Title: Heterogeneity versus assimilation in family formation across generations and origin of descendants of immigrants in Sweden: Which comes first, homeownership, marriage, or childbirth?

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Abstract

With more than one-quarter of Swedish residents having an immigration background, it becomes important to understand the family formation patterns of immigrants and their descendants. In this study, we examine the risk of entry to first-time homeownership, marriage, and childbirth by immigrant origin and generations in Sweden focusing on only immigrants arriving in Sweden before the age of 18 (1.5 generation (G)) and on descendants of immigrants with two (2G) or one (2.5G) non-Swedish-born parent(s). We use individual-level register data from Sweden over a period of 20 years (1997-2016). To assess the risk of entry to first-time homeownership, marriage, or childbirth, we use Cox-Proportional Hazards modelling whereby everyone is at risk of the three events starting the age of 18. An interaction term is included between the type of event experienced first and immigrant generations and origin. Results showed the importance of owning a house for everyone before moving to marriage or childbirth. After homeownership, native-Swedes, all 2.5G, and certain 1.5G and 2G groups (e.g., Nordic, Western and Southern Europe, and Latin America) showed higher risks of childbirth then marriage, whereas 1.5G and 2G groups from conservative family cultures (e.g., Turkish, Ex-Yugoslavia, Iran, Middle East/North Africa, and South Asia) showed a high marriage risk. Results also supported a gradual assimilation across the generations with 2.5G showing the most similar risks to native-Swedes. However, variation in patterns still existed among 1.5G and 2G groups supporting segmentation, which could be attributed to the socio-cultural and economic heterogeneities across the countries of origin.

1. Introduction

Sweden is a popular destination for both labour migrants and refugees (Ahlén & Palme, 2020) with 26% of its population being immigrants or Swedish-born with at least one non-Swedish-born parent(s) (SCB, 2021). In this study, we use individual-level register data from Sweden over a period of 20 years (1997-2016) to examine the risk of entry to first-time homeownership, marriage, and childbirth by immigrant origin and generations. We choose to focus on these three events because literature has shown the interconnection between homeownership and family formation including marriage, cohabitation, divorce, and childbirth in the life course of individuals (Feijten et al., 2003; Feijten & van Ham, 2010; Holland, 2012; Kulu & Vikat, 2007; Mikolai et al., 2020; Mulder & Wagner, 2001; Smits & Mulder, 2008; Ström, 2010; Vignoli et al., 2013). We focus on Swedish-born individuals and those who immigrated into Sweden before age 18. Among the Swedish-born, we differentiate between Swedish-born with one or two non-Swedish-born parents(s) and those with two Swedish-born parents, referred to as native-Swedes. It is important to study whether the chronological patterns of first entry to homeownership, marriage, and childbirth of descendants of immigrants resemble those of native-Swedes or not, as a signal of integartion versus segmentation. We also differentiate between individuals who have immigration background from both high- and middle- to low-income countries. This can reveal the influence of the country of origin and culture as well as the influence of resources and wealth on the timing and sequence of first entries to homeownership, marriage, and childbirth. For example, previous research shows that individuals from Sub-Saharan Africa, Latin America, West-Asia, Turkey, and North Africa have the longest time to move to first-time homeownership following a family event (e.g., change in marital or childbearing circumstances) (Turner & Hedman, 2014). Similarly, the differences in family demographic events have been noted between natives and immigrants in the Netherlands, France, and United Kingdom (UK) whereby immigrants and their descendants from socio-culturally conservative countries of origin (e.g., Turkey, Morocco, and South Asia) tend to start family formation relatively early in the life course and are more likely to form families through childbearing within the context of marriage compared to the native population (Delaporte & Kulu, 2023; Kleinepier & de Valk, 2016; Mikolai & Kulu, 2022; Zorlu & Mulder, 2011). In contrast, European immigrants are more similar to the native population by showing less conservative family formation practices such as cohabitation followed by childbearing, then marriage (Delaporte & Kulu, 2023; Mikolai & Kulu, 2022). This highlights segmentation in the family formation behaviour between immigrants and their descendants and the native

population and emphasises the importance of culture and values specific for each country of origin. It should be noted, however, that a closer pattern in family formation to that of the native population is usually observed among the descendants of immigrants, yet differences are still noted depending on the country of origin, which supports both segmentation through the effect of ethnic sub-culture community and intergenerational transmission of patterns as well as adaptation and assimilation to the local patterns.

In this paper, we attempt to answer the following hypotheses:

H1: Differences in the timing and sequence of the three events of first-time homeownership, marriage, and childbirth exist between the generations of descendants of immigrants. However, gradual assimilation across generations is expected with the descendants of one foreign-born and one Swedish-born parent(s) exhibiting the closest patterns to native-Swedes.

H2: The differences in the timing and sequence of the three events are mostly expected between native-Swedes and descendants of immigrants with origins from geographically, socio-culturally, and socio-economically distant countries. For example, immigrants from more conservative family formation backgrounds (e.g., Turkey, Middle East/North Africa, and South Asia) are expected to experience marriage and/or homeownership first rather than childbirth.

H3: Although differences are expected between the immigrant generations and origin compared to native-Swedes, we expect that first-time entry to homeownership will precede entries to first marriage and childbirth for everyone. This is because homeownership provides a sense of security, which is essential for family formation as highlighted by Holland (2012) through the concept of "Secure Investment Model" in which homeownership is considered a secure investment and a way to transition to stability coupled with a high-level of social commitment(s) for example through marriage or childbearing (Holland, 2012).

Our study contributes to the current literature by investigating the timing and risk of entry to first-time homeownership, marriage, and childbirth by immigrant generations and origin within the same model using competing events survival analysis. We also use the high-quality Swedish register data, which possess advantage over census and survey data as they provide longitudinal information on residential moves, housing tenure, marital status, and childbirth histories and covers the whole population of Sweden, allowing for detailed analysis by immigrant sub-groups. Furthermore, our study provides detailed insights into the integration and differences in homeownership and family formation patterns across the different countries of origin of

immigrants arriving as children and descendants of immigrants in Sweden, differentiating descendants with two foreign-born parents from those with one foreign-born parent.

2. Previous research on the interconnection of homeownership, marriage, and childbirth

Previous research has shown the interconnection between homeownership and family demographic events such as marriage, cohabitation, divorce, and childbirth. For example, in Italy and Sweden, it was shown that couples who were secure in their housing situation (e.g., homeowners) were more likely to have their first child than couples who did not have a secure housing situation (e.g., renters) (Ström, 2010; Vignoli et al., 2013). Living in a detached single-family housing in both Finland and Sweden was also associated with a higher likelihood of parity transitions, while living in rental apartments was related to lower parity transitions (Chudnovskaya, 2019; Kulu & Vikat, 2007). In the Netherlands, first-time homeownership was more frequent among singles, cohabiters, and those who are just starting cohabitation compared to married people without children (Smits & Mulder, 2008). Another study from the Netherlands has shown that married couples have the highest probability of becoming homeowners in the 18-24 age group, while homeownership probability was the highest in the 25-29 age group for cohabitors and in the 30-34 age group for singles (Feijten et al., 2003). In Germany, entry to homeownership was associated with marriage and becoming a parent in the same or next year (Mulder & Wagner, 2001). In contrast, divorce, and union dissolution in the UK resulted in moving out of homeownership and single-family housing (Feijten & van Ham, 2010). Similarly, in Denmark, Sweden, and the Netherlands, the likelihood of leaving homeownership was greatest following separation and widowhood (Herbers et al., 2014).

The interconnection between homeownership and family events can move in both directions. Family events can be a trigger for changing the housing type and tenure and can also occur because of changes in the housing type and tenure. For example, a person might move to homeownership or detached single-family housing due to marriage or childbirth because family commitments require transition to stability and long-term investments as well as a bigger living space to raise children which could be achieved through homeownership, especially through owning a single-family house. Yet, the scenario could also be that a person starts having intentions for childbearing and/or marriage after moving to homeownership or detached single-family housing, mainly due to the fact that homeownership provides a sense of security, which is a trigger for family formation events (Holland, 2012). In both situations, there is a clear

relationship between family events and housing type and tenure transitions, regardless of the temporal sequence of the events.

3. Previous research and theoretical considerations on homeownership, marriage, and childbirth in the context of immigration

Entry to homeownership, marriage, and childbearing and the interconnection between those three events can differ between the population-subgroups, including differences based on immigrants' status and countries of origin (Abramsson et al., 2002; Delaporte & Kulu, 2023; Gobillon & Solignac, 2020; Kulu et al., 2019; Mikolai & Kulu, 2022; Nygaard, 2011). For example, in the US, immigrants had lower homeownership rates than natives (Borjas, 2002). In the Netherlands, migrant youth, particularly Turkish and Moroccan youth, tend to leave the parental home at a significantly young age, primarily for marriage formation reasons, which is not the case for Dutch youth (Zorlu & Mulder, 2011). A study by Kleinepier and de Valk (2016) focusing on the descendants of immigrants in the Netherlands also found that family formation starts relatively early in the life course of Turkish and Moroccan women, while native Dutch tend to postpone marriage and childbearing (Kleinepier & de Valk, 2016). In the same study, the authors noted different family trajectories characterised by cohabitation and single motherhood for women with a Surinamese and Antillean origins (Kleinepier & de Valk, 2016).

Differences in entry to homeownership, marriage, and childbearing in relation to migration status and country of origin can be related to (1) Socio-cultural (i.e., preferences, ethnic sub-culture communities, socialisation, and transmission of behaviours), (2) Socioeconomic (i.e., resources, wealth, employment, income, and education), and (3) political-institutional (i.e., policies, local markets, and region of residence) factors.

Socio-cultural factors play an important role in explaining the differences in family and housing choices between individuals with an immigration background and the rest of the population. Individuals may choose to live in communities with whom they share common characteristics and culture. In the context of immigrants, this may imply living in neighbourhoods dominated by co-ethnics, which provides cultural and social support as well as better connections for housing opportunities and family business employment (Andersson et al., 2021; Bevelander et al., 2019). Additionally, immigrants, especially immigrants from the global south may face discrimination and avoidance from the mainstream population, which traps them in ethnic concentration neighbourhoods (Tammaru et al., 2014). Previous studies have shown that in the USA and Europe, natives who are white in majority, fly away from

residential areas characterised with a high proportion of immigrants, a phenomenon named "White flight" (Bråmå, 2006; Skifter Andersen et al., 2016). Residing in ethnic concentration communities may also extend to the descendants of immigrants given the common characteristics they share and the fact that children often live in the same housing market as their parents (Kunz, 1968; Ryabov, 2020; Smits & Mulder, 2008). For example, in England and Wales, all immigrants and their descendants were less likely to own a house and more likely to live in deprived housing than the white British (Wallace et al., 2022).

Living next to co-ethnics does not only affect the housing preferences but would also affect the family formation decisions of immigrants and their descendants. Based on the Socialization theory in which the behaviour of immigrants and their descendants can be shaped by the preferences that prevailed in their childhood origin (Kunz, 1968), individuals who live in co-ethnic dominated neighbourhoods will be affected by the norms and culture of their surrounding ethnic sub-culture community (Kulu et al., 2019). However, with time, some immigrants and their descendants adapt to the culture, social and economic situation of the destination country and acquire knowledge that enables them to leave ethnic concentration neighbourhoods, which is known as spatial assimilation (Malmberg et al., 2018; Vinke et al., 2020). This lead us to the adaptation theory which states that the behaviour of immigrants and their descendants can be adapted with time to the social, cultural, and economic situation of the recipient country (Vinke et al., 2020). Given that descendants of immigrants are either born or spent most of their childhood time in the destination country, they may show stronger patterns of assimilation and adaptation in their housing and family formation careers to that of the native population, especially if they lived outside ethnic sub-culture communities.

Taken together, recent literature from France and UK have shown that immigrants are more likely to form families through childbearing within the context of marriage compared to the native population (Delaporte & Kulu, 2023; Mikolai & Kulu, 2022). However, not all immigrants behaved the same with respect to family formation decisions, which reveals the importance of culture and values specific for each country of origin. Turkish immigrants in France and South Asian immigrants in UK showed the most conservative family pathways (i.e., early marriage, staying married for longer time, childbearing after marriage, and having a relatively large family), whereas European immigrants had less conservative family formation practices (i.e., many cohabit first and then have children and/or marry) and were more similar to the native population (Delaporte & Kulu, 2023; Mikolai & Kulu, 2022). Descendants of immigrants showed a more similar pattern in family formation to that of the native population,

yet differences were observed depending on the country of origin, supporting both socialisation and the effect of ethnic sub-culture community as well as adaptation and assimilation to the local patterns. Specifically, individuals with European origins followed a similar pattern in family formation to that of the native population, while descendants of Turkish immigrants in France and South Asian immigrants in UK were more conservative (Delaporte & Kulu, 2023; Mikolai & Kulu, 2022). Descendants of sub-Saharan African and Southeast-Asian immigrants in France were mostly single and childless by age 35 (Delaporte & Kulu, 2023). Similar results were observed in West Germany with descendants of immigrants showing adaptation to the lower fertility levels of West Germans (Milewski, 2007).

