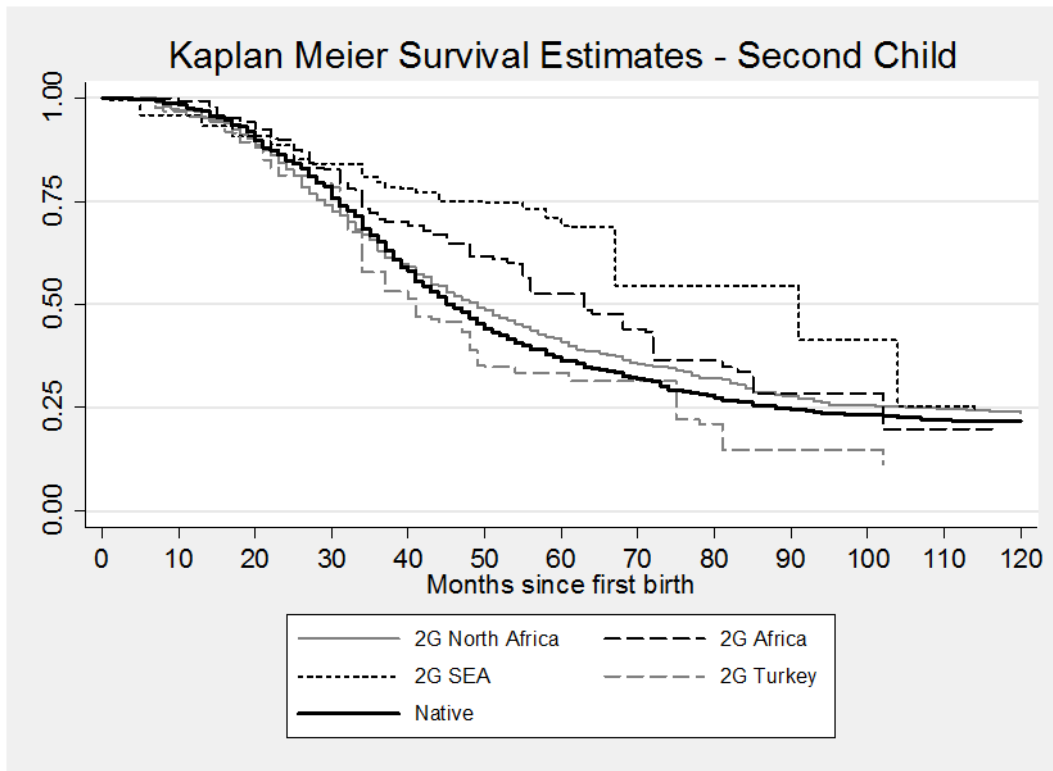
Table 5: Relative risk of having a first child in France

	Model 1	Model 2	Model 3	Model 3b	Model 4	Model 5	Model 5b
Migration background							
Native	1	1	1	1	1	1	
2G Sub-Saharan Africa	0.77 **	0.89 -	0.84 -	0.71 ***	0.75 **	0.78 **	0.62 ***
2G North Africa	0.97 -	0.98 -	0.87 **	0.83 ***	0.78 ***	0.79 ***	0.71 ***
2G SEA	0.71 **	0.77 *	0.81 -	0.75 **	0.73 **	0.72 **	0.65 ***
2G Turkey	1.72 ***	1.35 **	1.08 -	1.30 **	0.91 -	0.90 -	1.00 -
Descendant of unmixed couple	1	1	1	1	1	1	1
Descendant of mixed couple	0.93 -	1.07 -	1.12 -	0.99 -	1.19 **	1.15 -	1.09 -
Birth cohort							
1958-1969	1	1	1	1	1	1	1
1970-1979	0.87 ***	0.99 -	1.15 ***	0.99 -	1.17 ***	1.19 ***	1.06 -
1980-1990	0.82 ***	1.01 -	1.19 **	0.89 -	1.22 **	1.17 **	0.88 *
Partnership status (TV)							
Single		1	1		1	1	
Married		2.64 ***	2.43 ***		2.43 ***	2.43 ***	
Cohabiting		3.52 ***	3.49 ***		3.49 ***	3.21 ***	
Mixed couple		0.91 -	0.94 -		0.95 -	0.96 -	
Educational level							
No qualifications			1	1	1	1	1
Lower professional			0.75 ***	0.73 ***	0.75 ***	0.78 ***	0.75 ***
Secondary			0.55 ***	0.53 ***	0.58 ***	0.64 ***	0.61 ***
Higher			0.43 ***	0.37 ***	0.46 ***	0.59 ***	0.54 ***
Importance of religion in own education							
Not or little important					1	1	1
Rather or very important					0.93 -	0.93 -	1.05 -
Parents social class							
Higher than unskilled					1	1	1
Unskilled blue or white collar					0.89 **	0.88 **	0.94 -
Number of siblings							
Less than 2					1	1	1
2 or 3					1.22 ***	1.22 ***	1.21 ***
4+					1.38 ***	1.40 ***	1.42 ***
Language spoken by parents							
Only French					1	1	
French and foreign					1.00 -	1.00 -	1.01
Only foreign					1.21 *	1.23 **	1.21 *
Activity status (TV)							
In education						1	1
No longer in education						2.83 ***	3.37 ***
Not in stable employment						1	1
Stable employment						1.18 **	1.24 ***
N	3,965						
Events	2,002						

Source: Calculations based on TeO 2008

*** p<0.01, ** p<0.05, * p<0.1

Figure 3: Kaplan-Meier estimates of the proportion of women with one child at different months after first childbirth, by origin



Source: Calculations based on TeO 2008

Scope: Women with at least one child, multiple births at first childbirth excluded

Table 6: Relative risk of having a second child in France

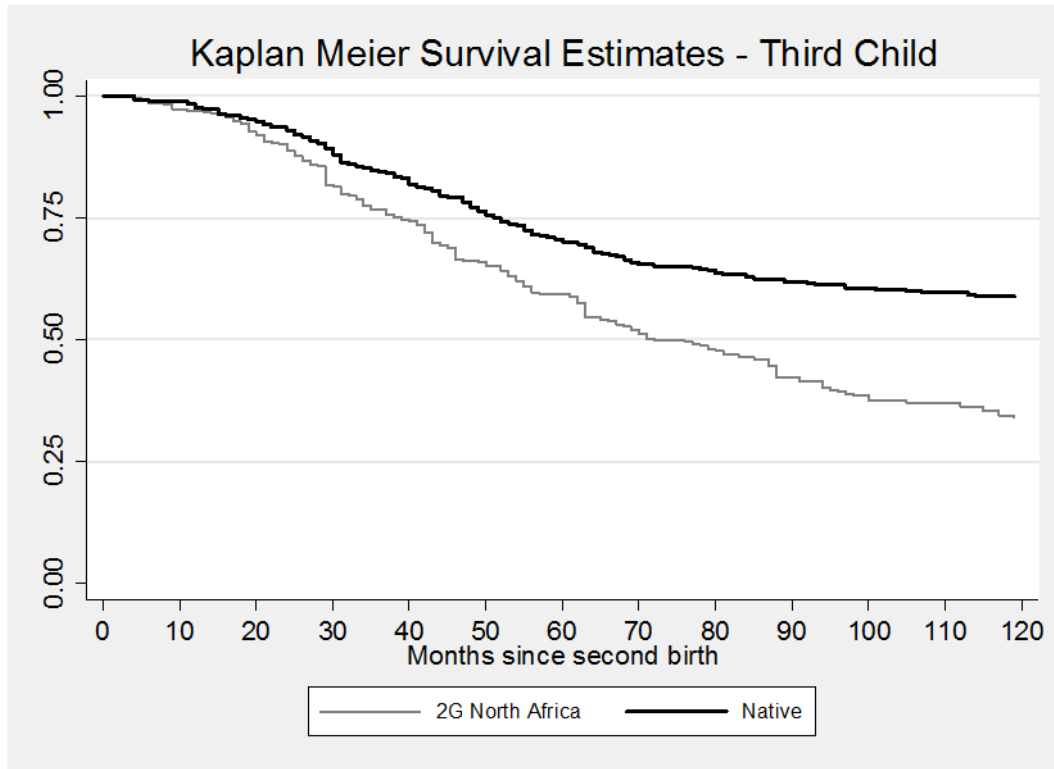
	Model 1	Model 2	Model 3	Model 4	Model 5
Migration background					
Native	1	1	1	1	1
2G Sub-Sah. Africa	0.78 *	0.72 **	0.73 **	0.66 **	0.66 **
2G North Africa	1.03 -	1.02 -	1.05 -	0.96 -	0.96 -
2G SEA	0.78 -	0.83 -	0.80 -	0.73 -	0.73 -
2G Turkey	1.11 -	1.00 -	1.04 -	0.90 -	0.90 -
Descendant of unmixed couple	1	1	1	1	1
Descendant of mixed couple	0.78 ***	0.84 *	0.84 *	0.91 -	0.90 -
Birth cohort					
1958-1969	1	1	1	1	1
1970-1979	1.36 ***	1.35 ***	1.31 ***	1.32 ***	1.32 ***
1980-1990	1.34 **	1.35 **	1.34 **	1.33 **	1.30 **
Partnership status (TV)					
Unmarried		1	1	1	1
Married		1.75 ***	1.74 ***	1.73 ***	1.71 ***
Mixed couple		0.92 -	0.91 -	0.92 -	0.92 -
Age at first birth					
< 25		0.87 **	0.93 -	0.93 -	0.92 -
25-29		1	1	1	1
30-34		0.75 ***	0.73 ***	0.73 ***	0.73 ***
35+		0.54 **	0.51 ***	0.50 ***	0.50 ***
Sex of first child					
Boy		1	1	1	1
Girl		1.05 -	1.05 -	1.04 -	1.05 -
Educational level					
No qualifications			1	1	1
Lower professional			1.07 -	1.07 -	1.09 -
Secondary			0.96 -	0.97 -	1.00 -
Higher			1.32 ***	1.33 ***	1.40 ***
Importance of religion in own education					
Not or little important				1	1
Rather or very important				1.06 -	1.06 -
Parents social class					
Higher than unskilled				1	1
Unskilled blue or white collar				1.00 -	0.99 -
Number of siblings					
Less than 2				1	1
2 or 3				1.01 -	1.01 -
4+				1.04 -	1.03 -
Language spoken by parents					
Only French				1	1
French and foreign				1.02 -	1.02 -
Only foreign				1.26 *	1.25 *
Activity status (TV)					
In education					1
No longer in education					1.69 ***
Not in stable employment					1
Stable employment					0.84 -
N	1,853				
Events	1,257				

Source: Calculations based on TeO 2008

Scope: Women with at least one child, no multiple births at first childbirth

*** p<0.01, ** p<0.05, * p<0.1

Figure 4: Kaplan-Meier estimates of the proportion of women with two children at different months after second childbirth, by origin



Source: Calculations based on TeO 2008

Scope: Women with at least two children, no multiple births at first two childbirths

Table 7: Relative risk of having a third child in France

	Model 1	Model 2	Model 3	Model 4	Model 5
Migration background					
Native	1	1	1	1	1
2G North Africa	1.50 ***	1.49 ***	1.49 ***	1.07 -	1.06 -
Descendant of unmixed couple	1	1	1	1	1
Descendant of mixed couple	1.01 -	0.94 -	0.90 -	1.23 -	1.29 -
Birth cohort					
1958-1969	1	1	1	1	1
1970-1979	1.59 ***	1.67 ***	1.68 ***	1.64 ***	1.62 ***
1980-1990	1.09 -	1.40 -	1.39 -	1.32 -	1.27 -
Partnership status (TV)					
Unmarried		1	1	1	1
Married		1.43 **	1.41 **	1.42 **	1.49 ***
Mixed couple		1.09 -	1.12 -	1.08 -	1.05 -
Age at first birth					
< 25		1.45 ***	1.55 ***	1.55 ***	1.53 ***
25-29		1	1	1	1
30-34		0.97 -	0.94 -	0.97 -	0.96 -
35+		1.59 -	1.53 -	1.41 -	1.40 -
Sex of previous children					
Boy and girl		1	1	1	1
Same sex		1.25 **	1.26 **	1.25 **	1.25 **
Educational level					
no qualifications			1	1	1
Lower professional			0.84 -	0.85 -	0.87 -
Secondary			0.85 -	0.91 -	0.93 -
Higher			1.18 -	1.29 *	1.27 -
Importance of religion in own education					
Not or little important				1	1
Rather or very important				1.08 -	1.07 -
Parents social class					
Higher than unskilled				1	1
Unskilled blue or white collar				0.89 -	0.86 -
Number of siblings					
less than 2				1	1
2 or 3				1.14 -	1.15 -
4+				1.69 ***	1.68 ***
Language spoken by parents					
Only French				1	1
French and foreign				0.96 -	0.97 -
Only foreign				1.73 ***	1.67 **
Activity status (TV)					
In education					1
No longer in education					0.73 -
Not in stable employment					1
Stable employment					0.65 ***
N	1112				
Events	443				

Source: Calculations based on TeO 2008

Scope: Women with at least two children, no multiple births at first two childbirths