Socioeconomic factors such as educational qualifications, employment, income, wealth, and resources can impact entry to first-time homeownership, marriage, and childbearing. Previous research has shown that low income and insecure employment are associated with lower rates of homeownership (Lersch & Dewilde, 2015; Turner & Smith, 2009), while having more financial resources increases homeownership (McKee, 2012). This is because moving to homeownership requires long-term economic progress and accumulation of wealth and financial resources (Boehm & Schlottmann, 2008; Sinning, 2010). Similarly, entry to marriage and first birth is reduced with greater income inequality, unavailability of jobs, and insecure employment (Cherlin et al., 2016; Nishikitani et al., 2018; van Wijk et al., 2021). Furthermore, research has shown an association between lower educational attainment and lower access to homeownership (Colom Andrés & Molés Machí, 2021). On the contrary, women with higher education delay their entry to marriage and childbearing mainly because of career aspirations (Billari et al., 2006; Bratti & Tatsiramos, 2012).

Differences in entry to homeownership between individuals with an immigration background and the native population can be also explained by socioeconomic factors. For example, newly arrived immigrants require time to assimilate to the local context, build connections, and gain employment stability that enhances their financial resources in the destination country and enable them to move to homeownership (Andersen, 2016; Ballarino & Panichella, 2015; Gobillon & Solignac, 2020). In Sweden, Turner and Hedman (2014) found that the duration of stay in Sweden and having a university degree reduce the differences between native-Swedes and immigrant groups in the tendency to enter homeownership (Turner & Hedman, 2014). Similar to all population sub-groups, immigrants whose employment and financial future is uncertain would be less willing to invest in homeownership (Andersen, 2016). The presence/lack of financial resources can move beyond the immigrants onto their descendants

(Smits & Mulder, 2008). This is because wealthy parents can contribute financially to their children's future, enabling them to move faster and at a higher rate to homeownership (Helderman & Mulder, 2007). Although the intergenerational transmission of resources can happen to both the immigrant and native populations, research has shown that immigrants, especially those from low and middle income countries are usually less financially secured compared to natives (Bertocchi et al., 2022). This reflects in a higher rate of intergenerational transmission of financial disadvantage between the immigrants and their descendants. Additionally, natives could have accumulated wealth through property inheritance, which positively boosts their financial situation and that of their descendants (Halliday, 2018).

Similar to homeownership, socioeconomic factors can also explain the differences in entry to marriage and childbearing due to immigration status and origin. In general, the more similar the socioeconomic structure of immigrants and their descendants to the native population, the more similar are their family formation behaviour. For example, Milewski (2011) found that descendants of Turkish immigrants in Germany, Switzerland, Sweden, the Netherlands, and France adapt to the fertility patterns in their host country (Milewski, 2011). However, differences in the first-birth rates were detected among Turkish immigrants in the different host countries, whereby Milewski offered education as one of the main explanations (Milewski, 2011). Turkish women with secondary or apprenticeship education showed lower first-birth rates than Turkish women with only primary educational attainment (Milewski, 2011). Similar to Milewski (2011), Scott & Stanfors showed the importance of strong labour market attachment in explaining childbearing behaviour for both the descendants of immigrants and native population (Scott & Stanfors, 2010, 2011). Likewise, Andersson and Scott (2005) showed that in almost all nationality groups, women who are not established in the labour market are less likely to give birth. Andersson and Scott (2005) further showed that among those who are established in the labour market, having a higher annual income increases the risk of childbearing (Andersson & Scott, 2005).

Political-institutional factors may influence homeownership access differently for individuals with an immigration background compared to the rest of population, which in turn affects entry to marriage and childbearing due to the connection between those three life course events. For example, the "Right to Buy" policy in England and Wales worsened the individuals' access to homeownership for all population sub-groups, yet it impacted more the children of Caribbean immigrants than the British-White group (Wallace et al., 2022). Likewise in Sweden, the transformation of public rental housing in major cities (e.g., Stockholm) in the 1990s into

tenant-owner cooperatives increased the housing inequalities between immigrants and natives by making households in non-converted public housing in the suburbs relatively poorer compared to those in converted housing (Andersson & Turner, 2014). Finally, local housing markets related to housing supply and price elasticity such as zoning policies in relation to city size and geographic constraints play an important role in homeownership accessibility for all population sub-groups (Oikarinen et al., 2015). In this context, housing supply is mostly available in the form of residential renting in highly populated urban areas where space is limited, whereas access to single-family housing ownership is more abundant outside the densely populated regions and in the outermost ring of urban areas (Haandrikman et al., 2021). This also implies that the type of municipality where immigrants reside can partially explain the differences in housing careers between immigrants and the native population as shown by Turner and Hedman (2014) in Sweden (Turner & Hedman, 2014). For example, municipalities where public rental housing is more available such as in large cities and sub-urban municipalities (Magnusson & Turner, 2008) would make immigrants' and natives' residents less inclined to move to homeownership (Kauppinen et al., 2015).

Limited access to homeownership, especially single-family housing ownership, may play a role in delaying entry to marriage and childbearing given the interconnection between homeownership and family formation events. If an individual, cannot get access to homeownership, which provides a sense of housing security, they may delay their intentions of marriage and/or childbearing. For example, a study by Holland (2012) found that the risk of marriage increases in periods of joint homeownership and that a higher risk of joint house purchase exists in periods when couples get married (Holland, 2012). Holland (2012) further suggested that this could be due to the "Secure Investment Model" that is when couples own a house, this is considered a secure investment and a way to transition to stability, which comes with a high level of commitment associated with other life course commitment processes such as marriage or childbearing (Holland, 2012).

4. The context of Sweden

4.1. Immigrants in Sweden

Over the past century, Sweden has undergone a transformation from a predominantly homogenous nation to one characterized by a diverse population with various countries of origin. As of 2020, immigrants and individuals with at least one foreign-born parent accounted

for about 26% of the population (SCB, 2021). These immigrants come from a wide range of countries, each with distinct family-demographic and social backgrounds.

The largest group in Sweden with foreign-born origins consists of immigrants from Finland, which is attributed to historical ties and significant economic disparities between Finland and Sweden until the 1980s, leading to substantial labour migration (Andersson et al., 2015). Other Nordic immigrants primarily include Danish and Norwegians, with a few individuals with Icelandic origins. The geographic proximity of the Nordic countries to Sweden, the shared culture, and the presence of a free Nordic labour market have facilitated their integration into the Swedish society (Andersson et al., 2015).

Sweden also received immigrants from the Baltic countries mainly from Estonia, both pre- and post-Soviet Union. Furthermore, Sweden has many Polish immigrants arriving for various reasons, including some seeking refuge from the previous communist regimes, while others came as spouses of Swedish men. Migrants from the rest of Eastern Europe consist of those who left the region during communism, particularly from Hungary, as well as post-communist migrants from countries like Bulgaria and Romania (Andersson et al., 2015). Sweden also includes individuals with origins from Western and Southern Europe as well as immigrants from the former Yugoslavia. Ex-Yugoslavia immigrants in turn arrived in Sweden as labour immigrants in the 1960s (mainly Serbs and Croats) and as refugee immigrants during the Balkan wars of the 1990s, mostly from Bosnia (Andersson et al., 2015).

Outside Europe, Sweden received numerous immigrants from the Middle East. Those included immigrants from Turkey with Turkish labour migrants arriving during the 1960s, followed by a shift towards refugee immigration, predominantly comprised of ethnic Kurds. Additionally, many of the Turkish immigrants belong to the Syriac minority (Andersson et al., 2015). Individuals with Turkish origins form an interesting group in Sweden because of the relatively strong attachment to their culture and identity, and the formation of a social distance from the native Swedes (Bayram et al., 2009). Turkish immigrants are also less likely to move out of the public rental sector and have a higher probability of remaining in immigrant-dense neighbourhoods (Magnusson & Özüekren, 2002). Iranians arriving as refugees in the 1980s also constitute one of Sweden's largest immigrant nationalities (Andersson et al., 2015). Furthermore, Sweden has been receiving in the latest century large numbers of immigrants from Middle East Arab countries including a substantial number of Iraqis, with most of them

arriving after the 2003 US invasion of Iraq and Syrian refugees following the Syrian civil war that started in 2011.

Immigrants also came to Sweden from Latin America in the 1970s as refugees (e.g., Chilean refugees) following wars and regional conflicts and from North Africa and Sub-Saharan Africa. South-East Asian immigrants mainly consist of ethnic-Chinese refugees from Vietnam and, more recently, immigrants from Thailand who often came to Sweden as spouses of Swedish men (Andersson et al., 2015). Finally, immigrants from India constitute a relatively new group in Sweden that requires further research (Myrvold, 2012). So far, research has shown that this group of Indian immigrants are characterised with high educational attainment and strong presence in the information technology and healthcare sectors (Myrvold, 2012).

Given the history of immigration in Sweden, in this study, we focus on the following groups of immigrants representing both high- and middle- to low-income countries: Nordic, Western Europe, Central and Eastern Europe, Southern Europe, Ex-Yugoslavia, Poland, Latin America, Turkey, Iran, Middle East and North Africa, Sub-Saharan Africa, East Asia, South-East Asia, India, and Pakistan/Afghanistan/Bangladesh.

4.2.Homeownership in Sweden

Sweden is characterised by three types of housing tenure: rental housing, tenant-owner cooperative housing, and homeownership (Granath Hansson et al., 2021; Musterd & Andersson, 2005). Rental housing could be either public rental governed by the municipality or private rental managed by independent landlords and bigger companies. Public renting is available to everyone regardless of their socioeconomic status and it is allocated based on waiting lists. Tenant-owner cooperative housing is a form of market-based tenure mostly in the form of multifamily housing apartments whereby each resident buys and sells his/her own apartment. Homeownership which consists of single-family housing forms the largest tenure category, corresponding to 46% of all housing units (Granath Hansson et al., 2021; Musterd & Andersson, 2005). In this study, we consider both single-family homeownership and tenant-owner cooperative multifamily housing apartments as homeownership.

In the last 20 years, the Swedish housing market has been performing in under optimal conditions due to the rapid urban growth, which was accompanied by an insufficient number of rental accommodations (Engerstam et al., 2022). In addition, the 1990s policy which transformed several public rental housing in Sweden into market-based cooperatives exacerbated the rental market condition and increased the social inequalities in housing

(Andersson & Turner, 2014). If we take Stockholm as an example, 32% of its residents lived in rental housing in 1990, whereas this percentage was reduced to 18% in 2010 (Andersson & Turner, 2014). This resulted in long waiting queues for rental housing in major Swedish cities with 70% of municipalities reporting a housing shortage (GovernmentofSweden, 2021). This also exacerbated the inequalities in housing between the different population sub-groups (e.g., sub-groups based on immigrant status and origin) with individuals who can afford to buy a house, buying one, while individuals who cannot afford to buy a house seek subletting opportunities.

4.3.Marriage in Sweden

During the 1960s and 1970s, Sweden saw decreasing rates of marriage formation accompanied with increased non-marital cohabitation (Andersson, 1998; Andersson et al., 2015; Bernhardt & Hoem, 1985). However, in 1989, there was a remarkable but temporary increase in marriage rates due to changes in eligibility rules for a widow's pension (Hoem, 1991). Thereafter and since the late 1990s, marriage rates in Sweden started to rise again (Ohlsson-Wijk, 2011). Compared to other European countries, Swedish women and men tend to form unions at relatively young ages but delay marriage (Andersson & Philipov, 2002).

In Sweden, the benefits of being married in terms of social rights are relatively few. Since 1971, taxation has been based on individual spouses' earnings, and most social benefits depend on a person's own economic status, irrespective of their marital or family status (Andersson et al., 2015). The relatively weak instrumental role of marriage in Sweden leaves room for various cultural and symbolic factors related to marriage, which may be different among different population sub-groups (Ohlsson-Wijk, 2011, 2014). In the context of immigrants and their descendants, factors related to family systems and cultural heritage in their countries of origin may play an important role in their attitudes towards marriage.

4.4.Childbirth in Sweden

The total fertility rate in Sweden has fluctuated over the years. Childbearing declined from the late 1960s to the mid-1980s, which was largely attributed to the increasing number of women entering the workforce and improved access to reliable birth control methods (SCB, 2023). However, around 1990, there was a resurgence in childbearing, driven by a robust economy and changes in family policy (Andersson, 1999; SCB, 2023). Sundström and Stafford (1992) related this increased fertility to the social policies directed towards parents, which reduced the

cost of having children and made it easier for women to combine work and family life (Sundström & Stafford, 1992).

Subsequently, in the late 1990s, there was another decline in childbearing, which was primarily attributed to economic downturns and challenges faced by younger individuals in establishing themselves in the labour market. Many pursued higher education and delayed having children (SCB, 2023). By 1999, the total fertility rate reached its lowest point since the 1970s, with 1.5 children per woman. From the 2000s until 2010, childbearing increased again, but it declined thereafter. As of 2022, the total fertility rate was nearly at its lowest observed level, with 1.52 children per woman (SCB, 2023).

The fertility rates among women born in Sweden and foreign-born women have generally followed similar trends over time, with foreign-born women experiencing slightly higher fertility levels. This is due to the fact that foreign-born women often exhibit elevated fertility rates shortly after immigrating to Sweden, and some of them emigrate after a few years, meaning they are present in Sweden during a period when they are more likely to give birth (SCB, 2023). This also aligns with research that shows that migration and family formation are interrelated events (Andersson, 2004; Mulder & Wagner, 1993; Singley & Landale, 1998). However, the elevated fertility rates among women with an immigration background may show differences by countries of origin. For example, Persson and Hoem (2014) found an elevation in fertility rates after migration for immigrants from low-income non-European countries, whereas immigrants from Nordic countries showed low fertility rates after arrival in Sweden because they migrated for study and work rather than childbearing reasons (Persson & Hoem, 2014). Andersson and Scott (2005) also found an evidence for the impact of institutional factors and labour-market integration on childbearing dynamics for everyone in the country, regardless of ethnic/immigration origin (Andersson & Scott, 2005).

5. Data and methods

Individual-level register data from Statistics Sweden were used in this study. The dataset includes all individuals legally residing in Sweden between 1997 and 2016 (Statistics-Sweden, 2023c). The Swedish register data provide accurate and complete information on the total population of Sweden, dating back to 1968 when digitization of records began, and are of high quality as corroborated by previous research (Antelius & Björklund, 2000; Filip et al., 2020; Gerdtham & Johannesson, 2005; Lindgren et al., 2016).

We used monthly and yearly information on individuals' date of birth, marital status, childbirth, deaths, country of birth, international migrations (i.e., immigration and emigration), internal migrations (i.e., residential mobility), residential property identification number and housing tenure/type of dwelling to construct a relevant dataset. The study population included all individuals born in Sweden and immigrants arriving before age 18 who turned 18 between January 1997 and December 2016. Individuals enter the study at age 18 and exit the study upon death, emigration, entry to first-time homeownership (i.e., single-family housing or apartments tenant-owner cooperative ownership), entry to first-time marriage (i.e., marriage to an opposite sex partner), giving birth to first child (i.e., giving birth to the first biological child), or the end of the study period (i.e., December 2016), whichever comes first. Information on residential property identification number and housing tenure/type of dwelling are collected by property registers and residential taxations on a yearly rather than monthly basis. However, by combining this data with the monthly data on residential moves, we were able to identify the exact month and year of each move into a first-time homeownership property. Where residential mobility data were missing, we assumed that the move into homeownership happened at the beginning of the respective year. Therefore, the unit of time in this study is months since age 18.

The immigrant generations and origin variable was constructed by first distinguishing the immigrants arriving before age 18 (1.5 generation (G)) from the Swedish-born individuals. Second, among the Swedish-born individuals, we distinguished those with two foreign-born parents (2G immigrants) from those with one foreign-born parent (2.5G immigrants) from the native-Swedes with two Swedish-born parents. Given our interest in comparing the patterns of which of first-time homeownership, marriage, or childbirth happens first between individuals with an immigrant family background and native-Swedes, we only focus on Swedish-born individuals and immigrants arriving in Sweden prior to their 18th birthday, so that everyone has a common starting age of 18. Finally, we categorised individuals with an immigration background based on their country of birth or their parents' country of birth if they were born in Sweden as follows: Nordic, Western Europe, Central and Eastern Europe, Southern Europe, Ex-Yugoslavia, Poland, Latin America, Turkey, Iran, Middle East and Northern Africa, Sub-Saharan Africa, East Asia, South-East Asia, India, and Afghanistan/Pakistan/Bangladesh (Appendix Table 1). For individuals with two foreign-born parents, if both parents had the same country of birth, the individual takes that country of birth. If parents were from different countries of birth, the individual is assigned the country of birth of the mother. This is because

children spend more time with their mother than father especially at pre-school ages, and thus are expected to show family patterns similar to that of their mothers (Kunz, 1968; McKinney & Renk, 2007; Schoppe-Sullivan et al., 2013).

For statistical analysis, we conducted competing risks survival analysis Cox-Proportional Hazards modelling to assess entry to first-time homeownership, marriage or childbirth. In the competing risks setup, everyone is at risk of the three events starting the age of 18 and are followed-up until they experience any of the three events of interest, otherwise they are censored. An interaction term between the type of event experienced first and immigrant generations and origin is included with the reference category being native-Swedes who enter homeownership first. If individuals experience more than one event simultaneously within the same month and year, then they are grouped into a fourth type of event.

In our modelling, we also adjusted for individual's sex (male, female), education (reference - secondary 3 years, post-secondary 5 or more years, post-secondary 3 to 4 years, post-secondary less than 3 years, secondary less than 3 years, pre-secondary 9 or less schooling years), earnings (reference - moderate income, very low income, low income, high income, very high income, student, unemployed, receiving unemployment benefit), region of residence (reference - large cities, metropolitan cities, commuter municipality near metropolitan cities, commuter municipalities near large or small cities, small cities and towns, rural municipalities), and birth cohort (reference - 1984-1988, 1979-1983, 1989-1993, 1994-1998).

The municipalities were categorised into six regions of residence by following the "Swedish Association of Local Authorities and Regions" documentation (SKR, 2022). See Appendix Table 2 for more details about the region categories. The education variable was constructed following the harmonized classification of the Swedish SUN codes from the Swedish register, and it determines the highest achieved level of education during the respective calendar year (Statistics-Sweden, 2023b). The earnings variable was created in four steps based on the income and benefits data (Statistics-Sweden, 2023b). In the first step, we created five-categories cut-offs based on the quintiles of the sum of income and work-related benefits (e.g., sick leave and parental leave) in 2010. In a second step, we weighted the five cut-offs with the rate of inflation in each year compared to the year of 2010. The rate of inflation (KPI) for each year between 1997 and 2016 relative to 2010 was obtained from Statistics Sweden (Statistics-Sweden, 2023a). In a third step, we categorised the sum of income and work-related benefits for each individual in each year into five categories (i.e., very low, low, moderate, high, very

high) based on the weighted cut-offs. In a fourth step, we added into the earnings variable a category for students based on receiving student benefits/income. We also added a category for unemployed people who received unemployment benefits/income excluding those who are classified as students.

Statistical analysis was performed in stata$_{18}$ software. Descriptive results are presented in terms of counts, percentages, and person-months at risk by immigrant generations and origin and the study socio-demographic, economic, and contextual covariates. Results of the Competing risks Cox Proportional Hazards modelling are presented in terms of Hazard ratios (HRs) with 95% confidence intervals (CIs).

6. Results

6.1. Descriptives of person-months at risk and first entry to homeownership, marriage, or childbirth events

Table 1 describes person-months at risk and first-time entry to homeownership, marriage, or childbirth events in a competing risks approach by immigrant generations and origin and the study socio-demographic, economic, and contextual covariates. Our study included 2,196,101 individuals who either are born in Sweden or immigrated to Sweden before age 18. Those individuals are followed for up to 240 months (1997-2016) with a total of 149,479,585 person-months at risk and 957,282, 89,719, 156,803, and 31,790 entries to first-time homeownership, marriage, childbirth, and more than one event simultaneously within the same month, respectively. Most individuals were native-Swedes (76%), males (55%), had secondary 3 years of schooling (50%), had low (15%) or moderate (12%) earnings or were students (41%), lived in large (28%) or metropolitan (19%) cities, and were born between 1979 and 1988 (62%).

Around 81% and 74% of those who moved first to homeownership and childbirth, respectively, were native-Swedes. In contrast, only 49% of those who moved first to marriage belonged to the native-Swedes category, while 10% and 8% belonged to the Middle east/North Africa 1.5G and Ex-Yugoslavia 1.5G immigrant groups, respectively. In general, the rates of moving first to homeownership were slightly higher/similar among Nordic, Western Europe, East Asia, and India 1.5G compared to native-Swedes (6.9 per 1000 person-months), yet lower for the other 1.5G groups, with the lowest rates being observed among 1.5G immigrants from Sub-Saharan Africa (2.8 per 1000 person-months), Middle East/North Africa (3.6 per 1000 person-months), and Turkey (3.4 per 1000 person-months). All 2G immigrants exhibited lower rates of first entry to homeownership than native-Swedes, with the lowest rates being recorded among Sub-Saharan Africans (1.9 per 1000 person-months). The rates of first entry to homeownership were

more similar to the native-Swedes for all the 2.5G immigrants than their 1.5G and 2G counterparts (Table 1).

The rates of moving first to marriage were much more higher than the native-Swedes (0.4 per 1000 person-months) for 1.5G groups from Ex-Yugoslavia (2.7 per 1000 person-months), Central and Eastern Europe (1.4 per 1000 person-months), Turkey (4 per 1000 person-months), Iran (1.4 per 1000 person-months), Middle East/North Africa (3.3 per 1000 person-months), Sub-Saharan Africa (2.6 per 1000 person-months), and Pakistan/Afghanistan/Bangladesh (2.8 per 1000 person-months). A similar trend continues to the 2G with those from Ex-Yugoslavian, Turkish, Middle Eastern/North African, and Pakistan/Afghanistan/Bangladesh origins showing higher rates of first entry to marriage than native-Swedes. Conversely, all groups of the 2.5G show closer rates of first entry to marriage to that of native-Swedes. The rates of moving first to childbirth are more or less similar between the native-Swedes and immigrant generations and countries of origin, except for Latin American 1.5G and 2G and Sub-Saharan African 1.5G who show slightly higher rates of first entry to childbirth at around 1.8 per 1000 person-months (Table 1).

Comparing the immigrant groups with respect to the overall trend of which of the three events is more likely to happen first shows that homeownership followed by childbirth then marriage is the trend for native-Swedes, all 2.5G groups, 2G from Nordic, Western Europe, Central and Eastern Europe, Southern Europe, Poland, and Latin America groups, and 1.5G from Nordic, Western Europe, Southern Europe, Poland, Latin America, East Asia, South-East Asia, and India groups. In contrast, homeownership followed by marriage then childbirth is the most common pattern of events for 1.5G from Central and Eastern Europe, Ex-Yugoslavia, Iran, Middle East/North Africa, Sub-Saharan Africa, and Pakistan/Afghanistan/Bangladesh groups, and for 2G from Ex-Yugoslavia, Turkey, Iran, Middle East/North Africa, Sub-Saharan Africa, East Asia, South-East Asia, India, and Afghanistan/Pakistan/Bangladesh groups. Finally, Turkish 1.5G group were more likely to enter marriage first followed by homeownership then childbirth (Table 1).

6.2.Risk of entry to first-time homeownership, marriage, and childbirth events

Figure 1 shows the risk of entry to either first-time homeownership, marriage, childbirth or more than one event simultaneously (within the same month) across the immigrant generations and countries of origin with native-Swedes who enter first to homeownership being the reference group. Results showed that 1.5G Nordic and Western Europeans were more likely to

enter first homeownership compared to native-Swedes, whereas all other 1.5G groups, especially Ex-Yugoslavians, Turkish, and Sub-Saharan Africans were less likely to enter first homeownership. All 2G groups were less likely to enter first homeownership than native-Swedes with the lowest risk being observed also among Sub-Saharan Africans. The risk of entry to homeownership first was closer to that of native-Swedes, though still slightly lower (difference in risk does not exceed 20%) for all groups of 2.5G (Figure 1 – Panel a).

Compared to native-Swedes who enter first marriage, almost all groups of 1.5G and to a lesser extent 2G showed higher risk of first entry to marriage with the highest risks being shown among 1.5G Ex-Yugoslavian, Turkish, Middle-Eastern/North African, Sub-Saharan African, and Pakistan/Afghanistan/Bangladesh and 2G Ex-Yugoslavian, Turkish, Middle-East/North Africa, Indian, and Pakistan/Afghanistan/Bangladesh. The 2.5G risks of first entry to marriage were more or less similar to that of native-Swedes, except for 2.5G from Turkish, Middle Eastern/North African and Pakistan/Afghanistan/Bangladesh origin who still show slightly higher risks of first entry to marriage (Figure 1 – Panel b).