*** p<0.01, ** p<0.05, * p<0.1

TV: time-varying variable

Appendix

Appendix 1: Sample characteristics

	G2 North Africa		G2 Africa		G2 SEA		G2 Turkey		Native	
	N	%	N	%	N	%	N	%	N	%
Descendant of mixed couple	385	28.4	114	25.7	101	37.0	10	4.3	0	0.0
Cohort 1958-1969	257	18.9	17	3.8	13	4.8	1	0.4	697	42.0
Cohort 1970-1979	448	33.0	98	22.1	55	20.2	42	18.0	489	29.5
Cohort 1980-1990	652	48.1	328	74.0	205	75.1	191	81.6	472	28.5
No qualifications	312	23.0	98	22.1	29	10.6	89	38.0	275	16.6
Lower professional education	279	20.6	76	17.2	27	9.9	53	22.7	369	22.3
Secondary education	390	28.7	143	32.3	104	38.1	56	23.9	399	24.1
Higher education	376	27.7	126	28.4	113	41.4	36	15.4	615	37.1
Religion rather or very important	843	62.1	287	64.8	109	39.9	162	69.2	479	28.9
Unskilled blue or white collar parents	470	34.6	147	33.2	56	20.5	80	34.2	203	12.2
less than 2 siblings	118	8.7	45	10.2	70	25.6	24	10.3	664	40.1
2 or 3 siblings	431	31.8	135	30.5	121	44.3	103	44.0	681	41.1
4+ siblings	808	59.5	263	59.4	82	30.0	107	45.7	313	18.9
Only French	415	30.6	175	39.5	77	28.2	12	5.1	1398	84.3
French and foreign	787	58.0	212	47.9	140	51.3	109	46.6	244	14.7
Only foreign	155	11.4	56	12.6	56	20.5	113	48.3	16	1.0

Source: Calculations based on TeO 2008

Appendix 2: Median age at first birth

	N	25%	50%	75%
G2 North Africa	1357	24.1	28.3	33.9
G2 Sub Saharan Africa	443	25.8	30.7	-
G2 Southeast Asia	273	23.6	30.0	34.7
G2 Turkey	234	21.3	23.7	-
Native	1658	24.0	27.3	32.0
Total	5279	24.0	27.4	32.0

Source: Calculations based on TeO 2008

Appendix 3: Median duration between first and second birth (months)

	N	25%	50%	75%
G2 North Africa	655	29	49	109
G2 Sub Saharan Africa	115	34	63	102
G2 Southeast Asia	65	44	91	114
G2 Turkey	82	31	41	75
Native	1,05	31	46	88
Total	1,967	31	46	89

Source: Calculations based on TeO 2008

Appendix 4: Median duration between second and third birth (months)

	N	25%	50%	75%
G2 North Africa	429	39	72	
G2 Sub Saharan Africa	57			
		56	71	
Southeast Asia	51	31		
G2 Turkey	745	51		
G2 Native	1,282	51		

Source: Calculations based on TeO 2008

Childbearing among women of immigrant and non-immigrant origin in Spain

Amparo González-Ferrer, Teresa Castro-Martín and Elisabeth Kraus

Abstract:

This study provides analyses of the childbearing behavior of female immigrants and their descendants in Spain. The study is based on two major surveys carried out in 2006 and 2007, the Fertility and Values Survey (2006) and the National Immigrants Survey (2007), which allow to compare the childbearing behavior of native, first generation and 1.5 generation immigrant women (who came to Spain at age 0-15). By means of event history techniques, we analyze the transition to first, second and third birth. Our analyses show that most groups of descendants to immigrants have similar or lower odds of parity transition than women with a full Spanish background, with the only exception of those coming from the Maghreb area. The lower odds of having the first child among 1.5 generation immigrant women should be interpreted as an indication of motherhood delay rather than an increased probability of childlessness, because the survival curves show that most women eventually make the transition to first birth. The risk of having a second and a third child is only significantly higher for the descendants of Moroccan immigrants compared to women with a full Spanish background. The results obtained partially reflect the intense selection involved in female migration inflows recently arrived to Spain, but also reveal an ongoing adaptation process of the reproductive behavior of the descendants of migrants to native fertility patterns. In addition, our findings confirm the importance of taking into account parity-specific differentials when studying the fertility of descendants of migrants, and to distinguish between quantum and tempo effects, especially when analyzing the transition to first birth. Moreover, our findings raise questions about two main issues: firstly, the potential contribution of immigrants to fertility recovery in countries with very-low fertility levels like Spain; and secondly, the slower assimilation of Moroccan origin immigrants into the mainstream fertility behavior, its causes and consequences.

Keywords: fertility, natives, immigrants, descendants, Spain

Acknowledgement: The research leading to these results has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement no. 320116 for the research project FamiliesAndSocieties.

1. The Spanish context

1.1. Fertility in Spain

Spain had one of the highest levels of fertility in Europe for a large part of the 20th century, but from the mid-1970s onwards it experienced an extraordinarily steep fertility drop. The total fertility rate (TFR), which was nearly 3 children per woman in the early 1970s, dropped below replacement threshold in 1981 and continued its decline until reaching an historical low of 1.15 in 1998, which ranked Spain among the lowest fertility countries in the world. In the early 2000s, there was a moderate fertility recovery, as a result of the slowing-down of birth postponement and increased immigration, and the TFR reached 1.45 in 2008. This moderate fertility rebound came to an end with the arrival of the economic crisis and the dramatic increase in youth unemployment. In 2013, the total fertility rate stood at 1.27 children per woman.

After more than two decades of a fertility level below 1.5 children per woman, even though the mean desired number of children is about two, there is certain resignation that very low fertility is here to stay, particularly if failure to address youth unemployment, job precariousness and work-family balance persists. The most recent population projections presume that the total fertility rate will remain below 1.3 in the next 50 years (INE, 2014).

The decline in fertility is closely linked to a progressive postponement of childbearing. Increasingly, both women and men want to first establish themselves in the labor market before assuming the role of parents. The mean age at first birth increased from 25 in 1980 to 30.4 among women and 33.6 among men in 2013. Spain, together with Italy, Germany and the UK, is now one of the countries with the latest age of entry into motherhood in the world (OECD, 2011).

However, it seems important to remind that the very low fertility in Spain cannot be attributed to an increasing rejection of parenthood: definitive childlessness (13% among women born in 1965) is below the levels observed in many European countries; instead, it is low rates of progression to second and higher order births which explains low fertility levels (Castro-Martín & Martín-García, 2013).

1.2. Immigration and fertility in Spain

In recent years, we have seen increased attention to the possibility that, with their youthful age pyramid and higher fertility, immigrants could help lessen the consequences of Europe's sub-fertile, labor-short, ageing and declining populations (Lutz & Scherbov, 2002). In Spain, this argument seemed particularly attractive because the very low fertility rates of native women described in the previous section were accompanied by a huge immigration boom. With a net annual inflow of more than 600,000 foreigners in the period 2000-2008, Spain became one of the main receiving countries of Europe – until the onset of the current economic crisis. The proportion of foreigners in the total population increased rapidly: from 1.6% in 1998 to 12.2% in 2010. Net migration accounts for more than 90% of Spain's population growth.

In parallel, after decades of uninterrupted decline, the annual number of births rose dramatically: from 365,193 in 1998 to 519,779 in 2008. The crude birth rate of foreign women in this period was about twice that of Spaniards, but this was partly due to immigrants' younger age profile. There was also a significant rise in total fertility – from 1.15 children per woman in 1998 to 1.46 in 2008. This allowed Spain to surmount the lowest-low fertility threshold. Both Spaniards' and immigrants' childbearing contributed to this fertility turn-around (Castro-Martín & Martín-García, 2013).

The birth statistics for 2011 indicate that nearly one out of four newborns in Spain (23.1%) had at least one foreign-born parent. Several studies have shown, however, that the aggregate impact of migrants on overall fertility levels, although not trivial, is rather modest (Roig & Castro-Martín, 2007). This pattern of immigrants' high contribution to the total number of births but small impact on the period total fertility is observed in most European countries (Sobotka, 2008). Castro-Martín & Rosero-Bixby (2011) estimated that immigrants' contribution to Spain's TFR in 2004-2006 was of 6.6% – or 0.08 children. This surprisingly small contribution resulted from their relatively low share of the childbearing population and also from the sustained decline in foreign women's fertility rates over time.

Figure 1 shows that the fertility rate of foreign women residing in Spain fell from 2.05 children in 2002 to 1.53 in 2013, which is above the fertility level of native women (1.23), but also quite low. The decline in immigrants' fertility can be partly attributed to ongoing change in the composition of the foreign population – a high proportion of recent immigrants come from low-fertility countries in Eastern Europe. Additionally, as also observed in other

countries (Andersson, 2004), the longer they stay, the more immigrants' fertility will converge to the level of the native population.

(Figure 1 about here)

Although the contribution of immigrants' fertility to overall fertility in Spain has been relatively modest, it is important to note that immigrant women's younger childbearing schedule – their mean age at first birth in 2013 was 27 compared to 31 among Spanish women – has contributed significantly to slowing down the rise in the mean age at motherhood and hence also the aggregate process of fertility postponement.

(Figure 2 about here)

Since the onset of the economic crisis, there has been a notable decline in immigration flows, union formation, and fertility – both of Spaniards and immigrants. Emigration has substantively increased and, at the same time, immigrants who arrived during the boom are progressively aging, which announces a parallel decrease in their fertility rates. In addition, it is not clear whether descendants of immigrants will keep their parents' patterns of family building, or whether they will rather assimilate to the natives' ones with additional reductions in the number of children per woman and increasing fertility postponement. Despite the intensity of recent immigration and their quick process of family reunification in Spain, most descendants of immigrants are still not of marriage age and, thus, it is difficult to anticipate how they will behave in terms of childbearing. According to the 2011 Population Census, the descendants of immigrants amounted to approximately 2 million people, of which only 800,000 corresponded to the second generation, while the rest were people who came to Spain during their childhood. Only 700,000 of all the descendants were older than 15 in 2011, namely only 144,678 from the second generation and 545,000 from the 1.5 generation. Thus, any analysis of the fertility patterns of descendants of immigrants will inform us only about the behavior of their older members – who represent less than half of their total size – and, for this reason, the results obtained should be taken with caution.

(Table 1 about here)

2. Theoretical framework and hypotheses

Previous studies on the childbearing patterns of migrant women residing in Spain have shown that their fertility is lower than the fertility of women in their countries of origin for all Latin American countries examined, although higher for women coming from Morocco where the TFR is still relatively high (Roig & Castro, 2007).¹¹ As argued by this and other studies, the observed differentials in the case of the Latin Americans could be partly due to selective migration. The proportion of women with secondary or higher education is considerably larger among Ecuadorian, Colombian and Peruvian women residing in Spain than among women in their home countries (Rosero-Bixby & Castro-Martín, 2011). In the case of Moroccan immigrants, their higher fertility is closely related to their distinct migration and partnership patterns. An important proportion of first generation Moroccan women came to Spain as marriage migrants, that is, right after marrying a Moroccan migrant who was living in Spain for a relatively long time. This type of marriage at a distance has been found to be associated with ‘more traditional family behaviors’ in other groups (Turkish immigrants) and countries (Germany, Denmark, Netherlands, etc.), as shown by Lievens (1999) and González-Ferrer (2007, 2011), among others. However, the extent to which these fertility patterns of first generation immigrant women remain unchanged or not among their daughters in Spain is still unknown. Note, for instance, that concurrent events of partnership formation, migration and fertility like the ones occurring for many Moroccan first generation women who come to Spain, will not take place for those who came during their childhood.

Given the very young age structure of descendants of immigrants in Spain, their entry into parenthood has never been analyzed. Immigrants from the 1.5 generation are classic in-betweeners; they are raised in immigrant families while being educated and reaching adulthood in the host society. Previous studies have found a general trend towards assimilation in fertility behavior among children of immigrants in different contexts: in Germany (Milewski, 2007; 2010), Sweden (Scott & Stanfors, 2011), the Netherlands (Garssen & Nicholaas, 2008) and the UK (Dubuc, 2012).

However, assimilation into native fertility patterns occurs at different pace depending on the group of origin, age at arrival, language fluency or country of destination, among other factors. Descendants of Turkish migrants, for instance, have been found to assimilate at

¹¹ The TFR in Morocco was at 2.6 in 2013 (PRB 2014).

slower rate than other groups. Some authors have emphasized the strength of family values in the Turkish culture to explain this result (Milewski, 2010); however, descendants of Turkish migrants in different countries of destination also show important variations in their fertility patterns that may be explained by different average fertility levels at destination (Milewski, 2011), different labor market performance (Scott & Stanfors, 2011), or different patterns of selection in their original parents' migration (Adserà, Ferrer, Sigle-Rushton & Wilson, 2012).

In other words, the influence of parental values and mothers' behavior concerning childbearing is likely to be weakened by the influence of school and peers. However, this weakening effect will be dependent on other factors such as age at migration, language fluency or residential segregation, but also selection processes going on at their parents' migration. The more selected (different from the average citizen in the country of origin) their parents were at the time of migration, the less likely children of immigrants are to reflect the dominant fertility patterns in their (parents') countries of origin. In the case of Spain, selection (in comparison to the dominant behavior in their country of origin) of Latin American and Moroccan immigrants with regard to fertility behavior seems to be different, as we described before. Accordingly, it is very likely that convergence with comparable natives takes place more quickly for the former than for the latter.

Fluency in the language of the destination country has long been recognized to play a key role in immigrants' outcomes and degree of adaptation (Chiswick and Miller, 2001). In the case of fertility, a non-official mother tongue may impact the ability of the child-migrant to access local cultural cues through school and peers to form her fertility preferences. In the Spanish case, again, descendants of Moroccan origin are less likely to be fluent in the host country language upon arrival than their Latin-American counterparts, who are almost all native Spanish speakers.

In addition to selection patterns and differential social distances across groups of origin, Adserà and Ferrer (2013) in their study on immigrants who arrived to Canada before adulthood, found that the fertility rate of individuals migrating up to age 6 was either somewhat lower or indistinguishable from that of natives while that of immigrants who migrated in their late teens showed a sharp increase relative to immigrants who arrived at earlier ages. The same age at arrival profile is present in England and France (Adserà, Ferrer, Sigle-Rushton & Wilson, 2012). Overall, once researchers allow estimates of fertility to vary

by age at immigration, they find patterns broadly consistent with the adaptation hypothesis. With few exceptions, women who immigrated at the youngest ages have fertility rates that are most similar to native-born women (Adserà & Ferrer, 2014).

2.1. Hypotheses

On the basis of the findings of previous research and taking into account the Spanish context, we intend to test the following hypotheses concerning the fertility patterns of immigrant women in Spain:

H1: Generation and origin. Assimilation into behavior of native women differs across groups of origins. The path of adaptation of a group depends on fertility patterns in their countries of origin, type of selection processes going on at parental migration to Spain, and size of women's family of origin.

In line with the arguments previously discussed, immigrants of Moroccan origin are expected to have more children and to have them earlier than natives, but also than comparable immigrants of Latin American origin; in contrast, descendants of EU15 immigrants are likely to be indistinguishable from native women. Reasons for these expectations are based not only on differences in the average fertility levels in their countries of origin but also in differential selection patterns of female migration to Spain of these three groups, their language and social distance with the country of destination, and their differences in average size of their families of origin.

H2: Birth cohort and education. Younger and more educated women are expected to have more similar fertility patterns to comparable natives, than less educated ones and women from older cohorts.

Descendants of EU15 and Latin American immigrants in Spain are known to achieve secondary and higher education in larger proportions than their Moroccan counterparts (partly because the average age at migration of the former is younger than that of the latter). Accordingly, controlling by education level is expected to considerably reduce the gross difference between natives and 1.5 generation Moroccan women.

H3: Spanish ancestry. Having a native-born parent is expected to accelerate convergence with native born women given the selection already involved in mixed marriages formed by immigrants and non-immigrants partners.

3. Data and methods

Most socio-demographic surveys carried out in Spain still lack detailed information on important life events. This limitation seriously restricts the possibility to analyze the process of family formation and dissolution from a life-course perspective not only for the recently arrived migrants but, in many occasions, also for the native-born population.

Just to give an idea of the extent of this limitation, it seems important to mention that the 2011 Census, for instance, did not collect any date other than date of birth and date of arrival to Spain/region/municipality/dwelling; there is no information on date of entry into marriage or cohabitation, neither fertility histories. The Labor Force Survey, which is periodically taken and has a very large sample with good coverage of immigrants, has never included information about the date of marriage or separation of the interviewees; in addition, like the Spanish Census, it only collects information on the number and age of children still living in the household, which implies a serious drawback to study the fertility behavior of older women whose children already left the parental home.¹²

Fortunately, the Centre for Sociological Research carried out the Fertility and Values Survey (FVS2006), which offers the best possibilities for exploring the fertility behavior of women in Spain. FVS2006 collected quite detailed partnership and fertility histories, with dated information; however, FVS2006 does not include men and did not over-sample immigrant populations. In order to compare the fertility behavior of immigrant and non-immigrant origin women in Spain, we merged data from the FVS2006 and the National Immigrants Survey (ENI2007), which collected information about the date of birth of all children of interviewed migrants regardless of their place of birth and residence at the time of the survey. Instead of looking at total fertility as some previous studies have done, in this article we analyze transition to first, second and third births, which allows to better understand differences not only in the total number of children but also in the fertility timing of women from different

¹² In fact, the Census data available only include the age of children by five-year groups, which additionally limits the possibility to reconstruct fertility histories.

origins. This is particularly relevant when we are analyzing the fertility behavior of young cohorts, who have still not completed their reproductive cycle.

Moreover, we will for the first time analyze the fertility patterns of descendants of immigrants in Spain in comparison to their native counterparts. ENI2007 allows us to examine transitions to the first, second and third birth of 1.5 generation immigrant women from EU15, Maghreb and Latin American origin, and compare them with their mothers' generation and also their native counterparts. As can be seen in Table 2, the sample sizes for the 1.5 generation groups are relatively small. Therefore, all the results concerning them must be taken with caution, not only because of limited sample sizes but also because our data will over-represent those women who had their children at younger ages. Thus, as the rest of 1.5 generation women become of childbearing age, the observed results for this sub-sample might change.

(Table 2 about here)

Since we only have yearly data, our event history models will be discrete-time with a logit link to estimate the probability to make a transition from childless to first birth, from the first to the second birth, and from the second to the third one. Our covariates include apart from the region of origin and generation, age, birth cohort, level of education, number of siblings in the family of origin of the woman, date of entry into marriage (only for those who married because we lack information on the start of cohabitation), and place of birth of the parents (whether at least one parent was born in Spain) in order to control for the potential effect of being the child from a mixed parental couple, which might distort the socialization effects often associated with the country of birth of the woman.

4. Results and discussion

The left-side graphs in Figures 4 to 6 summarize the non-parametric results for transitions to first, second and third births among native, first generation and 1.5 generation immigrant women, including all the birth cohorts in our sample. As can be seen, first generation immigrant women are as likely than natives to have a first birth, although they tend to have it a bit earlier than their native counterparts; in contrast, their descendants are slightly less likely to have a first birth and tend to have it later (50 percent of native and first generation had their first child at age 26 or earlier, while the median age at first birth for the 1.5 women is 29 years). When we look at the second birth, women of immigrant origin seem less likely to

experience this transition over their life time, although differences in timing seem again important: 1.5 generation women have their second child at older ages than their mothers had. In addition, the observed differences in the incidence of a second birth between native and first generation women seem to derive mainly from a higher incidence of this transition after age 29 for native than for immigrant women. Finally, differences concerning the third birth completely disappear between native and first generation, but remain large and significant between them and the 1.5 generation women, who are significantly less likely to have a third child and, in any case, have them later.

(Figure 3 about here)

(Figure 4 about here)

(Figure 5 about here)

As immigrant women in Spain belong, on average, to younger birth cohorts, in the right-hand side of the Figures we plotted the same birth transitions but restricting the sample to women born after 1950. As can be seen, in this case, differences in first birth timing between the first generation and the natives become wider, with first generation women being the ones who become mothers at younger ages, followed by natives and descendants of immigrants; and the same pattern is also found for the transition from the first to the second birth. Differences in both incidence and timing become also much larger in the transition to the third child, which remains substantially less likely to occur for 1.5 generation women than for the rest.

Bearing in mind the previous results, in the multivariate analyses we have restricted our sample to women born in 1950 or later in order to homogenize the composition of our three sub-samples, as can be seen in Table 3.

(Table 3 about here)

In addition, all models control not only for birth cohort but also for generation and region of origin, educational level, year of marriage, and Spanish ancestry. In Table 4, three step-wise models are estimated for each birth transition, comparing native and immigrants from the first and 1.5 generation. Model 1 controls by age, birth cohort and origin group, Model 2 adds educational level as a covariate, and Model 3 adds woman's number of siblings, Spanish

ancestry (the mother or the father of the woman were Spanish born) and also the year of entry into marriage for the first birth.¹³

Before discussing the results it is important to note that the interpretation of the odds ratio in the case of the transition to the first birth reveals differences in timing of childbearing across groups rather than differential incidence, since, as we saw in the previous survival functions, childlessness is very uncommon for all the women in our samples.

As can be seen, the results for the transition to the first birth tend to confirm a trend to convergence with native women's behavior across immigrant generations in the case of both Latin Americans, and the residual group of 'Others'. However, the same pattern does not emerge for immigrants with origin in the EU15 or the Maghreb group. EU15 first generation women were already indistinguishable from comparable natives concerning their entry into motherhood, but their descendants are significantly less likely to have a first child or, more precisely, more likely to delay it to older ages. In the case of immigrants from the Maghreb, gross differences shown in Model 1 indicate also some assimilation across generations (significant coefficient above 1 for the first generation, but no significant differences for the 1.5). However, once differences in the educational composition of the three groups – native, first generation and their descendants-, in the size of their families of origin and marriage-migration patterns are controlled for, the initial differences completely change: as can be seen in Model 3, both first and 1.5 generation women from the Maghreb appear significantly more likely to have their first child later in life than comparable natives. Thus, it is clear that initial differences between Spanish-born women and female immigrants from the Maghreb are mostly due to differences in educational levels, which are shown to have substantial effects in reducing/delaying the transition to first child.

(Table 4 about here)

Some important changes occur when we analyze further fertility transitions after the first birth. Note that, in this case, a number below 1 indicates a lower probability of having a child, rather than just a delay in the woman's fertility timing, as it is common for the first child.

¹³ Unfortunately, ENI did not collect complete partnership histories nor the date of entry into cohabitation. Since most women marry only once and usually before the first birth, we decided to at least introduce this control in the transition to first birth models.

Immigrants from the EU15 appear as less likely to have the second and the third child compared to natives, and there is no significant change across generations. In contrast, important changes are observed among the immigrants of Latin American origin: first generation women were less likely to have a second child than their native counterparts, but more likely to have a third one, conditionally on having had the second. These differences with respect to native women's reproductive behavior completely vanish for the 1.5 generation of Latin Americans, which might be indicating a relatively rapid convergence for this group of descendants of immigrants. Finally, immigrants from the Maghreb remain more likely to have a second and a third child than comparable natives, although the probability to have the third one has significantly reduced from the first to the 1.5 generation (the effect is statistically significant when we run a separate analysis for them without the natives). The residual group of 'Others' shows no generational change in the probability to have a second child, which is significantly lower than among comparable natives. In the case of the third child, it is not clear whether the absence of statistically significant differences between the 1.5 generation and the natives – taking into account the higher probability of a third child among the first generation – is due to a true assimilation effect, or whether it rather reflects the limited sample size for this group in this transition.

With regard to the effect of the rest of covariates, all showed the expected effects. Younger and more educated cohorts are less likely to have children, and to have them at older ages, and coming from a larger family tends to increase a woman's probability to have more kids, which also supports the importance of the socialization hypothesis on the intergenerational transmission of fertility behavior.¹⁴ In addition, the role of tertiary education seems to be much more important in deciding the timing of the first birth than in the transitions to the second and third births, where its effect does not differ significantly from having 'just' secondary education. Marriage tends to accelerate entry into motherhood, as suggested by the significant odds ratio above 1 for this variable. Finally, having a parent of Spanish origin has not a clear effect on the fertility transitions analyzed here. Although the effect is never statistically significant, its sign changes across the different transitions. One potential explanation has to do with fact that mixed parental couples of the women include two different types: the ones formed by Spanish emigrants who married abroad with foreigners

¹⁴ No significant interaction effects were found for this variable by immigrant origin. In other words, the influence of coming from a larger family does not seem to influence differently native and immigrant origin women's fertility patterns.

and returned to Spain with them, and the more conventional mixed couples formed in Spain by immigrants of foreign origin.

5. Conclusions

In this paper we have analyzed the transitions to first, second and third births of native and immigrant origin women, including both first and 1.5 generation, in Spain. The twofold comparison confirms a trend towards intergenerational assimilation: first generation women had more children than comparable natives, but also than their daughters living in Spain. Despite this overall trend towards lower fertility levels and delay of the age at entry into motherhood, some important differences across origin groups remain, even when the comparison is restricted to only natives and children of immigrants who have spent most of their childhood in Spain.

Our analyses show that most groups of descendants to immigrants have similar or lower fertility than women with a full Spanish background. The lower odds of having the first child should be interpreted as an indication of motherhood delay rather than an increased probability of childlessness, because the survival curves show that most women eventually make the transition to first birth. This pattern of motherhood postponement has clearly grown over time and, particularly, with women's increasing educational level. The risk of having a second and a third child is only significantly higher for the descendants of Moroccan immigrants compared to women with a full Spanish background. In contrast, differences between descendants of Latin American immigrants and comparable natives disappear already in the transition to the second birth, while descendants of EU15 immigrants show a lower propensity of having a second and a third child already among first generation immigrants.

These findings demonstrate the necessity to account for parity-specific differences in fertility also when studying the fertility of descendants of migrants, and to distinguish quantum and tempo effects, especially when analyzing the transition to first birth. Moreover, the general assimilation trend in fertility patterns expected for the second generation is already observed for the 1.5 generation in some groups like the Latin Americans, and to a lesser extent for the Moroccans who appear less likely than their mothers to have a third child.

Our results were partially expected given the difficult context for childbearing existent in Spain (lack of part-time jobs, lack of pre-school services in ages 0-3, lack of substantial welfare benefits supporting fertility, etc.), and the strongly selected nature of female immigration in most origin groups. In addition, they partially challenge the extended belief that immigrants might imply a miraculous recovery of fertility levels in Spain, which have been among the lowest in the world for the latest two decades, and raises some questions about the causes and consequences of slower assimilation of Moroccan origin immigrants into the mainstream fertility behavior.