Compared to native-Swedes who enter first childbirth, some of the 1.5G and 2G groups showed higher risks (e.g., Nordics, Ex-Yugoslavians, Latin Americans, Sub-Saharan Africans, and South-East Asians from the 1.5G and Nordics and Latin Americans from the 2G), while others showed lower risks (e.g., Iranians and East Asians from the 1.5G and Turkish, Iranian, Middle-Eastern/North African, Sub-Saharan African, East Asian, South-East Asian, and South Asians – i.e., Indians and Pakistan/Afghanistan/Bangladesh from the 2G) of entry to first childbirth. All 2.5G groups showed similar risks of first entry to childbirth to that of native-Swedes, except Nordics 2.5G who still show slightly higher risks (Figure 1 – Panel c).

Similar to the descriptive analysis, comparing the risks of first entry to marriage and childbirth to that of first entry to homeownership shows that for native-Swedes, almost all 2.5G groups, 2G from Nordic, Western Europe, Central and Eastern Europe, Southern Europe, Poland, and Latin America, and 1.5G from Nordic, Southern Europe, Poland, Latin America, South-East Asia, and India are more likely to first enter homeownership followed by childbirth then marriage. In contrast, higher risks of homeownership followed by marriage then childbirth were observed among 1.5G groups from Central and Eastern Europe, Ex-Yugoslavia, Iran, Middle East/North Africa, and Pakistan/Afghanistan/Bangladesh and among 2G groups from Ex-Yugoslavia, Turkey, Iran, Middle East/North Africa, Sub-Saharan Africa, East Asia, South-East Asia, India, and Afghanistan/Pakistan/Bangladesh. Western European and East Asian 1.5G

showed higher risks for first entry to homeownership followed by an equal risk of first entry to marriage and childbirth, while Sub-Saharan African 1.5G showed an equal risk of first entry to homeownership and marriage followed by childbirth. Turkish 1.5G were distinctive by showing a higher risk of first entry to marriage followed by homeownership then childbirth (Figure 1 – Panels a, b, and c).

Finally, Panel d in Figure 1 do not show major differences between the native-Swedes who enter to more than one of the three events simultaneously within the same month and immigrant groups, except for 1.5G and 2G from Turkish and Middle-Eastern/North African origins who are more likely to experience simultaneous entry to more than one event, mostly simultaneous entry to homeownership and marriage or marriage and childbirth as shown in further analysis in Appendix Figure 1.

In Appendix Tables 3 to 5, we also show the full models of the competing risks of first entries to first-time homeownership, marriage, and childbirth. Higher risks of first entry to homeownership were observed among females, individuals with higher educational levels, individuals with high/very high income, and older birth cohorts. Higher risks of first entry to marriage were observed among females, individuals with high/very high income, individuals living in metropolitan areas and large cities, and older birth cohorts. Finally, higher risks of first entry to childbirth were noticed among females, individuals with lower educational levels, individuals with very low income, individuals living in small cities/towns and their surrounding commuter areas, and older birth cohorts.

Table 1. Description of person-months at risk and first-time entry to homeownership, marriage, or childbirth events in a competing risks approach by immigrant generations and origin and the study socio-demographic, economic, and contextual covariates (N=2,196,101 individuals).

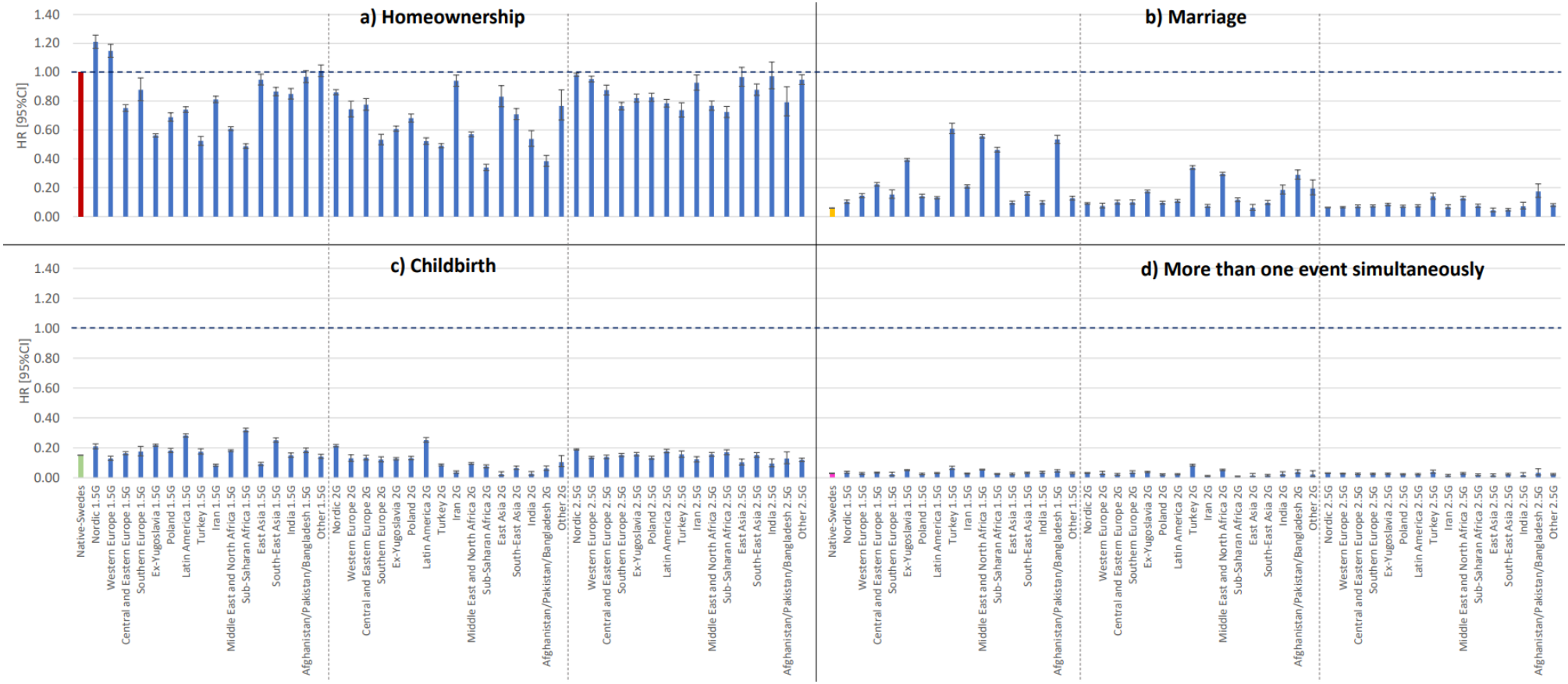
	Person-months	**%**	**Homeownership**			**Marriage**			**Childbirth**			**More than one event simultaneously**		
			n	%	Rate per 1000 person-months	n	%	Rate per 1000 person-months	n	%	Rate per 1000 person-months	n	%	Rate per 1000 person-months
Immigrant groups														
Native-Swedes	112815524	75.5	773931	80.8	6.9	44281	49.4	0.4	116503	74.3	1.0	23551	74.1	0.2
Nordic 1.5G	482480	0.3	3487	0.4	7.2	297	0.3	0.6	603	0.4	1.2	104	0.3	0.2
Western Europe 1.5G	471170	0.3	2981	0.3	6.3	375	0.4	0.8	336	0.2	0.7	73	0.2	0.2
Central and Eastern Europe 1.5G	994757	0.7	4538	0.5	4.6	1347	1.5	1.4	987	0.6	1.0	203	0.6	0.2
Southern Europe 1.5G	111817	0.1	582	0.1	5.2	101	0.1	0.9	116	0.1	1.0	15	0.0	0.1
Ex-Yugoslavia 1.5G	2565422	1.7	10102	1.1	3.9	7050	7.9	2.7	3906	2.5	1.5	912	2.9	0.4
Poland 1.5G	530330	0.4	2355	0.2	4.4	485	0.5	0.9	622	0.4	1.2	86	0.3	0.2
Latin America 1.5G	1267506	0.8	6142	0.6	4.8	1078	1.2	0.9	2340	1.5	1.8	252	0.8	0.2
Turkey 1.5G	328374	0.2	1126	0.1	3.4	1309	1.5	4.0	375	0.2	1.1	139	0.4	0.4
Iran 1.5G	999918	0.7	5478	0.6	5.5	1412	1.6	1.4	564	0.4	0.6	188	0.6	0.2
Middle East and North Africa 1.5G	2729859	1.8	9904	1.0	3.6	9039	10.1	3.3	2931	1.9	1.1	879	2.8	0.3
Sub-Saharan Africa 1.5G	1367863	0.9	3800	0.4	2.8	3603	4.0	2.6	2484	1.6	1.8	195	0.6	0.1
East Asia 1.5G	459837	0.3	2890	0.3	6.3	292	0.3	0.6	281	0.2	0.6	73	0.2	0.2
South-East Asia 1.5G	759538	0.5	4033	0.4	5.3	741	0.8	1.0	1172	0.7	1.5	152	0.5	0.2
India 1.5G	376407	0.3	2335	0.2	6.2	267	0.3	0.7	414	0.3	1.1	99	0.3	0.3
Afghanistan/Pakistan/Bangladesh 1.5G	528163	0.4	2661	0.3	5.0	1468	1.6	2.8	501	0.3	0.9	124	0.4	0.2
Other 1.5G	441816	0.3	2893	0.3	6.5	363	0.4	0.8	408	0.3	0.9	89	0.3	0.2
Nordic 2G	1774541	1.2	10642	1.1	6.0	1113	1.2	0.6	2647	1.7	1.5	393	1.2	0.2
Western Europe 2G	149666	0.1	744	0.1	5.0	74	0.1	0.5	130	0.1	0.9	30	0.1	0.2

Central and Eastern Europe 2G	314946	0.2	1499	0.2	4.8	191	0.2	0.6	258	0.2	0.8	41	0.1	0.1
Southern Europe 2G	220782	0.1	869	0.1	3.9	163	0.2	0.7	199	0.1	0.9	59	0.2	0.3
Ex-Yugoslavia 2G	1173801	0.8	4583	0.5	3.9	1310	1.5	1.1	950	0.6	0.8	288	0.9	0.2
Poland 2G	521268	0.3	2371	0.2	4.5	333	0.4	0.6	455	0.3	0.9	72	0.2	0.1
Latin America 2G	607958	0.4	2041	0.2	3.4	420	0.5	0.7	985	0.6	1.6	88	0.3	0.1
Turkey 2G	1154051	0.8	3913	0.4	3.4	2710	3.0	2.3	677	0.4	0.6	665	2.1	0.6
Iran 2G	432528	0.3	2307	0.2	5.3	177	0.2	0.4	90	0.1	0.2	27	0.1	0.1
Middle East and North Africa 2G	1414324	0.9	4878	0.5	3.4	2530	2.8	1.8	816	0.5	0.6	449	1.4	0.3
Sub-Saharan Africa 2G	483458	0.3	931	0.1	1.9	317	0.4	0.7	206	0.1	0.4	21	0.1	0.0
East Asia 2G	101724	0.1	506	0.1	5.0	37	0.0	0.4	15	0.0	0.1	9	0.0	0.1
South-East Asia 2G	305833	0.2	1326	0.1	4.3	180	0.2	0.6	122	0.1	0.4	28	0.1	0.1
India 2G	104038	0.1	368	0.0	3.5	126	0.1	1.2	18	0.0	0.2	17	0.1	0.2
Afghanistan/Pakistan/Bangladesh 2G	163108	0.1	391	0.0	2.4	294	0.3	1.8	63	0.0	0.4	40	0.1	0.2
Other 2G	51009	0.0	220	0.0	4.3	56	0.1	1.1	30	0.0	0.6	6	0.0	0.1
Nordic 2.5G	6014699	4.0	39914	4.2	6.6	2560	2.9	0.4	7700	4.9	1.3	1239	3.9	0.2
Western Europe 2.5G	1475082	1.0	9336	1.0	6.3	627	0.7	0.4	1328	0.8	0.9	269	0.8	0.2
Central and Eastern Europe 2.5G	490096	0.3	2846	0.3	5.8	229	0.3	0.5	451	0.3	0.9	84	0.3	0.2
Southern Europe 2.5G	733119	0.5	3907	0.4	5.3	374	0.4	0.5	774	0.5	1.1	131	0.4	0.2
Ex-Yugoslavia 2.5G	664648	0.4	3676	0.4	5.5	369	0.4	0.6	704	0.4	1.1	120	0.4	0.2
Poland 2.5G	658160	0.4	3731	0.4	5.7	315	0.4	0.5	604	0.4	0.9	103	0.3	0.2
Latin America 2.5G	729530	0.5	3622	0.4	5.0	337	0.4	0.5	820	0.5	1.1	107	0.3	0.1
Turkey 2.5G	189105	0.1	915	0.1	4.8	174	0.2	0.9	194	0.1	1.0	48	0.2	0.3
Iran 2.5G	237143	0.2	1348	0.1	5.7	97	0.1	0.4	178	0.1	0.8	21	0.1	0.1
Middle East and North Africa 2.5G	511886	0.3	2587	0.3	5.1	429	0.5	0.8	524	0.3	1.0	96	0.3	0.2
Sub-Saharan Africa 2.5G	334321	0.2	1542	0.2	4.6	156	0.2	0.5	361	0.2	1.1	40	0.1	0.1
East Asia 2.5G	162856	0.1	937	0.1	5.8	42	0.0	0.3	100	0.1	0.6	15	0.0	0.1
South-East Asia 2.5G	390398	0.3	2122	0.2	5.4	111	0.1	0.3	366	0.2	0.9	55	0.2	0.1
India 2.5G	83288	0.1	500	0.1	6.0	37	0.0	0.4	49	0.0	0.6	9	0.0	0.1

Afghanistan/Pakistan/Bangladesh 2.5G	49118	0.0	242	0.0	4.9	53	0.1	1.1	39	0.0	0.8	10	0.0	0.2
Other 2.5G	552320	0.4	3230	0.3	5.8	270	0.3	0.5	407	0.3	0.7	76	0.2	0.1
Sex														
Male	82714917	55.3	473406	49.5	5.7	36613	40.8	0.4	69653	44.4	0.8	13506	42.5	0.2
Female	66764668	44.7	483876	50.5	7.2	53106	59.2	0.8	87150	55.6	1.3	18284	57.5	0.3
Education														
Post-secondary 5 or more years	699907	0.5	11219	1.2	16.0	1990	2.2	2.8	1403	0.9	2.0	591	1.9	0.8
Post-secondary 3 to 4 years	12327729	8.2	135821	14.2	11.0	19076	21.3	1.5	18734	11.9	1.5	6359	20.0	0.5
Post-secondary less than 3 years	21698316	14.5	147004	15.4	6.8	12898	14.4	0.6	13607	8.7	0.6	3678	11.6	0.2
Secondary 3 years	75199602	50.3	499439	52.2	6.6	29975	33.4	0.4	69334	44.2	0.9	14328	45.1	0.2
Secondary less than 3 years	6529401	4.4	37909	4.0	5.8	5344	6.0	0.8	13031	8.3	2.0	1834	5.8	0.3
Pre-secondary 9 or less schooling years	29693365	19.9	115159	12.0	3.9	17269	19.2	0.6	37989	24.2	1.3	4669	14.7	0.2
Unknown information	3331265	2.2	10731	1.1	3.2	3167	3.5	1.0	2705	1.7	0.8	331	1.0	0.1
Earnings														
Not belonging to the below categories/unknown information	12310618	8.2	36902	3.9	3.0	6833	7.6	0.6	13119	8.4	1.1	1426	4.5	0.1
Very low income	3856425	2.6	16291	1.7	4.2	2235	2.5	0.6	9929	6.3	2.6	1263	4.0	0.3
Low income	22712362	15.2	146250	15.3	6.4	11303	12.6	0.5	26764	17.1	1.2	5250	16.5	0.2
Moderate income	18314549	12.3	165458	17.3	9.0	12460	13.9	0.7	31841	20.3	1.7	6389	20.1	0.3
High income	14190533	9.5	166794	17.4	11.8	13578	15.1	1.0	23525	15.0	1.7	5886	18.5	0.4
Very high income	10700058	7.2	160895	16.8	15.0	15095	16.8	1.4	20088	12.8	1.9	6743	21.2	0.6
Student	60811474	40.7	237080	24.8	3.9	23982	26.7	0.4	20396	13.0	0.3	3653	11.5	0.1
Unemployed, receiving unemployment benefit	6583566	4.4	27612	2.9	4.2	4233	4.7	0.6	11141	7.1	1.7	1180	3.7	0.2
Region of residence														
Metropolitan cities (Stockholm, Göteborg, and Malmö)	28607525	19.1	221830	23.2	7.8	26528	29.6	0.9	30510	19.5	1.1	4712	14.8	0.2

Commuter municipality near metropolitan cities	23685265	15.8	144026	15.0	6.1	12644	14.1	0.5	20680	13.2	0.9	5124	16.1	0.2
Large cities	42468301	28.4	249236	26.0	5.9	28128	31.4	0.7	45767	29.2	1.1	7411	23.3	0.2
Commuter municipalities near large or small cities	26871278	18.0	164974	17.2	6.1	11130	12.4	0.4	29636	18.9	1.1	7561	23.8	0.3
Small cities and towns	19118562	12.8	121504	12.7	6.4	8620	9.6	0.5	20993	13.4	1.1	4542	14.3	0.2
Rural municipalities	8724232	5.8	55712	5.8	6.4	2657	3.0	0.3	9212	5.9	1.1	2438	7.7	0.3
Birth cohort														
1979-1983	46026109	30.8	315530	33.0	6.9	37023	41.3	0.8	63047	40.2	1.4	13464	42.4	0.3
1984-1988	46081800	30.8	313127	32.7	6.8	32306	36.0	0.7	55044	35.1	1.2	11182	35.2	0.2
1989-1993	42267842	28.3	260664	27.2	6.2	17263	19.2	0.4	33421	21.3	0.8	6220	19.6	0.1
1994-1998	15103834	10.1	67961	7.1	4.5	3127	3.5	0.2	5291	3.4	0.4	924	2.9	0.1
Total	**149479585**	**100**	**957282**	**100**	**6.4**	**89719**	**100**	**0.6**	**156803**	**100**	**1.0**	**31790**	**100**	**0.2**

Figure 1. Hazard ratios of entry into first-time homeownership, marriage, and childbirth in a competing risks Cox Proportional Hazards models by immigrant generations (1.5G, 2G, 2.5G) and country-groups of origin (N=2,196,101 individuals).



Results are presented in terms of hazard ratios (HRs) with 95% confidence intervals (CIs). The baseline hazard is monthly time since age 18 and the model is adjusted for sex, education, earnings, region of residence, and birth cohort. The hazard ratios of entry into first-time (a) homeownership, (b) marriage and (c) childbirth are calculated within the same model with the reference category being native-Swedes who experience homeownership first before marriage or childbirth (red coloured bar; dotted horizontal dark blue line where HR=1; confidence intervals crossing this line represent statistical insignificance). Native-Swedes who experience marriage first before homeownership or childbirth are highlighted in a yellow bar (b) and native-Swedes who experience childbirth first before homeownership or marriage are highlighted in a light green bar (c). We also added a fourth category for individuals who experience more than one of the three events simultaneously within the same month; native-Swedes in this category are highlighted in a pink bar (d). The dotted vertical grey line separates between the generations of descendants of immigrants as 1.5G, 2G, and 2.5G.

7. Discussion and Conclusion

Using the large and comprehensive Swedish individual-level register data that covers the whole population of Sweden, this study investigated first-time entry to homeownership, marriage, and childbirth in a competing risks approach across the generations and countries of origin of descendants of immigrants in comparison to native-Swedes who enter first homeownership. The novelties were threefold. First, this study differentiated between the generations of descendants of immigrants: 1.5G (immigrants arriving in Sweden before the age of 18), 2G (Swedish-born with two foreign-born parents), and 2.5G (Swedish-born with one foreign-born and one Swedish-born parent). Second, we also differentiated between descendants of immigrants from different countries of origin, considering both high- and low- to middle-income countries and countries with similar socio-cultural factors to Sweden (e.g., Nordic and Western Europe) as well as countries with different socio-cultural factors. Third, this study contributed new insights by analysing three types of events related to family formation: homeownership, marriage, and childbirth, placing emphasis on the timing of which of those events is experienced first among the native-Swedes and across the generations of descendants of immigrants and countries of origin. This would also show whether heterogeneities still exist in the patterns of family formation across the descendants of immigrants compared to native-Swedes or whether gradual integration is to happen over time throughout the immigrant generations.

Our results highlight the importance of homeownership as a prerequisite to family formation (i.e., first-time marriage and childbirth) for the native-Swedes and for almost all immigrant generations and countries of origin, which is in line with hypothesis H3. This is because homeownership provides a sense of security, which is essential for family formation as discussed in the "Secure Investment Model" by Holland 2012 (Holland, 2012). Across all immigrant groups and native-Swedes, individuals are at a higher risk of moving first to homeownership, then they either move to childbirth followed by marriage, or they move to marriage followed by childbirth. The former is the case of native-Swedes, all 2.5G groups, and 1.5G and 2G groups from socio-culturally similar countries of origin (e.g., Nordic, Western Europe, Southern Europe, Poland, and Latin America). The latter is the case of 1.5G and 2G groups from socio-culturally distant countries of origin that are characterised with a conservative family formation pattern and are most prone to marriage such as Turkish, Central and Eastern Europe, Ex-Yugoslavian, Iran, Middle Eastern/North African, and South Asians as corroborated by relevant literature (Delaporte & Kulu, 2023; Kleinepier & de Valk, 2016;

Mikolai & Kulu, 2022; Zorlu & Mulder, 2011). Turkish 1.5G immigrants were also distinctive with a high risk of first entry to marriage rather than homeownership or childbirth.

In line with hypothesis H1, our results support gradual assimilation and integration. Although we find deviating patterns in the risk and time of entry to first-time homeownership, marriage, and childbirth across the 1.5G and 2G, the 2.5G shows very close patterns to that of native-Swedes. In line with hypothesis H2, most of the differences in the risk and time of entry to first-time homeownership, marriage, and childbirth are observed between the native-Swedes and descendants of immigrants from 1.5G and 2G with origins from geographically, socio-culturally, and socio-economically distant countries. For example, 1.5G individuals with origins from Nordic and Western Europe showed slightly faster entry to homeownership than native-Swedes and were characterised with similar rates of first entry to marriage and childbirth. In contrast, 1.5G and 2G with origins from Sub-Saharan African were the least group to enter first-time homeownership, confirming to the findings of other Swedish and Nordic countries studies (Kauppinen et al., 2015; Turner & Hedman, 2014). Immigrants of the 1.5G and 2G from socio-culturally conservative family formation backgrounds (e.g., Ex-Yugoslavia, Turkish, Middle East/North Africa, and South Asia) showed a higher risk of first entry to marriage than the native-Swedes. Literature from the Netherlands, UK, France, and Norway corroborate our findings (Delaporte & Kulu, 2023; Kleinepier & de Valk, 2016; Mikolai & Kulu, 2022; Wiik, 2022; Zorlu & Mulder, 2011). Additional sensitivity analysis also confirmed the more conservative family formation practices among individuals with origins from Turkey, and the Middle East/North Africa, whereby they had a higher risk of first entry to more than one event simultaneously within the same month, mostly for homeownership and marriage and marriage and childbirth (Appendix Figure 1). Finally, the risk of first entry to childbirth was similar across the 2.5G and 1.5G to that of native-Swedes with exception of 1.5G from Latin American and Sub-Saharan African showing higher risks, whereas the 2G showed the most deviating patterns from native-Swedes with Latin Americans having a higher risk of first entry to childbirth, while Turkish, Iranians, Middle-East/North African, Sub-Saharan Africans, East Asians, and South Asians showing a lower risk.

In summary, our results show the interconnection between homeownership and family events and the importance of owning a house for everyone before moving to family formation commitments such as marriage and childbirth. Our results also support a gradual assimilation in the risk of first entry to the three events of homeownership, marriage, and childbirth across the immigrant generations. However, patterns still varied by countries of origin, with exception

for descendants of immigrants with one foreign-born and one Swedish-born parent(s) supporting segmentation, which could be attributed to the socio-cultural, socioeconomic, and political-institutional heterogeneities across the countries of origin. Future research could expand on this topic by considering the possibility of linking administrative data to surveys that collect information on the socio-cultural and economic backgrounds of individuals with an immigration history to better understand the existing segmentation and potential integration in family formation life-course domains.