References

- Adserà, A., Ferrer, A., Sigle-Rushton, W. & Wilson, B. (2012). Fertility Patterns of Child Migrants: Age at Migration and Ancestry in Comparative Perspective. *The ANNALS of the American Academy of Political and Social Science*, 643(1), 160-189.
- Adserà, A. & Ferrer, A. (2013). The Fertility of Recent Immigrants to Canada. *IZA Discussion Papers* 7289, Institute for the Study of Labor (IZA).
- Adserà A., & Ferrer, A. (2014). Immigrants and Demography: Marriage, Divorce, and Fertility, IZA Discussion Paper No. 7982.
- Anderson, G. (2004). Childbearing after Migration: Fertility Patterns of Foreign-Born Women in Sweden. *International Migration Review*, 38(2), 747-775.
- Castro-Martín, T., & Rosero-Bixby, L. (2011). Maternidades y fronteras: la fecundidad de las mujeres inmigrantes en España. *Revista Internacional de Sociología* 69 (M1), 105-137.
- Castro-Martín, T. & Martín-García, T. (2013). The fertility gap in Spain: Late parenthood, few children and unfulfilled reproductive desires. In G. Esping-Andersen (Coord.), *The Fertility Gap in Europe: Singularities of the Spanish Case*. Social Studies Collection no. 36. Barcelona: la Caixa Foundation.
- Chiswick, B. & Miller, P. (2001). A model of destination-language acquisition: Application to male immigrants in Canada. *Demography*, 38(3), 391-409.
- de Valk, H., & Milewski, N. (2011). Family life transitions among children of immigrants: An introduction. *Advances in Life Course Research*, 16(4), 145-151.
- Dubuc, S. (2012). Immigration to the UK from high-fertility countries: Intergenerational adaptation and fertility convergence. *Population and Development Review*, 38(2), 353-368.
- Garssen, J. & Nicolaas, H. (2008). Fertility of Turkish and Moroccan women in the Netherlands: Adjustment to native level within one generation. *Demographic Research*, 19(33), 1249-1280.
- González-Ferrer, A. (2007). The process of family reunification among original guest-workers in Germany. Special issue of *Zeitschrift für Familienforschung* on the topic Immigrant Families in Europe, 3, 10-33.
- González-Ferrer, A. (2011). Explaining the labour performance of immigrant women in Spain: the interplay between family, migration and legal trajectories. *International Journal of Comparative Sociology*, 52 (1-2), 63-78.
- INE (2014). Proyección de la Población de España 2014–2064.
- Kulu H., (2005). Migration and fertility: Competing hypotheses re-examined. *European Journal of Population*, 21, 51–87.
- Lievens, J. (1999). Family-Formation Migration from Turkey and Morocco to Belgium: The Demand for Marriage Partners from the Countries of Origin. *International Migration Review*, 33(3), 717-744.
- Lutz, W. & Scherbov, S. (2002). Can Immigration Compensate for Europe's Low Fertility?. Laxenburg, International Institute for Applied Systems Analysis, Interim Report IR-02-052.
- Milewski, N. (2007). First child of immigrant workers and their descendants in West Germany: interrelation of events, disruption, or adaptation?, *Demographic Research* 17(29), 859-896.

- Milewski, N. (2010). Immigrant fertility in West Germany: Is there a socialization effect in transitions to second and third births?. *European Journal of Population*, 26(1), 297-323.
- OECD (2011). *Doing better for families*, Paris: OECD Publishing.
- Population Reference Bureau (PRB) (2014). World Population Data Sheet.
- Roig, M., & Castro-Martín, T. (2007). Childbearing Patterns of Foreign Women in a New Immigration Country: The Case of Spain. *Population-E* 62 (3): 351-380.
- Scott K., & Stanfors M., (2011). The transition to parenthood among the second generation: Evidence from Sweden, 1990–2005, *Advances in Life Course Research*, 16(4), 190-204.
- Sobotka, T. (2008). The rising importance of migrants for childbearing in Europe, *Special Collection 7: Childbearing Trends and Policies in Europe*, 19 (9), 225-248.

Tables and Figures

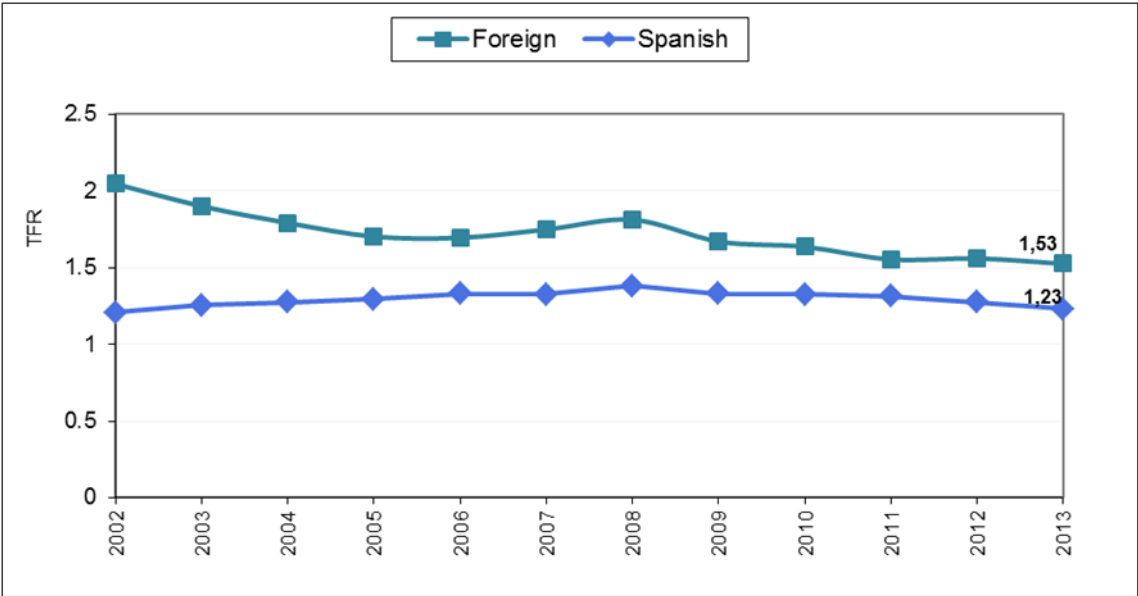


Figure 1. Total Fertility Rate of women residing in Spain, by nationality, 2002-2013
 Source: INE, Demographic Indicators

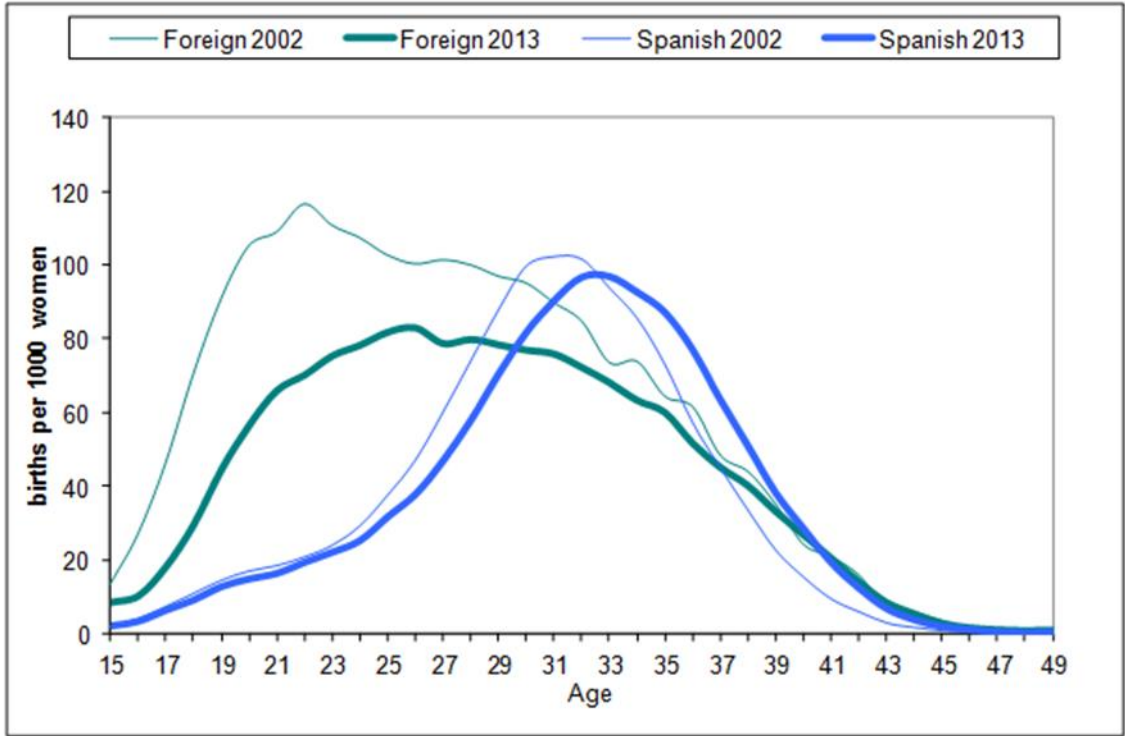


Figure 2. Age-specific fertility rates by nationality, 2002 and 2013
 Source: INE, Birth Statistics 2002 and 2013

Table 1: Size and characteristics of the resident population in Spain by own and parental place of birth combined, 2011

Own and parents' place of birth	Size	Female	Age at migration	16 or more	3 first origins	Married
Native	38,947,733 84		NA	33,295,310		
Children born abroad to two Spanish-born emigrants	476,044 1	52%	11 5	426,776	Arg, Fr, Mor	49%
Children of one Spanish-born emigrant born abroad	275,868 1	49%	17 13	230,431	Fr, Germ, Venez	37%
1st gen	3,830,496 8	50%	32 30	3,830,496	Rom, Mor, Ecu	60%
1.5 gen	1,066,777 2	45%	7 8	545,652	Mor, Rom, Ecu	10%
2nd gen	797,289 2	47%	NA	144,678	Mor, Rom, Ecu	7%
Children of mixed couples in Spain	1,180,519 3	50%	NA	610,392	Fr, Mor, Germ	18%
Total	46,574,725 100					

Source: 2011 Census Population, weighted percentages.

Table 2: Number of events by birth transition and origin (only women)

	Total	None	First child	Second child	Third child	% of total with 1 child	% of with 2 children over total with 1	% of with 3 children over total with 2
Native	5,527	2,315	3,212	2,114	477	58	66	23
1G-UE15+US+Can	1,725	618	1,107	602	116	64	54	19
1.5G-UE15+US+Can	598	241	357	217	25	60	61	12
1G-Magreb	520	154	366	228	74	70	62	32
1.5G-Magreb	121	55	66	49	15	55	74	31
1G-LA	2,623	758	1,865	1,060	318	71	57	30
1.5G-LA	324	184	140	80	16	43	57	20
1G-Other	628	184	444	227	53	71	51	23
1.5G-Other	75	40	35	17	5	47	49	29
Total	12,141	4,549	7,592	4,594	1,099	63	61	24

Source: ENI 2007 & FVS2006.

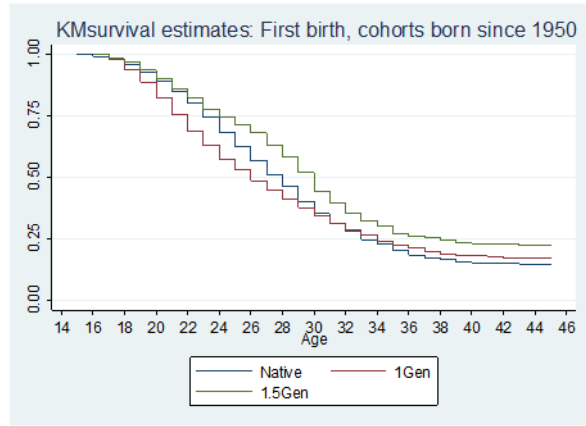
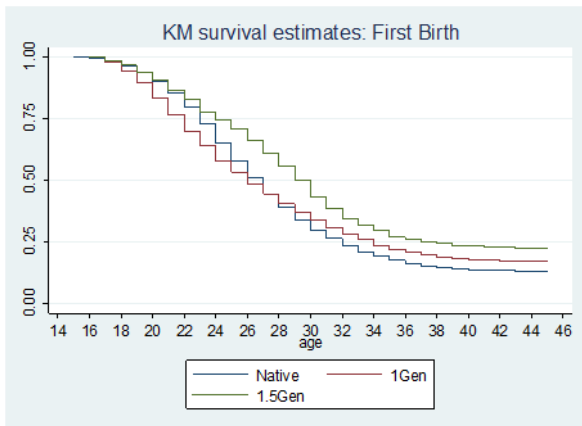


Figure 3: KM Survival estimates of the transition to first birth, by origin and generation

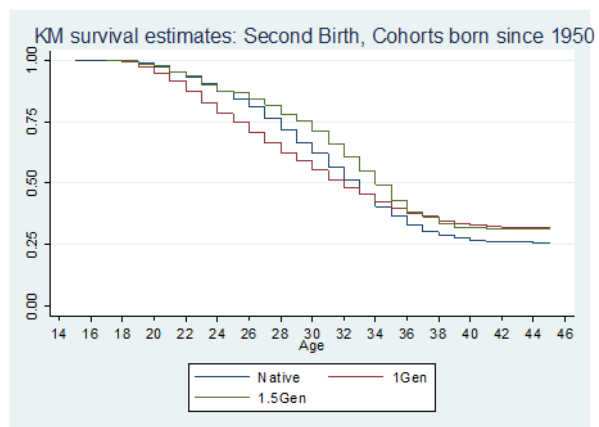
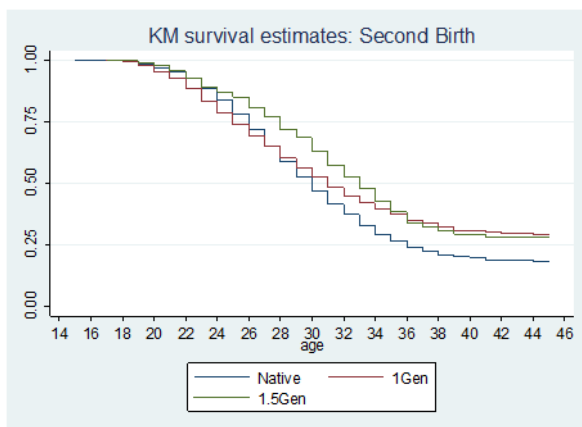


Figure 4: KM Survival estimates of the transition to second birth, by origin and generation

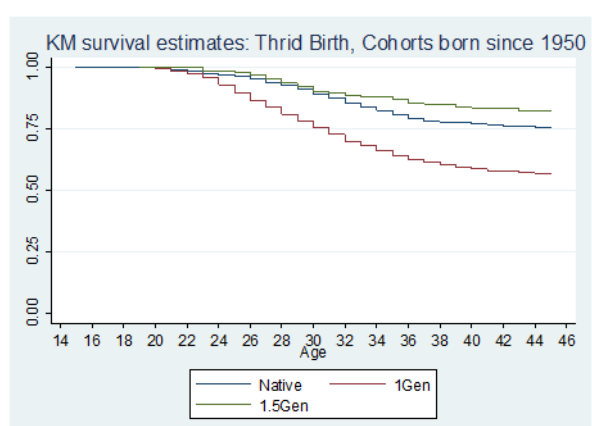
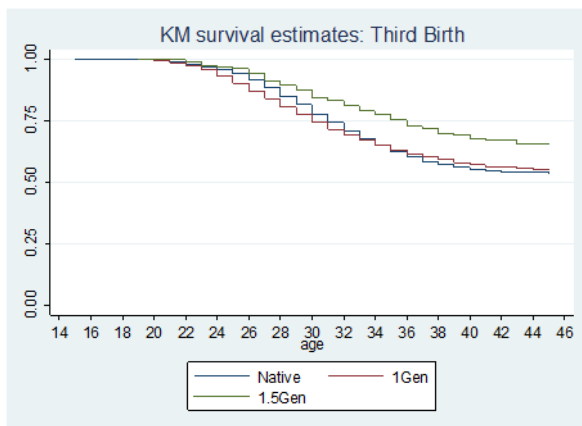


Figure 5: KM Survival estimates of the transition to third birth, by origin and generation

Table 3: Sample by generation and birth cohort, including and excluding women born before 1960.