References

Abramsson, M., Borgegård, L.-E., & Fransson, U. (2002). Housing Careers: Immigrants in Local Swedish Housing Markets. *Housing Studies*, *17*(3), 445-464. https://doi.org/10.1080/02673030220134944

Ahlén, A., & Palme, J. (2020). Migrants' Access to Social Protection in Sweden. In J.-M. Lafleur & D. Vintila (Eds.), *Migration and Social Protection in Europe and Beyond (Volume 1): Comparing Access to Welfare Entitlements* (pp. 421-435). Springer International Publishing. https://doi.org/10.1007/978-3-030-51241-5_28

Andersen, H. S. (2016). Spatial assimilation? The development in immigrants' residential career with duration of stay in Denmark. *Journal of Housing and the Built Environment*, *31*(2), 297-320. http://www.jstor.org/stable/43907384

Andersson, G. (1998). Trends in Marriage Formation in Sweden 1971–1993. *European Journal of Population / Revue européenne de Démographie*, *14*(2), 157-178. https://doi.org/10.1023/A:1006003520829

Andersson, G. (1999). Childbearing Trends in Sweden 1961-1997. *European Journal of Population / Revue européenne de Démographie*, *15*(1), 1-24. http://www.jstor.org/stable/20164052

Andersson, G. (2004). Childbearing after Migration: Fertility Patterns of Foreign-Born Women in Sweden. *The International Migration Review*, *38*(2), 747-774. http://www.jstor.org/stable/27645396

Andersson, G., Obućina, O., & Scott, K. (2015). Marriage and divorce of immigrants and descendants of immigrants in Sweden. *Demographic Research*, *S18*(2), 31-64. https://doi.org/10.4054/DemRes.2015.33.2

Andersson, G., & Philipov, D. (2002). Life-table representations of family dynamics in Sweden, Hungary, and 14 other FFS countries: A project of descriptions of demographic behavior. *Demographic Research*, *7*(4), 67-144. https://doi.org/10.4054/DemRes.2002.7.4

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. https://doi.org/10.1080/0032472052000332683

Andersson, M., Larsson, J. P., & Öner, Ö. (2021). Ethnic enclaves and self-employment among Middle Eastern immigrants in Sweden: ethnic capital or enclave size? *Regional Studies*, *55*(4), 590-604. https://doi.org/10.1080/00343404.2020.1839638

Andersson, R., & Turner, L. M. (2014). Segregation, gentrification, and residualisation: from public housing to market-driven housing allocation in inner city Stockholm. *International Journal of Housing Policy*, *14*(1), 3-29. https://doi.org/10.1080/14616718.2013.872949

Antelius, J., & Björklund, A. (2000). How Reliable are Register Data for Studies of the Return on Schooling? An examination of Swedish data. *Scandinavian Journal of Educational Research*, *44*(4), 341-355. https://doi.org/10.1080/713696679

Ballarino, G., & Panichella, N. (2015). The Occupational Integration of Male Migrants in Western European Countries: Assimilation or Persistent Disadvantage? *International Migration*, *53*(2), 338-352. https://doi.org/https://doi.org/10.1111/imig.12105

Bayram, N., Nyquist, H., Thorburn, D., & Bilgel, N. (2009). Turkish Immigrants in Sweden: Are They Integrated? *The International Migration Review*, *43*(1), 90-111. http://www.jstor.org/stable/20681693

Bernhardt, E., & Hoem, B. (1985). Cohabitation and social background: Trends observed for Swedish women born between 1936 and 1960. *European Journal of Population / Revue européenne de Démographie*, *1*(4), 375-395. https://doi.org/10.1007/BF01797149

Bertocchi, G., Brunetti, M., & Zaiceva, A. (2022). The Financial Decisions of Immigrant and Native Households: Evidence from Italy. *Italian Economic Journal*. https://doi.org/10.1007/s40797-022-00186-3

Bevelander, P., Mata, F., & Pendakur, R. (2019). Housing Policy and Employment Outcomes for Refugees. *International Migration*, *57*(3), 134-154. https://doi.org/https://doi.org/10.1111/imig.12569

Billari, F. C., Liefbroer, A. C., & Philipov, D. (2006). The Postponement of Childbearing in Europe: Driving Forces and Implications. *Vienna Yearbook of Population Research*, *4*, 1-17. http://www.jstor.org/stable/23025475

Boehm, T. P., & Schlottmann, A. (2008). Wealth Accumulation and Homeownership: Evidence for Low-Income Households. *Cityscape*, *10*(2), 225-256. http://www.jstor.org/stable/20868659

Borjas, G. J. (2002). Homeownership in the immigrant population. *Journal of Urban Economics*, *52*(3), 448-476. https://doi.org/https://doi.org/10.1016/S0094-1190(02)00529-6

Bråmå, Å. (2006). 'White Flight'? The Production and Reproduction of Immigrant Concentration Areas in Swedish Cities, 1990-2000. *Urban Studies*, *43*(7), 1127-1146. https://doi.org/10.1080/00420980500406736

Bratti, M., & Tatsiramos, K. (2012). The effect of delaying motherhood on the second childbirth in Europe. *Journal of Population Economics*, *25*(1), 291-321. https://doi.org/10.1007/s00148-010-0341-9

Cherlin, A. J., Ribar, D., & Yasutake, S. (2016). Nonmarital First Births, Marriage, and Income Inequality. *Am Sociol Rev*, *81*(4), 749-770. https://doi.org/10.1177/0003122416653112

Chudnovskaya, M. (2019). Housing context and childbearing in Sweden: a cohort study. *Housing Studies*, *34*(3), 469-488. https://doi.org/10.1080/02673037.2018.1458288

Colom Andrés, M. C., & Molés Machí, M. C. (2021). Residential independence and homeownership of Spanish young adults: What is the effect of the growing educational attainment? *Journal of Housing and the Built Environment*, *36*(3), 901-923. https://doi.org/10.1007/s10901-020-09790-0

Delaporte, I., & Kulu, H. (2023). Interaction between childbearing and partnership trajectories among immigrants and their descendants in France: An application of multichannel sequence analysis. *Population Studies*, *77*(1), 55-70. https://doi.org/10.1080/00324728.2022.2049856

Engerstam, S., Warsame, A., & Wilhelmsson, M. (2022). Long-Term Dynamics of New Residential Supply: A Case Study of the Apartment Segment in Sweden. *Buildings*, *12*(7), 970. https://www.mdpi.com/2075-5309/12/7/970

Feijten, P., Mulder, C. H., & Baizán, P. (2003). Age differentiation in the effect of household situation on first-time homeownership. *Journal of Housing and the Built Environment*, *18*(3), 233-255. https://doi.org/10.1023/A:1025111119396

Feijten, P., & van Ham, M. (2010). The Impact of Splitting Up and Divorce on Housing Careers in the UK. *Housing Studies*, *25*(4), 483-507. https://doi.org/10.1080/02673031003711477

Filip, G., Kristina, A., Niklas, Z., & Korinna, K. (2020). Productivity losses among people with back pain and among population-based references: a register-based study in Sweden. *BMJ Open*, *10*(8), e036638. https://doi.org/10.1136/bmjopen-2019-036638

Gerdtham, U.-G., & Johannesson, M. (2005). Business cycles and mortality: results from Swedish microdata. *Social Science & Medicine*, *60*(1), 205-218. https://doi.org/https://doi.org/10.1016/j.socscimed.2004.05.004

Gobillon, L., & Solignac, M. (2020). Homeownership of immigrants in France: selection effects related to international migration flows. *Journal of Economic Geography*, *20*(2), 355-396. https://doi.org/10.1093/jeg/lbz014

GovernmentofSweden. (2021). *Free rental allowance for new production: Report of the Investigation on free rent adjustment for new construction*. https://www.regeringen.se/rattsliga-dokument/statens-offentliga-utredningar/2021/06/sou-202150/

Granath Hansson, A., Ekbäck, P., & Paulsson, J. (2021). The Sliding Scale between Usufruct and Ownership: The Example of Swedish Multi-Family Housing. *Land*, *10*(3). https://doi.org/10.3390/land10030311

Haandrikman, K., Costa, R., Malmberg, B., Rogne, A. F., & Sleutjes, B. (2021). Socio-economic segregation in European cities. A comparative study of Brussels, Copenhagen, Amsterdam, Oslo and Stockholm. *Urban Geography*, 1-36. https://doi.org/10.1080/02723638.2021.1959778

Halliday, D. (2018). 122Inheritance and the Intergenerational Replication of Inequality. In D. Halliday (Ed.), *Inheritance of Wealth: Justice, Equality, and the Right to Bequeath* (pp. 0). Oxford University Press. https://doi.org/10.1093/oso/9780198803355.003.0006

Helderman, A., & Mulder, C. (2007). Intergenerational Transmission of Homeownership: The Roles of Gifts and Continuities in Housing Market Characteristics. *Urban Studies*, *44*(2), 231-247. https://doi.org/10.1080/00420980601075018

Herbers, D. J., Mulder, C. H., & Mòdenes, J. A. (2014). Moving Out of Home Ownership in Later Life: The Influence of the Family and Housing Careers. *Housing Studies*, *29*(7), 910-936. https://doi.org/10.1080/02673037.2014.923090

Hoem, J. M. (1991). To Marry, Just in Case ...: the Swedish Widow's-Pension Reform and the Peak in Marriages in December 1989. *Acta Sociologica*, *34*(2), 127-135. https://doi.org/10.1177/000169939103400205

Holland, J. A. (2012). Home and Where the Heart Is: Marriage Timing and Joint Home Purchase. *Eur J Popul*, *28*(1), 65-89. https://doi.org/10.1007/s10680-011-9242-1

Kauppinen, T. M., Andersen, H. S., & Hedman, L. (2015). DETERMINANTS OF IMMIGRANTS' ENTRY TO HOMEOWNERSHIP IN THREE NORDIC CAPITAL CITY REGIONS. *Geografiska Annaler. Series B, Human Geography*, *97*(4), 343-362. http://www.jstor.org/stable/43966318

Kleinepier, T., & de Valk, H. (2016). Ethnic differences in family trajectories of young adult women in the Netherlands: Timing and sequencing of events. *Demographic Research*, *35*(24), 671-710. https://doi.org/10.4054/DemRes.2016.35.24

Kulu, H., Milewski, N., Hannemann, T., & Mikolai, J. (2019). A decade of life-course research on fertility of immigrants and their descendants in Europe. *Demographic Research*, *40*, 1345-1374. https://www.jstor.org/stable/26727035

Kulu, H., & Vikat, A. (2007). Fertility differences by housing type: The effect of housing conditions or of selective moves? *Demographic Research*, *17*, 775-802. http://www.jstor.org/stable/26347971

Kunz, P. R. (1968). Immigrants and Socialisation: A New Look. *The Sociological Review*, *16*(3), 363-375. https://doi.org/10.1111/j.1467-954X.1968.tb01303.x

Lersch, P. M., & Dewilde, C. (2015). Employment Insecurity and First-Time Homeownership: Evidence from Twenty-Two European Countries. *Environment and Planning A: Economy and Space*, *47*(3), 607-624. https://doi.org/10.1068/a130358p

Lindgren, U., Nilsson, K., de Luna, X., & Ivarsson, A. (2016). Data Resource Profile: Swedish Microdata Research from Childhood into Lifelong Health and Welfare (Umeå SIMSAM Lab). *International Journal of Epidemiology*, *45*(4), 1075-1075g. https://doi.org/10.1093/ije/dyv358

Magnusson, L., & Özüekren, A. S. (2002). The Housing Careers of Turkish Households in Middle-sized Swedish Municipalities. *Housing Studies*, *17*(3), 465-486. https://doi.org/10.1080/02673030220134953

Magnusson, L., & Turner, B. (2008). Municipal Housing Companies in Sweden – Social by Default. *Housing, Theory and Society*, *25*(4), 275-296. https://doi.org/10.1080/14036090701657397

Malmberg, B., Andersson, E. K., Nielsen, M. M., & Haandrikman, K. (2018). Residential Segregation of European and Non-European Migrants in Sweden: 1990–2012. *European Journal of Population*, *34*(2), 169-193. https://doi.org/10.1007/s10680-018-9478-0

McKee, K. (2012). Young People, Homeownership and Future Welfare. *Housing Studies*, *27*(6), 853-862. https://doi.org/10.1080/02673037.2012.714463

McKinney, C., & Renk, K. (2007). Differential Parenting Between Mothers and Fathers: Implications for Late Adolescents. *Journal of Family Issues*, *29*(6), 806-827. https://doi.org/10.1177/0192513X07311222

Mikolai, J., & Kulu, H. (2022). Partnership and fertility trajectories of immigrants and descendants in the United Kingdom: A multilevel multistate event history approach. *Population Studies*, 1-20. https://doi.org/10.1080/00324728.2022.2144639

Mikolai, J., Mulder, C. H., & Kulu, H. (2020). Family life transitions, residential relocations, and housing in the life course: Current research and opportunities for future work: Introduction to the Special Collection on "Separation, Divorce, and Residential Mobility in a Comparative Perspective". *Demographic Research*, *S27*(2), 35-58. https://www.demographic-research.org/special/27/2/

https://www.demographic-research.org/special/27/2/s27-2.pdf

Milewski, N. (2007). First child of immigrant workers and their descendants in West Germany Interrelation of events, disruption, or adaptation? *Demographic Research*, *17*, 859-896. https://www.jstor.org/stable/26347974

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. https://doi.org/https://doi.org/10.1016/j.alcr.2011.09.002

Mulder, C. H., & Wagner, M. (1993). Migration and Marriage in the Life Course: A Method for Studying Synchronized Events. *European Journal of Population / Revue européenne de Démographie*, *9*(1), 55-76. http://www.jstor.org.ezproxy.st-andrews.ac.uk/stable/20164646

Mulder, C. H., & Wagner, M. (2001). The Connections between Family Formation and First-time Home Ownership in the Context of West Germany and the Netherlands. *European Journal of Population*, *17*, 137-164. https://doi.org/http://www.jstor.org/stable/20164140