	Total Sample						Analyses Sample			
	Native	First Gen	1.5 Gen	Total			Native	First Gen	1.5 Gen	Total
Bef. 1950	34.57	13.31	13.17	24.37						
1950-59	14.19	12.57	10.49	13.25		1950-59	21.68	14.49	12.08	17.51
1960-69	18.04	24.13	28.48	21.3		1960-69	27.57	27.84	32.8	28.16
1970-79	16.43	34.44	21.9	24.09		1970-79	25.11	39.73	25.22	31.84
1980-89	16.77	15.55	25.96	17		1980-89	25.64	17.94	29.89	22.48
Total	100	100	100	100		Total	100	100	100	100

Table 4. Time-discrete logit estimates of transition to first, second and third birth (odds ratio)

	First				Second			Third		
	1	2	3	4	1	2	3	1	2	3
Ref. Native										
1G-EU15+US+Can	0.999 (-0.04)	1.005 (-0.13)	1.037 (-0.99)	1.052 (-1.39)	0.766*** (-5.62)	0.759*** (-5.78)	0.768*** (-5.44)	0.828** (-2.05)	0.845* (-1.82)	0.883 (-1.34)
1.5G-EU15+US+Can	0.817*** (-3.52)	0.789*** (-4.08)	0.822** (-2.72)	0.836** (-2.48)	0.871* (-1.84)	0.856** (-2.06)	0.812** (-2.08)	0.638** (-2.33)	0.620** (-2.47)	0.707 (-1.53)
1G-Maghreb	1.253*** (-4.34)	0.943 (-1.08)	0.858** (-2.74)	0.865** (-2.59)	1.641*** (-7.55)	1.531*** (-6.28)	1.401*** (-4.8)	3.048*** (-12)	2.645*** (-9.95)	2.416*** (-8.7)
1.5G-Maghreb	0.917 (-0.70)	0.719** (-2.67)	0.698** (-2.86)	0.717** (-2.64)	1.533** (-2.9)	1.452** (-2.52)	1.326* (-1.81)	1.804** (-2.68)	1.685** (-2.36)	1.814** (-2.49)
1G-LatinAmerica	1.299*** (-8.89)	1.324*** (-9.4)	1.264*** (-7.57)	1.291*** (-8.25)	0.897** (-2.81)	0.885** (-3.10)	0.843*** (-4.20)	1.624*** (-7.45)	1.649*** (-7.53)	1.539*** (-6.26)
1.5G-LatinAmerica	0.845* (-1.91)	0.964 (-0.41)	0.998 (-0.02)	1.017 (-0.17)	0.931 (-0.61)	0.937 (-0.55)	0.882 (-0.92)	0.819 (-0.85)	0.882 (-0.53)	1.046 (-0.17)
1G-Other	1.198*** (-3.53)	1.258*** (-4.41)	1.272*** (-4.58)	1.287*** (-4.81)	0.689*** (-5.40)	0.678*** (-5.55)	0.682*** (-5.42)	1.442** (-3.04)	1.503*** (-3.33)	1.485** (-3.16)
1.5G-Other	0.796 (-1.32)	0.786 (-1.39)	0.799 (-1.27)	0.813 (-1.17)	0.606** (-2.04)	0.613** (-1.99)	0.578** (-2.18)	1.646 (-1.18)	1.732 (-1.3)	1.958 (-1.55)
Age	2.100*** (-42.69)	2.170*** (-44.04)	2.177*** (-44.06)	2.149*** (-43.26)	1.551*** (-17.56)	1.560*** (-17.54)	1.567*** (-17.63)	1.540*** (-8.77)	1.594*** (-9.24)	1.587*** (-9.13)
Age Square	0.987*** (-39.41)	0.987*** (-40.44)	0.987*** (-40.45)	0.987*** (-39.67)	0.992*** (-19.59)	0.992*** (-19.52)	0.991*** (-19.58)	0.991*** (-11.02)	0.991*** (-11.33)	0.991*** (-11.19)
Ref. Birth cohort 1950-59	-	-	-	-	-	-	-	-	-	-
1960-69	0.766*** (-8.62)	0.840*** (-5.48)	0.844*** (-5.35)	0.847*** (-5.21)	0.901** (-2.83)	0.915** (-2.38)	0.915** (-2.36)	0.878** (-2.18)	0.921 (-1.34)	0.913 (-1.47)
1970-79	0.628*** (-14.59)	0.717*** (-10.11)	0.726*** (-9.63)	0.731*** (-9.42)	0.703*** (-8.42)	0.719*** (-7.73)	0.729*** (-7.34)	0.664*** (-5.57)	0.689*** (-4.98)	0.681*** (-5.08)
1980-1989	0.580*** (-11.03)	0.625*** (-9.32)	0.643*** (-8.64)	0.652*** (-8.37)	0.484*** (-8.29)	0.495*** (-7.94)	0.508*** (-7.57)	0.300*** (-5.18)	0.323*** (-4.85)	0.319*** (-4.80)
Less than Primary		-				-	-		-	-
Secondary		0.678*** (-12.44)	0.698*** (-11.34)	0.701*** (-11.22)		0.846*** (-4.47)	0.867*** (-3.78)		0.700*** (-6.01)	0.733*** (-5.14)
Tertiary		0.337*** (-28.44)	0.355*** (-26.49)	0.358*** (-26.19)		0.911* (-1.87)	0.951 (-0.99)		0.703*** (-3.80)	0.765** (-2.83)
Nr woman's siblings			1.038*** (-7.62)	1.038*** (-7.6)			1.036*** (-5.9)			1.049*** (-5.46)
One parent Sp-born			0.98 (-0.35)	0.97 (-0.53)			1.116 (-1.37)			0.874 (-0.86)
Marriage (tv)				1.666*** (-11.52)						
Person Years	145881	145881	145881	145881	55049	55049	55049	47880	47880	47880

Exponentiated coefficients; t statistics in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.001

First child among immigrants and their descendants in Switzerland

Andrés Guarín and Laura Bernardi

Abstract:

Drawing on data from the Swiss Household Panel (SHP), we examine the first birth behaviour of immigrants and their descendants by comparing their patterns to those of the ‘native’ population in Switzerland. Using event-history techniques, the empirical evidence shows that all second-generation immigrants (2G) have similar probabilities of becoming parents than Swiss natives, with the exception of 2G with Former Yugoslavian and Turkish origins. The latter group is more likely of becoming parents and having children at younger ages than their counterparts from Switzerland and from other origin.

Keywords: Immigrants, the ‘second-generation’ immigrants, childbearing, Switzerland.

Acknowledgement: The research leading to these results has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement no. 320116 for the research project FamiliesAndSocieties.

1. Introduction

After the Second World War, the massive influx of "temporary" immigrants in response to a lack of workers, led to the founding of large immigrant communities in most countries of Western Europe (Coleman, 2006; Mens, 2006). Many studies analyse the difference in life trajectories of immigrants, trying to understand their level of integration in the host country; research has investigated labour market integration (Fibbi et al. 2006; Liebig et al. 2012; Bicin et al. 2011), educational adaptation (Orozco et al. 2005; Sam et al. 2008; Crul 2013), fertility (Kulu & Milewski, 2007), residential and housing patterns (Musterd, 2005; Abbaci 2008). The children of those immigrants, commonly referred to as "second-generation" immigrants, have also been studied in Europe (Crul, 2012). Descendants of immigrants have reached adult age and a large number of studies¹⁵ has aimed at understanding the differences in adaptation between first-generation immigrants and their children, with reference to the "native" population; the research covers school contextual effects (Kogan 2007; Rendall et al. 2010), adaptation process in early adulthood (Bolzman et al. 2003; Portes & Rumbaut 2005; Santelli 2007), professional trajectories after school (Sweet et al. 2010), economic performance (Algan et al. 2010), and transition to parenthood (Milewski, 2011; Scott & Stanfors 2011).

The recent literature has witnessed an increasing interest in the study of family dynamics among immigrants. One of the main indicators to understand the process of integration among populations with immigrant origins is family and fertility behaviour (Sobotka, 2008). Immigrants from high-fertility to low-fertility countries are particularly investigated (Andersson, 2014; Kulu & Milewski, 2007); most research finds patterns of gradual adaptation of migrants' fertility in different settings in Europe and North America (Ford, 1990; Andersson, 2004; Kulu, 2005). These studies report overall differences in fertility but hide a large heterogeneity between different groups of migrants (Coleman, 1994; Sobotka, 2008). Research shows that the timing of migration, the duration of stay, the reasons for migration and a person's labour force participation affect the fertility of migrants (Andersson & Scott, 2005, 2007; Milewski, 2007; Toulemon, 2004).

¹⁵ Early works were heavily influenced by theories developed in the United States (Crul, 2012).

Literature proposes four main mechanisms to explain the integration of immigrants, or the lack thereof, with reference to fertility; a) the *socialisation* mechanism suggests that family trajectories of immigrants are influenced by values, norms and behavioural patterns to which they are exposed during childhood (Kulu & Milewski, 2007; Kulu & Gonzalez-Ferrer, 2013); b) the *adaptation* mechanism, suggesting that the family behaviour of migrants will converge (in a medium rather than a long-term perspective) towards that of the population of the host society (Andersson, 2004; Andersson & Scott, 2005; Kulu & Gonzalez-Ferrer, 2013); c) the *selection* mechanism, which suggests that the behaviour of immigrant families is different from the behaviour of the population in their home country, as they have chosen and managed to leave their original social environment for another (Andersson, 2004; Kulu & Milewski, 2007; Kulu & Gonzalez-Ferrer, 2013); and finally d) the *disruption* mechanism suggests that fertility levels are particularly low immediately after migration due to the economic costs and the psychological stress related to the event of migration (rapid change of living environment). After a given time of adjustment, fertility levels are expected to rise again (De Valk & Milewski, 2011; Milewski 2007; Kulu & Gonzalez-Ferrer, 2013)¹⁶.

With reference to children of immigrants, research on fertility is still relatively young (De Valk & Milewski, 2011). Often this is due to the relatively young age of the second generations who might have not yet reached the end of their reproductive ages. Yet, studying fertility behaviour of individuals in their late 20s early 30s is in many cases a good indicator for completed fertility (Kreyenfeld, 2014). In studies, the descendants of immigrants are typically treated as distinct population sub-groups; the focus is often on finding evidence of socio-demographic integration, meaning similar characteristics between immigrants and the majority population of the host country (Andersson, 2014; Milewski, 2007; De Valk & Milewski, 2011). The existing research on the fertility of descendants of migrants focuses on the comparison between either migrant generations, descendants of migrants and the majority population, or descendants of migrants of different origins (or migrant groups). Most studies suggest “that the fertility of the descendants of migrants moving from high to low-fertility countries is lower than that of their parents” (Andersson, 2014, p. 6), but that it remains higher than fertility of the majority population.

¹⁶ For resume on this topic you can see Kulu and Gonzalez-Ferrer (2013) where they present an excellent state-of-the-art report of hypotheses that could be explain the differences between immigrant population and natives.

Such differences have been attributed to three main mechanisms¹⁷; 1) *Socialization*: fertility norms and values are transmitted via the first generation to their children. Indeed, this mechanism has shown that first generation migrants transmit their ideals of larger families and lower age at transition to parenthood to their children (De Valk & Milewski, 2011; Milewski, 2011). 2) *Adaptation*: during adult life, the second generation are exposed to both normative and economic conditions of the host country. They might thus experience cultural adaptation via social contacts with the majority population, affecting their childbearing preferences (Holland and De Valk 2013); and 3) *Population composition*: besides cultural factors, such as religion, language, and family orientation, differences between second-generation immigrants and “natives”, particularly occur in the socio-economic sphere and these differences could play a role in fertility behaviour.

This report aims to contribute to the understanding of childbearing patterns among descendants of immigrants in Switzerland. Although we also present the results of the first generation migrants, our analyses focuses on the children of immigrants and therefore the comparison of fertility between Swiss natives and descendants of migrants as well as differences between migrant groups. More precisely, using the Swiss Household Panel (SHP), we examine how do first birth patterns of Swiss natives, and second-generation migrants differ from each other. We also demonstrate how childbearing patterns and any differences in parity-specific fertility are modified by women’s socioeconomic characteristics. The case of Switzerland is an interesting case to study. Among European countries Switzerland has one of the highest rates of foreign population (Marks, 2005), which is characterized by a highly diversified immigrant group both in terms of geographical origin and socio-economic position (Bolzman, 2001; Fibbi, 2010; Lagana et al., 2013; Lerch, 2010).

In the next section, we give an overview of immigrants and their descendants in Switzerland. Following that in section 3, we present the childbearing trends in Switzerland for natives, immigrants and their descendants. Section 4 presents the data and methods of our analyses, thereafter section 5 is dedicated to the discussion of results.

¹⁷ For resume on this mechanisms you can see Krapf and Wolf (2014).

2. Immigrants and their descendants in Switzerland

In the history of immigration in Switzerland, the proportion and origin of foreigners has greatly varied over time. These variations were closely related to the country's economic development (Wanner, 2004). The industrialization process contributed to the rapid growth of the foreign population. In the beginning of 1910 about 15% of the population were immigrants (Afonso, 2004). This phase of population growth is followed by the interwar period, characterized by a slowdown of immigration flows into Switzerland. Subsequently, as Wanner (2004) shows, one can identify three major periods of immigration in Switzerland. The first period, between 1948 and 1973, was characterized by the development of internal migration. After the Second World War, the economy of Switzerland underwent considerable growth due to the economic demands generated by post war reconstruction. Foreign labour was promoted in order to fulfil such demands (Afonso, 2004). Most of these labour migrants who arrived at this point in time to work in the construction industry, factories or the service sector came from Italy and Spain. During this first period Switzerland practiced a "rotation policy"¹⁸ to prevent the permanent settlement of foreigners (Afonso, 2004; Cerutti, 1994; Wanner, 2004). Swiss laws controlled the immigration flows and prevented a more stable and "permanent" immigration. A second period, which occurred between 1974 and 1990 is considered as a period of "transition". The proportion of foreigners quickly dropped as a consequence of the economic crisis of the 1970s. The final period followed in the 1990s, which was characterized by the diversification of migration flows. In this period, Switzerland has experienced a change in migration policies, now focussing more on integration, which made family reunification possible and promoted social mobility of foreigners by enabling promotion on the work place for them (Fibbi et al., 2009). Further, a diversification of reasons for immigrants to come to Switzerland emerged. In addition to the usual flows of economic immigrants, newcomers, especially from the Balkans countries migrated because of political reasons (asylum seekers) (Fibbi et al. 2007; Wanner et al. 2004).

At the beginning of the 21st century Switzerland is characterized by the presence of a highly diversified immigrant population, both in terms of geographical origin and socio-economic position (Lerch, 2010). This massive influx of immigrants in Switzerland, led to the development of large immigrant communities (Coleman, 2006; Mens, 2006). In 2013, about

¹⁸ According to this policy immigration, immigrants would generally only stay in the country for a short time. The fundamental features of this policy were the seasonal permits (normally 6 months).

34% of the Swiss population has immigrant origins¹⁹, four fifths of which are from other European countries. The largest immigrant group in Switzerland is from Italy, followed by immigrants from Germany and Portugal (FSO, 2014)²⁰. Currently, most immigrants arriving in Switzerland come from Former Yugoslavian countries, followed by immigrants from Turkey and Sri Lanka (Fibbi et al. 2009). Immigrant descendants, commonly referred to as "second-generation" immigrants, were educated and socialized in the host country (Crul & Mollenkopf, 2012). Four out of five of the foreigners are first generation migrants and the remaining are second-generation migrants (Bader & Fibbi, 2012). Marks (2005) estimates (considering only individuals born in Switzerland from two foreigner parents) that 8% of the population born in Switzerland has immigrant origins. Using the Program for International Student Assessment survey data (PISA), Lagana et al., (2013) estimated this proportion to be about 10%, within these, about 4% have Italian or Spanish parents and 5.4% parents coming from Portugal or Former Yugoslavia and Turkey.

3. Immigrants' fertility in Switzerland

Migration constitutes a powerful component of demographic change. Immigration contributes directly to population size and composition, and migration has a broader demographic impact on each society, especially when immigrant populations have different levels and patterns of fertility (Sobotka, 2008). However, migration is also the most unstable and the least predictable component of population change (Alho et al., 2006). In the literature, authors explain that different factors such as: marriage (mixed-marriages), time of migration, migration policies and type of immigration can play a role in the family formation behaviour in immigrant populations (Andersson, 2004; Sobotka, 2008; Toulemon 2004). Although all these factors play a role in understanding fertility behaviour, "the period TFR gives a basic picture of the major trends in fertility of immigrants, differences between immigrants from various regions, and the overall impact of immigration on the observed TFR of national populations" (Sobotka, 2008 p. 231).

During the last century, Switzerland, like other European countries, has experienced two short

¹⁹ The high proportion of foreigners in Switzerland is however also partially a result of the restrictive naturalization policy, a high birth rate amongst immigrants and their low mortality rate (Fibbi et al. 2009).

²⁰ <http://www.bfs.admin.ch/bfs/portal/en/index/themen/01/07/blank/key/04.html>

periods of increase in the TFR, the first one between 1940 and 1945 when the TFR rose from 1.5 to 2.0 and one in the period between 1954 and 1964 where the TFR rose from 1.7 to 2.0 (Calot et al., 1998). Otherwise, the TFR followed a downward trend in the second half of the 20th century. We can see for example that in the period between the wars the TFR decreased from 2.1 to 1.5 and for the period between 1965 and 1978, TFR decreased from 1.7 to 1.2. Since 2001, the TFR grew gradually, reaching 1.52 children per woman in 2013 (FSO, 2014).

As predictable, fluctuations in the TFR were accompanied by changes in the age of the mother at first birth. We see that during the 1960s, women were on average 28 years old at first birth, in 1990 women had their first children around age 30 and in 2013 at age 32 years. There are several reasons for these fluctuations in terms of the TFR and age at first birth: 1) fewer women under 30 years of age are giving birth to children and more women above 35 are giving birth; 2) longer periods of education and delayed entrance in the job market; 3) changes in mentality and behaviour, and 4) the introduction of modern contraceptives in the early 1960's contributed to the decline (Le Goff et al., 2005; Wanner, 1998; 2004; 2005).

Despite these general trends, there are major differences between the fertility of the Swiss native and foreign populations (Figure 1). Foreign women on average have more children than the Swiss natives (FSO, 2014)²¹. However, differences exist also among immigrant groups (Wanner, 2005). Portuguese and Spanish families have an average number of children that is particularly low, not exceeding 1.6 children. The German, French and Italian immigrants have a value only slightly higher (between 1.67 and 1.69 children), still below the level for the Swiss (1.81 children); However the Turkish communities (2.02 children), Former Yugoslavians (2.33 children) and Africans (2.01 children) have larger families (Wanner, 2000).

(Figure 1 about here)

So far research on the fertility of descendants of immigrants has been restricted to countries with a long history of immigration, such as the U.S., Canada, and Australia (Kreyenfeld,

²¹ During the economic crisis of the seventies, the TFR rate drops and passes below the replacement level (FSO, 2014). During this period the TFR of immigrants was similar to the TFR of Swiss natives.

2014). Most studies suggest that the fertility of the descendants of migrants from high to low-fertility countries is lower than that of their parents; some studies suggest that it is even lower than that of the majority population in the host countries (Andersson, 2014; Milewski, 2011). There is much less research on childbearing and other family-demographic behaviour of the descendants of immigrants in Europe (De Valk & Milewski, 2011). Milewski (2006) finds that the descendants of immigrants in most cases have adapted their behaviour to the low-fertility regime of the host country.

For Switzerland, the study conducted by Bolzman (2003) on the children of Spanish and Italian migrants in Switzerland confirm these general trends, finding that there is very little difference between young individuals with Spanish and Italian migration background and Swiss natives belonging to working classes or lower middle classes (Bolzman, 2007). In another study, Kohler (2012) observed that second-generation women from the Middle East, Maghreb and Turkey still display the largest fertility differentials, but the drop in their fertility rate compared to their parents' generation is also the largest. All in all the adaptation theory seems to be the major mechanism at work.

In the following, we analyse differences in the occurrence and timing of first birth between the majority population (Swiss natives) and the various immigrant groups of first and second-generations currently resident in Switzerland. We test whether the observed differences can be attributed to a different population composition by education and cohort of the various immigrant groups and the majority population.

4. Data and methods

For our study we used data from the Swiss Household Panel (SHP)²². The SHP collects longitudinal data on a variety of life course dimensions like origin, union, family, residence, health, education, and profession. It therefore represents an invaluable source of information to study union and family dynamics from a life course perspective. Data collection started in 1999 with a sample of 5,074 households containing 12,931 individuals. In 2004 a second

²² This part of the document uses the information of the Swiss House Panel

<http://www.swisspanel.ch/spip.php?rubrique127&lang=en>

sample of 2,538 households with a total of 6,569 household members was added. The SHP database currently holds longitudinal information for the years 1999 to 2011.

The only limitation for the current study is that the SHP had not, until 2013²³, targeted the immigrant population or its descendants during the sampling process. This means that the small number of available cases limits the analyses. There are a few modelling choices we had to make in order to target and compare the populations of interest, namely; a) defining first and second-generations, b) identifying the timing of transitions to first birth; and c) distinguishing immigrant populations of different origins.

a) *Definition of population subgroups (first and second-generations)*: The first step was to identify those individuals with a migration background. We constructed the variable "Origin" for this purpose. This is a combination of the dummy variable "being born in Switzerland" (yes/no), having moved to Switzerland before the age of 15²⁴ and the nationality of the parents. In a large number of cases, about 1/3 of our sample, we did not have any information about the respondents' father's nationality. In these cases, we used the nationality of the respondent as proxy, in order to maximise the number of cases available. Of course we miss those second-generation immigrants who may have been naturalised. This means that our results concerning the differences between migrants and non-migrants are conservative. On the other hand, if naturalisations are more likely for some migrant groups than others, differences between migrant groups may be slightly biased by those cases in which the nationality of the father is missing and the person results of Swiss nationality. Yet, the proportions of the populations of various origins did not change after the inclusion of the recoded cases. We could then use the variable Origin to classify the research population Swiss natives, immigrants (the 'first generation') and their descendants (the 'second-generation')²⁵.

b) *Identification of first births and the timing of the transition to parenthood*: We generated a variable that indicates whether the woman had a first birth. For the transition to first birth, the

²³ From the 2013, the SHP includes a subsample of the descendants of immigrants, but data are not yet available since the end of November 2014.

²⁴ Analyses were performed for the children of immigrants who arrived before the age of 10 and 6 and the results of the analyses are practically identical.

²⁵ Natives are individuals who themselves and whose parents have the Swiss nationality. If at least one of the parents did not have the Swiss nationality; an individual was classified as a descendant of immigrant(s). If a descendant of immigrant(s) had parents of different origin, priority was given to the father's country of birth.

process time is the respondent's age. The information on the age at first birth is generated based on the difference between the mother's birth year and the birth year of her first child. Using yearly time information results in an overestimate of the Kaplan-Meier survival estimates. In order to reduce this overestimation, we imputed a random birth month to distribute births across the year.

c) *Disaggregation of the variable "origin" according to geographic origin*: after checking the descriptive analyses for each immigrant group, we decided to run the event history models combining immigrants of Southern Europe (Spain, Portugal, Italy and Greece), Western Europe (Belgium, Denmark and territories, Finland, UK, Ireland, Iceland, Liechtenstein, Luxembourg, Netherlands and territories, Norway and territories, Austria, Rumania, Sweden, Poland, Hungary Slovakia, Czech Republic, Malta, Monaco), Former Yugoslavia and Turkey (Albania, Yugoslavia, Serbia, Serbia-Montenegro Croatia Slovenia Bosnia-Herzegovina Macedonia Ex-Republic of Yugoslavia Kosovo), and Others (where the main countries are Russia, United States and territories, Sri Lanka, India and Lebanon). Table 1 shows the descriptive of the sample for the analyses of the occurrence of first birth for women of the first generation and the second generation as well as Swiss natives, but without distinction by origin. In our sample, migrant groups differ by age structure. Respondents of the second-generation are on average considerably younger than first generation immigrants and Swiss natives, which is not surprising. This does not mean that there are no newcomers in recent years but they cumulate with a relatively old critical mass of migrants in the previous years. In Table 2 we present the same results for women disaggregated by different migrant groups.

(Table 1 about here)

(Table 2 about here)

Our research approach involves two steps: first we present descriptive analyses (with the variable "origins" aggregated and disaggregated), by means of Kaplan-Meier survival estimates of the risk of having a first birth. Secondly, we apply event-history analyses (Cox models) to identify some influential determinants of the transition to first birth. Our modelling strategy is straightforward and follows the guidelines for the country case studies of the FamiliesAndSocieties project. For each transition investigated in the study, we estimated a series of main effect models and monitor the change in the effects of the independent variable

with the introduction of controls (namely cohort, age at first birth, and achieved education level). The first model (M1) includes the independent variable "origins" (immigrant status/generation) and the birth cohort. In M2, we add controls on educational attainment (low, medium, high) of respondents. For M3 we add control variables using a stepwise procedure. The common starting age at risk is age 15²⁶. Cases are right-censored either at the last known interview date or at age 45.