Musterd, S., & Andersson, R. (2005). Housing Mix, Social Mix, and Social Opportunities. *Urban Affairs Review*, *40*(6), 761-790. https://doi.org/10.1177/1078087405276006

Myrvold, K. (2012). *Swedish Case Study Indian Migration and Population in Sweden*. https://cadmus.eui.eu/bitstream/handle/1814/23484/CARIMIndia-RR-2012-06.pdf?sequence=1&isAllowed=y

Nishikitani, M., Inoue, M., & Tsurugano, S. (2018). [Nonregular Employment in a Society with a Decreasing Birthrate: Workers' Marriage, Childbirth, and Childcare]. *Nihon eiseigaku zasshi. Japanese journal of hygiene*, *73*(2), 215-224. https://doi.org/10.1265/jjh.73.215

Nygaard, C. (2011). International Migration, Housing Demand and Access to Homeownership in the UK. *Urban Studies*, *48*(11), 2211-2229. https://doi.org/10.1177/0042098010388952

Ohlsson-Wijk, S. (2011). Sweden's marriage revival: An analysis of the new-millennium switch from long-term decline to increasing popularity. *Population Studies*, *65*(2), 183-200. https://doi.org/10.1080/00324728.2011.574724

Ohlsson-Wijk, S. (2014). Digit preferences in marriage formation in Sweden: Millennium marriages and birthday peaks. *Demographic Research*, *30*(25), 739-752. https://doi.org/10.4054/DemRes.2014.30.25

Oikarinen, E., Peltola, R., & Valtonen, E. (2015). Regional variation in the elasticity of supply of housing, and its determinants: The case of a small sparsely populated country. *Regional Science and Urban Economics*, *50*, 18-30. https://doi.org/https://doi.org/10.1016/j.regsciurbeco.2014.10.004

Persson, L., & Hoem, J. M. (2014). Immigrant fertility in Sweden, 2000-2011: A descriptive note. *Demographic Research*, *30*(30), 887-898. https://doi.org/10.4054/DemRes.2014.30.30

Ryabov, I. (2020). Intergenerational transmission of socio-economic status: The role of neighborhood effects. *J Adolesc*, *80*, 84-97. https://doi.org/10.1016/j.adolescence.2020.02.007

SCB. (2021). *More and more people were granted citizenship*. https://www.scb.se/hitta-statistik/statistik-efter-amne/befolkning/befolkningens-sammansattning/befolkningsstatistik/pong/statistiknyhet/befolkningsstatistik-helaret-20202/

SCB. (2023). *Children per woman by country of birth 1970–2022 and projection 2023–2070*. Statistics Sweden Retrieved from https://www.scb.se/en/finding-statistics/statistics-by-subject-area/population/population-projections/population-projections/pong/tables-and-graphs/children-per-woman-by-country-of-birth-19702022-and-projection-20232070/#:~:text=In%201999%2C%20Sweden%20had%20the,observed%2C%201.52%20children%20per%20woman.

Schoppe-Sullivan, S. J., Kotila, L., Jia, R., Lang, S. N., & Bower, D. J. (2013). Comparisons of levels and predictors of mothers' and fathers' engagement with their preschool aged children. *Early Child Dev Care*, *183*(3-4), 498-514. https://doi.org/10.1080/03004430.2012.711596

Scott, K., & Stanfors, M. (2010). Second Generation Mothers - Do the children of immigrants adjust their fertility to host country norms? In T. Salzmann, B. Edmonston, & J. Raymer (Eds.), *Demographic Aspects of Migration* (pp. 123-152). VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-92563-9_5

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. https://doi.org/https://doi.org/10.1016/j.alcr.2011.09.003

Singley, S. G., & Landale, N. S. (1998). Incorporating Origin and Process in Migration-Fertility Frameworks: The Case of Puerto Rican Women*. *Social Forces*, *76*(4), 1437-1464. https://doi.org/10.1093/sf/76.4.1437

Sinning, M. (2010). Homeownership and economic performance of immigrants in Germany. *Urban Studies*, *47*(2), 387-409. https://doi.org/https://doi.org/10.1177/0042098009349021

Skifter Andersen, H., Andersson, R., Wessel, T., & Vilkama, K. (2016). The impact of housing policies and housing markets on ethnic spatial segregation: comparing the capital cities of four Nordic welfare states. *International Journal of Housing Policy*, *16*(1), 1-30. https://doi.org/10.1080/14616718.2015.1110375

SKR. (2022). *Kommungruppsindelning Sveriges Kommuner och Regioners kommungruppsindelning 2023* (978-91-8047-098-8). https://skr.se/download/18.ef4ba7d1849a2f55db2898a/1669978414789/Kommungruppsindelning-2023.pdf

Smits, A., & Mulder, C. H. (2008). Family Dynamics and First-Time Homeownership. *Housing Studies*, *23*(6), 917-933. https://doi.org/10.1080/02673030802416601

Statistics-Sweden. (2023a). *Konsumentprisindex (KPI) fastställda årsmedeltal, totalt, 1980=100. År 1980 - 2022* https://www.statistikdatabasen.scb.se/pxweb/sv/ssd/START__PR__PR0101__PR0101A/KPIFastAmed/

Statistics-Sweden. (2023b). *Longitudinell integrationsdatabas för sjukförsäkrings- och arbetsmarknadsstudier (LISA)*. https://www.scb.se/lisa

Statistics-Sweden. (2023c). *Microdata Online Access (MONA)*. https://www.scb.se/en/services/guidance-for-researchers-and-universities/mona--statistics-swedens-platform-for-access-to-microdata/about-mona/

Ström, S. (2010). Housing and First Births in Sweden, 1972–2005. *Housing Studies*, *25*(4), 509-526. https://doi.org/10.1080/02673031003711519

Sundström, M., & Stafford, F. P. (1992). Female labour force participation, fertility and public policy in Sweden. *European Journal of Population / Revue européenne de Démographie*, *8*(3), 199-215. https://doi.org/10.1007/BF01797210

Tammaru, T., Marcińczak, S., Van Ham, M., & Musterd, S. (2014). *Socio-economic segregation in European capital cities*. Routledge Abingdon. https://www.routledge.com/Socio-Economic-Segregation-in-European-Capital-Cities-East-meets-West/Tammaru-Marcinczak-Ham-Musterd/p/book/9780367870201

Turner, L. M., & Hedman, L. (2014). Linking Integration and Housing Career: A Longitudinal Analysis of Immigrant Groups in Sweden. *Housing Studies*, *29*(2), 270-290. https://doi.org/10.1080/02673037.2014.851177

Turner, T. M., & Smith, M. T. (2009). EXITS FROM HOMEOWNERSHIP: THE EFFECTS OF RACE, ETHNICITY, AND INCOME*. *Journal of Regional Science*, *49*(1), 1-32. https://doi.org/https://doi.org/10.1111/j.1467-9787.2008.00589.x

van Wijk, D. C., de Valk, H. A. G., & Liefbroer, A. C. (2021). Temporary Employment and Family Formation: An Income or Insecurity Effect? *European Sociological Review*, *37*(4), 641-658. https://doi.org/10.1093/esr/jcab007

Vignoli, D., Rinesi, F., & Mussino, E. (2013). A Home to Plan the First Child? Fertility Intentions and Housing Conditions in Italy. *Population, Space and Place*, *19*(1), 60-71. https://doi.org/https://doi.org/10.1002/psp.1716

Vinke, K., Bergmann, J., Blocher, J., Upadhyay, H., & Hoffmann, R. (2020). Migration as Adaptation? *Migration Studies*, *8*(4), 626-634. https://doi.org/10.1093/migration/mnaa029

Wallace, M., Wilson, B., & Darlington-Pollock, F. (2022). Social inequalities experienced by children of immigrants across multiple domains of life: a case study of the Windrush in England and Wales. *Comparative Migration Studies*, *10*(1), 18. https://doi.org/10.1186/s40878-022-00293-1

Wiik, K. A. (2022). First union formation among the children of immigrants: A population-wide study in Norway. *Advances in Life Course Research*, *52*, 100480. https://doi.org/https://doi.org/10.1016/j.alcr.2022.100480

Zorlu, A., & Mulder, C. H. (2011). Ethnic differences in leaving home: timing and pathways. *Demography*, *48*(1), 49-72. https://doi.org/10.1007/s13524-010-0012-1

Appendix

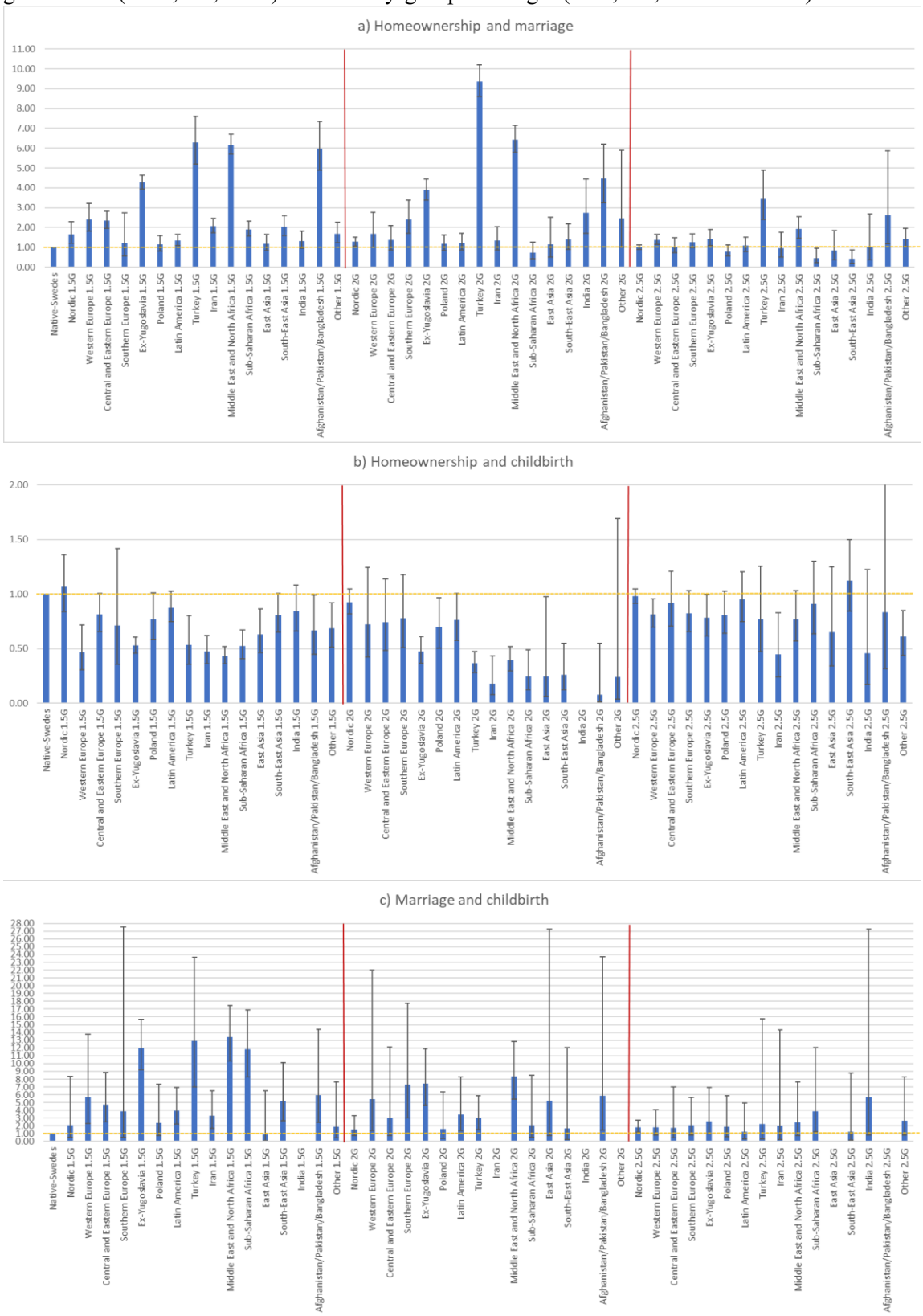
Table 1. Definition of immigrant groups according to the country of origin