5. Results

5.1 Descriptive results

Figures 2 and 3 describe the patterns of the transition to first birth by origins. More precisely, these graphics show the estimated Kaplan-Meier survival curves for first birth, first with the migrants aggregated by origin but distinguished by 1G and 2G, and second with migrants disaggregated by migrant group (respectively Figures 2 and 3). Figure 2 shows the extent to which the Swiss natives and the children of immigrants (2G) remain childless more often compared to the first generation immigrants. By age 45, 34% of native Swiss women and second-generation immigrants were still childless while it was 19% of first generation immigrants. However, there are differences according to migrants' group of origin. In Figure 3 we see that the risk to become a parent is higher for 1G from Former Yugoslavia, Turkey and Southern Europe than for the other groups (by age 45, 8% of the other groups were still childless in comparison the 34% of the Swiss). If we now look at 2G we see that although most groups have the same probabilities of having a child than the Swiss natives, yet, the 2G from Former Yugoslavia and Turkey origins have relatively higher probabilities than natives and all other 2Gs.

(Figure 2 about here)

(Figure 3 about here)

Swiss natives and the second-generation immigrants (2G) show older median ages at first birth than the first generation immigrants (around 27 for natives and 2G and 25.6 for 1G). Particularly 1G immigrants with Former Yugoslavia, Turkey and Southern Europe are the youngest parents in the sample (median age of 24) while the youngest parents of the second

²⁶ We decided to start the risk age at 15 years because we do not have many cases that start the first births before 15.

generations are from Former Yugoslavia and Turkey, with median ages at first birth of 25 years.

5.2 Multivariate analyses

This section presents the results of the Cox models of the transition to first births. Each set of estimations is run once keeping all migrant groups together (Table 3) and once distinguishing between the large groups of origin (Table 4). In both tables, Model 1 shows the simplest model, where we estimate the effect of the individual origin on first birth occurrences. Models 2 introduce the birth cohort and Models 3 adds the level of education. Results are as we expected: 1G immigrants show a higher first birth risk (relative risk: RR=1.48) than Swiss natives while 2G immigrants do not distinguish themselves from Swiss natives (RR=0.97). Those risks do not change when controlling for the population composition by cohort and education (Models 2 and 3). Individuals belonging to the older cohorts have higher probabilities for first birth than those from recent cohorts (which might suggest lower complete fertility or simply a delay in transition to parenthood). Low education also has a predictable positive correlation on the probabilities of first births compared to medium and higher level of education.

When we focus on immigrant groups of different origins (Table 4) we observe that the relative risk of first birth is higher for immigrants from Former Yugoslavia, Turkey and Southern Europe (1.98 and 1.97 respectively). With the exception of Southern Europeans, also 2G immigrants from these areas show higher propensities for first birth than the Swiss natives (RR=1.43). Previously we found also that 2G with Former Yugoslavian & Turkish origins have higher risk of first union (RR= 1.43) than Swiss natives, which might contribute to the differences in fertility as well.

(Table 3 about here)

(Table 4 about here)

6. Summary and Discussion

This paper aims at drawing a portrait of the differential patterns in the transition to parenthood in Switzerland among the descendants of migrants in comparison with immigrants and Swiss

native women. Using data from the Swiss Household Panel and event history techniques, we analyzed quantum and tempo of first births among Swiss native women and women who are residents with a migration background. We focussed on the relative risk of first birth for migrants of first and second generations, distinguishing the migrant populations according to their geographical origin, compared to the native Swiss population. The overall conclusion is that first generation migrants become parents earlier and more often than the Swiss natives and the second generation of migrants. These results hold even after adding controls for those variables that could most likely affect the transition to parenthood (cohort and education). To the best of our knowledge, this is the first study that compares the timing and intensity of the transition to parenthood across migrant groups for the first and second generation in Switzerland.

With the exception of the 1970s (due to the economic crisis) the TFR shows that on average immigrant women have higher fertility than their Swiss counterparts. The children of immigrants have similar level of fertility than the Swiss native women (not shown). During the analysis of transition to first birth, we observe that women born in Switzerland, whether they are Swiss natives or have an immigrant background, have a lower likelihood of becoming a mother than the first generation immigrant women (with the exception of the residual and too heterogeneous group of origins represented by “Others”). Second generation immigrant women born in Switzerland have even lower likelihood of first birth than Swiss natives in case they come from Western Europe. Swiss born women with parents from Southern Europe or Former Yugoslavia regions and Turkey show slightly higher first birth risks. After introducing the controls for cohort and education, such differences persist only for the descendent of immigrants from Former Yugoslavia and Turkey.

There are some shortcomings to this analysis. First of all it is rather explorative and leaves research questions open for the future about the causes of the observed differences. Given the limited number of cases and the heterogeneity of the immigrant population in Switzerland, we gave priority to distinctions among generation of migrants and region of origin (which also correspond roughly to migration waves in Switzerland). This meant limited chances for controlling for population composition by other characteristics (employment behaviour and union formation behaviour in the first place). Second, it is limited to the transition to parenthood and does not analyze further fertility and family enlargement. In the Swiss context

this is an extremely important analysis to perform because Swiss women with a child exhibit relative high second-birth risks in a short time interval (Le Goff et al., 2005). Comparing second birth timing between natives and second generations might show slight differences which do not follow the same direction than in the other countries of this report. We also plan an analysis of third birth risks by migrant generation, but not disaggregated by origin (small sample issues would not allow such an analysis).

References

- Abbasi-Shavazi, M., & McDonald, P. (2000). Fertility and multiculturalism: Immigrant fertility in Australia, 1977-1991. *International Migration Review* 34, 215-242.
- Afonso, A. (2004). Immigration and its impacts in Switzerland. *Mediterranean Quarterly, Published by Duke University Press* 15(4), 147-166.
- Algan, Y., Dustmann, C., Glitz, A., & Manning, A. (2010). The Economic situation of first and second-generation immigrants in France, Germany and the United Kingdom. *The Economic Journal*, 120 (542), 4-30.
- Alho J., Alders M., Cruijsen H., Keilman N., Nikander T., & Pham D. Q., (2006). New forecast: population decline postponed in Europe, *Statistical Journal of the United Nations ECE*, 23,1-10.
- Andersson, G. (2004). Childbearing after migration: Fertility patterns of foreign-born women in Sweden. *International Migration Review*, 38(2), 747-774.
- Andersson, G., & Persson, L. (2014). Childbearing among the descendants of immigrants in Sweden. Document do not published. FamiliesAndSocieties Working Paper Series: Changing families and sustainable societies: Policy contexts and diversity over the life course and across generations.
- Andersson, G., & Scott, K. (2005). Labour-market status and first-time parenthood: The experience of immigrant women in Sweden, 1981-97. *Population Studies*, 59(1), 21-38.
- Andersson, G., & Scott, K. (2007). Childbearing dynamics of couples in a universalistic welfare state: The role of labor-market status, country of origin, and gender. *Demographic Research*, 17, 897-938.
- Bader, D., & Fibbi, R. (2012). *Les enfants de migrant un véritable potentiel*. Neuchâtel: Forum suisse pour l'étude des migrations et de la population.
- Bisin, A., Patacchini, E., Verdier, T & Zenou, Y. (2011). Ethnic identity and labour market outcomes of immigrants in Europe. *Economic Policy*. 26(65), 57–92.
- Bolzmann C., (2001). Les immigrés sur le marché du travail: entre discrimination et égalité de chances. Le cas de la Suisse. In Boucher, M. (Ed.), *De l'égalité formelle à l'égalité réelle. La question de l'ethnicité dans les sociétés européennes*, Paris : L'Harmattan.
- Bolzmann, C. (2007). Familles espagnoles et italiennes en Suisse et transition vers la vie adulte. *Enfances, Familles, Générations*, 6, 38-53.
- Bolzmann, C., Fibbi, R., & Vial, M. (2003). *Que sont-ils devenus?: Le processus d'insertion des adultes issus de la migration*. Migrations Et La Suisse. Geneva : Résultats Du Programme National De Recherche "migrations Et Relations Interculturelles.
- Calot G., Confesson A., Sardon, J.P., Baranzini E., Cotter, S & Wanner, P. (1998). Deux siècles d'histoire démographique Suisse. Album graphique de la période 1860–2050. Berne: Office fédéral de la statistique (OFS).
- Cerutti, M. (1994). *Un secolo di emigrazione italiana in Svizzera (1870-1970), attraverso le fonti dell'Archivio federale*. Bern: Studi e fonti. Pubblicazioni dell'Archivio federale svizzero, 20, 11-95.
- Coleman, D. (1994). Trends in fertility and intermarriage among immigrant populations in Western Europe as measures of integration. *Journal of Biosocial Science*, 26, 107-136.
- Coleman, D. (2006). Immigration and ethnic change in low-fertility countries: A third demographic transition. *Population and Development Review*, 32(3), 401-446.

- Crul, M. (2013). Snakes and ladders in educational systems: Access to higher education for second-generation Turks in Europe. *Journal of Ethnic and Migration Studies*, 39, 9.
- Crul, M., & Mollenkopf, J. H. (2012). *The changing face of world cities: Young adult children of immigrants in Europe and the United States*. New York: Russell Sage Foundation.
- Crul, M., & Vermeulen, H. (2003). The second-generation in Europe. *International Migration Review*, 37(4), 965-986.
- De Valk, H. (2011). Paths to adulthood: a focus on the children of immigrants in the Netherlands. In M. Wingens, M. Windzio, H. De Valk & C. Aybek (Eds.), *A life-course perspective on migration and integration*. New York: Springer Dordrecht, Heidelberg.
- De Valk, H., & Milewski, N. (2011). Family life transitions among children of immigrants: An introduction. *Advances in Life Course Research*, 16(4), 145-151.
- Federal Statistical Office (FSO). (2014). Migration and integration, Data-Indicators <http://www.bfs.admin.ch/bfs/portal/en/index/themen/01/07/blank/key/04.html>
- Fibbi, R., Lerch, M., & Wanner, P. (2007). Naturalisation and socio-economic characteristics of youth of immigrant descent in Switzerland. *Journal of Ethnic and Migration Studies*, 33(7), 1121-1144.
- Fibbi, R., Lerch, M., & Wanner, P. (2010). School qualifications of children of immigrant descent in Switzerland. In R. Alba & M. Waters (Eds.), *New Dimensions of Diversity: The Children of Immigrants in North America and Western Europe*. New York: New York University Press.
- Fibbi, R., Wanner, P., & UNICEF. (2009). *Children in immigrant families in Switzerland: On a path between discrimination and integration*. Florence, Italy: UNICEF, Innocenti Research Centre
- Ford, K. (1990). Duration of residence in the United States and the fertility of U.S. immigrants. *International Migration Review* 24(1), 34-68.
- Francesco, L., Chevillard, J., & Gauthier JA. (2013). Socio-economic Background and Early Post-compulsory Education Pathways : a Comparison between Natives and Second-generation Immigrants in Switzerland. *European Sociological Review*. 2013, 1-17.
- Kogan, I. (2007). A study of immigrants' employment careers in West Germany using the sequence analysis technique. *Social Science Research*, 36(2), 491-511.
- Kohler, P. (2012). Cultural integration in Switzerland, in Y. Algan., A. Bisin., A. Manning., & T. Verdier (Ed.), *Cultural integration of immigrants in Europe*. Oxford (UK): Oxford University Press.
- Krapf, S., & Wolf, K. (2014). Persisting differences or adaptation to German fertility patterns? First and second birth behavior of the 1.5 and second-generation Turkish migrants in Germany. Document do not published. FamiliesAndSocieties Working Paper Series: Changing families and sustainable societies: Policy contexts and diversity over the life course and across generations.
- Kreyenfeld, M., & Andersson, G. (2014). Socioeconomic differences in the unemployment and fertility nexus: Evidence from Denmark and Germany. *Advances in Life Course Research*, 21, 59-73.
- Kulu, H. (2005). Migration and fertility: competing hypotheses re-examined. *European Journal of Population*, 21, 51-87.

- Kulu, H., & Gonzalez-Ferrer, A. (2013). *State of the art report: Family dynamics among immigrants and their descendants in Europe: Current research and opportunities*, FamiliesAndSocieties Working Paper Series: Changing families and sustainable societies: Policy contexts and diversity over the life course and across generations.
- Kulu, H., & Milewski, N. (2007). Family change and migration in the life course: An introduction. *Demographic Research*, 17, 567-590.
- Le Goff, J-M., Sauvain-Dugerdil, C., Rossier, C., & Coenen-Huther, J. (2005). *Maternité et parcours de vie. L'enfant a-t-il toujours une place dans les projets des femmes en Suisse*. Bern: Peter-Lang.
- Lerch, M., & Wanner P. (2010). Quels apports démographiques des migrations internes des étrangers pour les villes suisses?. *GeoRegard*, 3.
- Liebig, T. and Von Haaren, F. (2011). Citizenship and the Socioeconomic Integration of Immigrants and their Children: An Overview across EU and OECD Countries. In OECD (ed.), *Naturalization: A Passport for the Better Integration of Immigrants?* Paris: OECD Publishing.
- Marks, G. (2005). Accounting for immigrant non-immigrant differences in reading and mathematics in twenty countries *Ethnic and Racial Studies*, 28(5), 925-946.
- Mens, Y. (2006). La deuxième génération bouscule l'Europe. *Alternatives internationales*, 3(30), 31-32.
- Milewski, N. (2006). First child of immigrant workers and their descendants in West Germany: interrelations of events, disruption, or adaptation? *Demographic Research* 17(29), 859–896.
- Milewski, N. (2011). Transition to a first birth among Turkish second generation migrants in Western Europe. *Advances in Life Course Research*, 16, 178-189.
- Milewski, N., & Kulu, H. (2013). Mixed marriages in Germany: A high risk of divorce for immigrant-native couples. *European Journal of Population*, 3, 1-25.
- Musterd, S. (2005). Social and Ethnic Segregation In Europe; Levels, Causes and Effects». *Journal of Urban Affairs*, 27(3), 331-348
- Portes, A., & Rumbaut, R. (2005). Introduction: The second generation and the children of immigrants longitudinal study. *Ethnic and Racial Studies*, 28(6), 983-999.
- Rendall, M., Tsang, F., Rubin, J-K., Rabinovich, L., & Janta, B. (2010). Contrasting Trajectories of Labor-Market Integration Between Migrant Women in Western and Southern Europe. *European Journal of Population*, 26 (4), 383-410.
- Sam, D., Vedder, P.H., Liebkind, K., Neto, F., & Virta, E. (2008). Immigration, acculturation and the paradox of adaptation in Europe. *European Journal of Developmental Psychology*, 5 (2), 138–158.
- Santelli, E. (2007). Les jeunes de banlieue d'origine maghrébine: entre galère et emploi stable, quel devenir? *Revue européenne des migrations internationales*, 23(2), 57-77.
- Scott, K., & Stanfors, M. (2011). The transition to parenthood among the second generation: evidence from Sweden, 1990-2005. *Advances in Life Course Research*, 16, 190-204.
- Sobotka, J., Chavez, L., Waters, M., & DeSipio, L. (2012). Changing family and partnership behavior: Common trends and persistent diversity across Europe. *Demography Research*, 19(6), 85-138.
- Sobotka, T. (2008). The rising importance of migrants for childbearing in Europe. *Demographic Research* 19(9), 225–248.

- Suárez-Orozco, M., Suárez-Orozco, C., & Qin-Hilliard, D. (2005). *The new immigration: An interdisciplinary reader*. New York: Routledge.
- Sweet, R., Anisef, P., Brown, R., Walters, D., & Phythian, K. (2010). *Parcours de jeunes immigrants après l'école secondaire*. Toronto: Conseil ontarien de la qualité de l'enseignement supérieur.
- Toulemon, L. (2004). Fertility among immigrant women: new data, a new approach. *Population et Sociétés*, April 2004, 400.
- Wanner, P. (2004). Intégration professionnelle des populations d'origine et de nationalité étrangères en Suisse. *Revue Européenne des Migrations Internationales*, 20(1).
- Wanner, P., & Fei P. (2005). *Facteurs influençant le comportement reproductif des Suissesses et des Suisses*. Neuchâtel: Office fédéral de la statistique.
- Wanner, P., Schweiz., & Schweizerisches Forum für Migrations- und Bevölkerungsstudien (2005). *Migration et intégration: Populations étrangères en Suisse*. Neuchâtel: Office fédéral de la statistique.

Figures and Tables

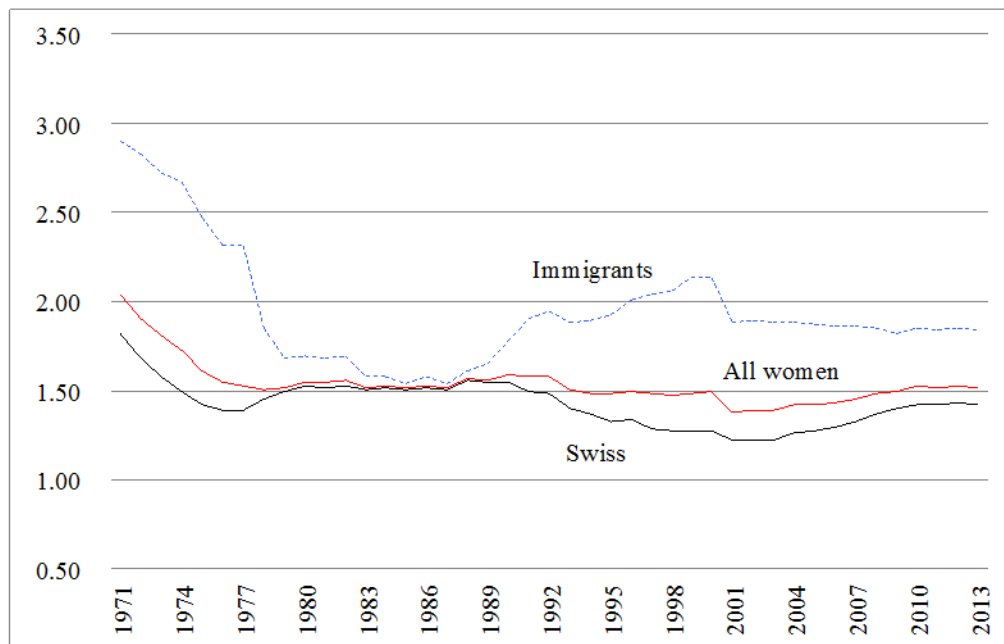


Figure 1. Average of number of children per women for “natives” and immigrants in Switzerland. (FSO 2013)

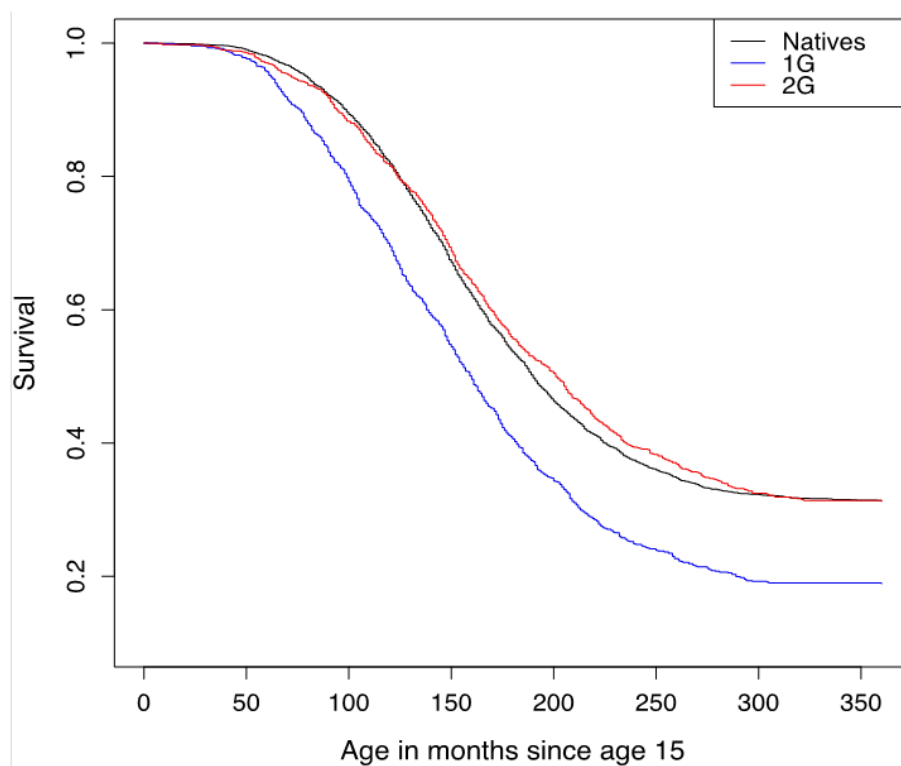


Figure 2. Kaplan-Meier survival estimates of entering into motherhood by (aggregated) origin for women.

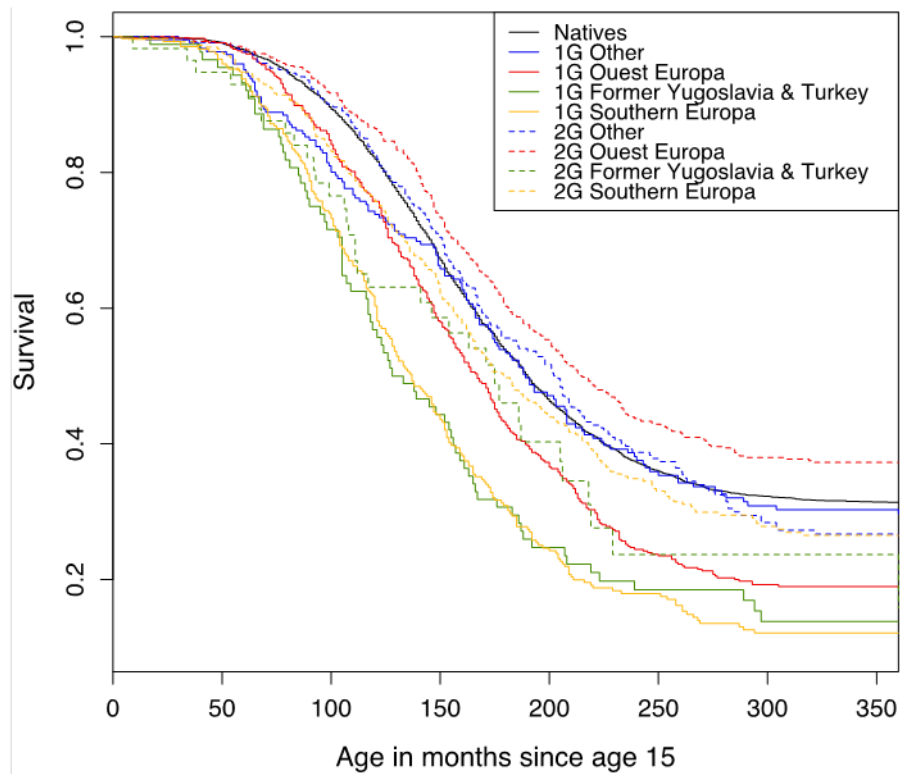


Figure 3. Kaplan-Meier survival estimates of entering into motherhood by (disaggregated) origin for women.

Table 1. Number of first birth events for women by (aggregated) origin.

	Swiss		1G		2G	
	%	Events	%	Events	%	Events
Education						
low	21.67	692	33.80	267	25.61	209
middle	61.40	1961	44.68	353	51.84	423
high	16.94	541	21.52	170	22.55	184
Total		3194		790		816
Age						
15-25	33.53	1071	44.05	348	34.39	281
26-30	40.33	1288	33.54	265	37.58	307
31-35	19.85	634	16.46	130	19.34	158
36 and +	6.29	201	5.95	47	8.69	71
Total		3194		790		817
Cohort						
Before 1950	37.23	1190	39.62	313	18.24	149
1951-1960	27.47	878	24.68	195	24.97	204
1961-1975	31.91	1020	32.15	254	51.41	420
1976 and +	3.38	108	3.54	28	5.39	44
Total		3196		790		817

Source: SHP

Table 2. Number of first birth events for women by (disaggregated) origin.

	Swiss		1G Others		1G Western Europe		1G Former Yugoslavia & Turkey		1G Southern Europe		2G Others		2G Western Europe		2G Former Yugoslavia & Turkey		2G Southern Europe	
	%	Events	%	Events	%	Events	%	Events	%	Events	%	Events	%	Events	%	Events	%	Events
Education																		
low	21.67	692	46.10	65	19.53	67	33.78	25	47.41	110	37.50	78	15.38	50	28.57	10	28.63	71
middle	61.40	1961	31.21	44	50.15	172	50.00	37	43.10	100	39.42	82	58.15	189	45.71	16	54.84	136
high	16.94	541	22.70	32	30.32	104	16.22	12	9.48	22	23.08	48	26.46	86	25.71	9	16.53	41
Total		3194		141		343		74		232		208		325		35		248
Age																		
15-25	33.50	1070	41.84	59	36.44	125	55.41	41	53.02	123	35.41	74	25.85	84	57.14	20	40.49	100
26-30	40.39	1290	29.08	41	38.19	131	29.73	22	30.60	71	35.41	74	43.38	141	22.86	8	35.22	87
31-35	19.94	637	20.57	29	19.83	68	10.81	8	10.78	25	18.18	38	22.46	73	17.14	6	16.60	41
36 and +	6.17	197	8.51	12	5.54	19	4.05	3	5.60	13	11.00	23	8.31	27	2.86	1	7.69	19
Total		3194		141		343		74		232		209		325		35		247
Cohort																		
Before 1950	37.23	1190	21.28	30	56.27	193	4.05	3	37.50	87	12.92	27	23.38	76	8.57	3	17.34	43
1951-1960	27.47	878	29.79	42	20.70	71	31.08	23	25.43	59	26.32	55	24.00	78	17.14	6	26.21	65
1961-1975	31.91	1020	43.26	61	21.57	74	54.05	40	34.05	79	49.28	103	49.85	162	65.71	23	53.23	132
1976 and +	3.38	108	5.67	8	1.46	5	10.81	8	3.02	7	11.48	24	2.77	9	8.57	3	3.23	8
Total		3196		141		343		74		232		209		325		35		248

Source: SHP

Table 3. Transition to first birth for women by (aggregated) origin.

	Model 1	Model 2	Model 3
Origin			
Swiss	1	1	1
1G	1.48 ***	1.46 ***	1.48 ***
2G	0.97 *	0.94 *	0.95 *
Cohort			
Before 1950		1	1
1951-1960		1.52 ***	1.65 ***
1961-1975		1.33 ***	1.48 ***
1976 and +		0.64 ***	0.72 ***
Education			
low			1
middle			0.86 ***
high			0.65 ***

***p < 0.001, **p < 0.01, *p < 0.05

Table 4. Transition to first birth for women by (disaggregated) origin.

	Model 1	Model 2	Model 3
Origin			
Swiss	1	1	1
1G Others	1.07	1.04	1.03
1G Western Europe	1.39 ***	1.4 ***	1.48 ***
1G Former Yugoslavia & Turkey	1.95 ***	1.78 ***	1.74 ***
1G Southern Europe	1.98 ***	1.97 ***	1.88 ***
2G Others	1	0.99	0.99
2G Western Europe	0.82 **	0.8 *	0.83 **
2G Former Yugoslavia & Turkey	1.43 *	1.43 *	1.44 *
2G Southern Europe	1.15 *	1.09	1.06
Cohort			
Before 1950		1	1
1951-1960		1.52 ***	1.65 ***
1961-1975		1.31 ***	1.46 ***
1976 and +		0.63 ***	0.71 ***
Education			
low			1
middle			0.86 ***
high			0.61 ***

***p < 0.001, **p < 0.01, *p < 0.05