Immigrant groups	Countries of origin
Nordic	Finland, Denmark, Iceland, and Norway
Western Europe	UK, Ireland, Germany, Austria, Switzerland, Liechtenstein, Netherlands, France, Belgium, Luxemburg, Monaco
Central and Eastern Europe	Latvia, Lithuania, Russia, Ukraine, Moldova, Belarus, Bulgaria, Romania, Czech Republic, Slovakia, Hungary, Armenia, Azerbaijan, Kazakhstan, Georgia, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Estonia
Southern Europe	Portugal, Spain, Greece, Cyprus, Italy, Malta, San Marino, Vatican, Andorra, Gibraltar
Ex-Yugoslavia	Yugoslavia, Croatia, Macedonia, Montenegro, Serbia, Slovenia, Bosnia, and Herzegovina
Poland	Poland
Latin America	Mexico, Guatemala, Honduras, Nicaragua, El Salvador, Costa Rica, Panama, Belize, Caribbean, Chile, Argentina, Bolivia, Brazil, Columbia, Ecuador, Guyana, Paraguay, Peru, Surinam, Uruguay, Venezuela, Brazil
Turkey	Turkey
Iran	Iran
Middle East and Northern Africa	Egypt, Algeria, Morocco, Libya, Tunisia, Palestine, Lebanon, Syria, Iraq, and other middle east (UAE, Bahrain, Yemen, Jordan, Kuwait, Oman, Palestine, Qatar, Saudi Arabia, Gaza, West Bank)
Sub-Saharan Africa	Somalia, Djibouti, Eritrea, Ethiopia, Nigeria, Kenya, Ghana, Uganda, Zambia, Tanzania, and rest of Africa except for the north and the horn
East Asia	China, Hong Kong, Japan, Korea, Singapore, Taiwan, Korea
South-East Asia	Brunei, Burma, Cambodia, Timor-Leste, Indonesia, Laos, Malaysia, Pacific Islands, Philippines, Vietnam, Thailand
India	India
Afghanistan, Pakistan, Bangladesh	Afghanistan, Pakistan, and Bangladesh

Table 2. Definition of the municipalities' classification into six regions of residence

Region name	Definition
Metropolitan cities (Stockholm, Göteborg, and Malmö)	Municipalities with at least 200,000 inhabitants, of which at least 200,000 inhabitants in the largest urban area
Commuter municipality near metropolitan cities	Municipalities that have a commuting rate of over 40 percent to a large city or municipality close to a large city
Large cities	Municipalities with more than 50,000 inhabitants and which have at least 40,000 and fewer than 200,000 inhabitants in the largest urban area belong to the Larger city group
Commuter municipalities near large or small cities	Municipalities that have a commute of more than or equal to 25 percent of the employed night population; It also includes municipalities that has its main commute to a different location than one of the larger ones cities or municipalities close to large cities, and municipalities that have a commute from another municipality that exceeds 30 percent of the daytime population
Small cities and towns	Municipalities where the largest urban area has at least 15,000 and less than 40,000 inhabitants
Rural municipalities	Rural municipalities with a large distance to a larger city and with a low commute. Number of inhabitants in the largest rural area is less than 15,000. It also includes rural municipalities that have a significant tourism industry in relation to the number of inhabitants.

Figure 1. Hazard ratios of simultaneous entry within the same month to first-time (a) homeownership and marriage, (b) homeownership and childbirth, and (c) marriage and childbirth by immigrant generations (1.5G, 2G, 2.5G) and country-groups of origin (N=2,196,101 individuals).



Results are presented in terms of hazard ratios (HRs) with 95% confidence intervals (CIs). The baseline hazard is monthly time since age 18 and the models are adjusted for sex, education, earnings, region of residence, and birth cohort. The dotted horizontal yellow line where HR=1 indicates statistical significance in comparison to native-Swedes. The vertical red line separates between the generations of descendants of immigrants as 1.5G, 2G, and 2.5G.

Table 3. Hazard ratios of first entry to homeownership in a competing risks Cox Proportional Hazards models by immigrant generations (1.5G, 2G, 2.5G) and country-groups of origin, socioeconomic, and region of residence variables (N=2,196,101 individuals).

	HR	**95% Lower CI**	**95% Higher CI**	**P-value**
Immigrant groups (Reference: Native-Swedes)	1.00			
Nordic 1.5G	1.23	1.19	1.27	0.000
Western Europe 1.5G	1.14	1.10	1.18	0.000
Central and Eastern Europe 1.5G	0.76	0.74	0.78	0.000
Southern Europe 1.5G	0.90	0.83	0.98	0.013
Ex-Yugoslavia 1.5G	0.57	0.56	0.58	0.000
Poland 1.5G	0.71	0.68	0.74	0.000
Latin America 1.5G	0.78	0.77	0.80	0.000
Turkey 1.5G	0.55	0.52	0.59	0.000
Iran 1.5G	0.84	0.82	0.87	0.000
Middle East and North Africa 1.5G	0.62	0.61	0.64	0.000
Sub-Saharan Africa 1.5G	0.51	0.49	0.52	0.000
East Asia 1.5G	0.97	0.93	1.01	0.095
South-East Asia 1.5G	0.91	0.88	0.94	0.000
India 1.5G	0.91	0.88	0.95	0.000
Afghanistan/Pakistan/Bangladesh 1.5G	0.94	0.91	0.98	0.002
Other 1.5G	1.06	1.02	1.10	0.003
Nordic 2G	0.90	0.88	0.91	0.000
Western Europe 2G	0.75	0.70	0.81	0.000
Central and Eastern Europe 2G	0.76	0.72	0.79	0.000
Southern Europe 2G	0.55	0.52	0.59	0.000
Ex-Yugoslavia 2G	0.60	0.58	0.61	0.000
Poland 2G	0.67	0.65	0.70	0.000
Latin America 2G	0.53	0.50	0.55	0.000
Turkey 2G	0.50	0.48	0.51	0.000
Iran 2G	0.88	0.84	0.91	0.000
Middle East and North Africa 2G	0.55	0.54	0.57	0.000
Sub-Saharan Africa 2G	0.32	0.30	0.35	0.000
East Asia 2G	0.78	0.72	0.85	0.000
South-East Asia 2G	0.68	0.64	0.72	0.000
India 2G	0.52	0.47	0.58	0.000
Afghanistan/Pakistan/Bangladesh 2G	0.37	0.33	0.40	0.000
Other 2G	0.75	0.65	0.85	0.000
Nordic 2.5G	1.00	0.99	1.01	0.650
Western Europe 2.5G	0.95	0.93	0.97	0.000
Central and Eastern Europe 2.5G	0.88	0.85	0.91	0.000
Southern Europe 2.5G	0.78	0.75	0.80	0.000
Ex-Yugoslavia 2.5G	0.82	0.80	0.85	0.000
Poland 2.5G	0.83	0.81	0.86	0.000
Latin America 2.5G	0.78	0.76	0.81	0.000
Turkey 2.5G	0.74	0.69	0.79	0.000
Iran 2.5G	0.92	0.87	0.97	0.001
Middle East and North Africa 2.5G	0.78	0.75	0.81	0.000

Sub-Saharan Africa 2.5G	0.72	0.69	0.76	0.000
East Asia 2.5G	0.93	0.87	0.99	0.027
South-East Asia 2.5G	0.87	0.83	0.91	0.000
India 2.5G	0.97	0.88	1.05	0.435
Afghanistan/Pakistan/Bangladesh 2.5G	0.79	0.69	0.89	0.000
Other 2.5G	0.94	0.91	0.97	0.000
Sex (Reference: Male)	1.00			
Female	1.42	1.42	1.43	0.000
Education (Reference: Secondary 3 years)	1.00			
Post-secondary 5 or more years	1.30	1.28	1.33	0.000
Post-secondary 3 to 4 years	1.20	1.19	1.21	0.000
Post-secondary less than 3 years	1.06	1.05	1.07	0.000
Secondary less than 3 years	0.95	0.94	0.96	0.000
Pre-secondary 9 or less schooling years	1.07	1.06	1.08	0.000
Unknown information	1.10	1.08	1.12	0.000
Earnings (Reference: Moderate income)	1.00			
Not belonging to the below categories/unknown information	0.37	0.36	0.37	0.000
Very low income	0.51	0.50	0.52	0.000
Low income	0.76	0.75	0.76	0.000
High income	1.30	1.29	1.31	0.000
Very high income	1.75	1.73	1.76	0.000
Student	0.55	0.54	0.55	0.000
Unemployed, receiving unemployment benefit	0.52	0.51	0.52	0.000
Region (Reference: Large cities)	1.00			
Metropolitan cities (Stockholm, Göteborg, and Malmö)	1.26	1.25	1.27	0.000
Commuter municipality near metropolitan cities	1.10	1.10	1.11	0.000
Commuter municipalities near large or small cities	1.11	1.10	1.12	0.000
Small cities and towns	1.10	1.09	1.10	0.000
Rural municipalities	1.13	1.11	1.14	0.000
Birth cohort (Reference: 1984-1988)	1.00			
1979-1983	1.02	1.01	1.02	0.000
1989-1993	1.00	0.99	1.00	0.152
1994-1998	1.01	1.00	1.02	0.004

Table 4. Hazard ratios of first entry to marriage in a competing risks Cox Proportional Hazards models by immigrant generations (1.5G, 2G, 2.5G) and country-groups of origin, socioeconomic, and region of residence variables (N=2,196,101 individuals).

	HR	**95% Lower CI**	**95% Higher CI**	**P-value**
Immigrant groups (Reference: Native-Swedes)	1.00			
Nordic 1.5G	1.78	1.59	2.00	0.000
Western Europe 1.5G	2.44	2.21	2.70	0.000
Central and Eastern Europe 1.5G	3.59	3.40	3.79	0.000
Southern Europe 1.5G	2.40	1.97	2.91	0.000
Ex-Yugoslavia 1.5G	6.47	6.31	6.64	0.000
Poland 1.5G	2.20	2.01	2.41	0.000
Latin America 1.5G	1.99	1.88	2.12	0.000
Turkey 1.5G	9.25	8.75	9.77	0.000
Iran 1.5G	2.84	2.70	3.00	0.000
Middle East and North Africa 1.5G	9.22	9.01	9.44	0.000
Sub-Saharan Africa 1.5G	7.44	7.18	7.70	0.000
East Asia 1.5G	1.42	1.27	1.60	0.000
South-East Asia 1.5G	2.73	2.54	2.94	0.000
India 1.5G	1.37	1.22	1.55	0.000
Afghanistan/Pakistan/Bangladesh 1.5G	10.57	10.03	11.15	0.000
Other 1.5G	1.92	1.73	2.13	0.000
Nordic 2G	1.46	1.38	1.55	0.000
Western Europe 2G	1.12	0.90	1.41	0.314
Central and Eastern Europe 2G	1.71	1.48	1.97	0.000
Southern Europe 2G	1.45	1.25	1.69	0.000
Ex-Yugoslavia 2G	3.17	3.00	3.35	0.000
Poland 2G	1.49	1.34	1.66	0.000
Latin America 2G	1.90	1.72	2.09	0.000
Turkey 2G	5.58	5.37	5.80	0.000
Iran 2G	1.40	1.21	1.63	0.000
Middle East and North Africa 2G	5.70	5.47	5.94	0.000
Sub-Saharan Africa 2G	2.26	2.02	2.52	0.000
East Asia 2G	1.01	0.73	1.39	0.957
South-East Asia 2G	1.70	1.47	1.97	0.000
India 2G	2.90	2.44	3.46	0.000
Afghanistan/Pakistan/Bangladesh 2G	4.93	4.40	5.53	0.000
Other 2G	3.52	2.70	4.57	0.000
Nordic 2.5G	1.09	1.05	1.13	0.000
Western Europe 2.5G	1.05	0.97	1.13	0.238
Central and Eastern Europe 2.5G	1.10	0.97	1.26	0.135
Southern Europe 2.5G	1.17	1.06	1.30	0.002
Ex-Yugoslavia 2.5G	1.43	1.29	1.59	0.000
Poland 2.5G	1.09	0.98	1.22	0.127
Latin America 2.5G	1.29	1.16	1.43	0.000
Turkey 2.5G	2.46	2.12	2.86	0.000
Iran 2.5G	1.16	0.95	1.42	0.145
Middle East and North Africa 2.5G	2.15	1.95	2.36	0.000

Sub-Saharan Africa 2.5G	1.25	1.07	1.47	0.005
East Asia 2.5G	0.79	0.58	1.07	0.121
South-East Asia 2.5G	0.86	0.72	1.04	0.126
India 2.5G	1.23	0.89	1.70	0.206
Afghanistan/Pakistan/Bangladesh 2.5G	2.93	2.24	3.84	0.000
Other 2.5G	1.35	1.19	1.52	0.000
Sex (Reference: Male)	1.00			
Female	2.11	2.08	2.14	0.000
Education (Reference: Secondary 3 years)	1.00			
Post-secondary 5 or more years	1.95	1.86	2.05	0.000
Post-secondary 3 to 4 years	1.56	1.53	1.59	0.000
Post-secondary less than 3 years	1.11	1.08	1.13	0.000
Secondary less than 3 years	1.30	1.26	1.34	0.000
Pre-secondary 9 or less schooling years	1.63	1.60	1.67	0.000
Unknown information	1.90	1.82	1.98	0.000
Earnings (Reference: Moderate income)	1.00			
Not belonging to the below categories/unknown information	0.55	0.53	0.57	0.000
Very low income	0.89	0.85	0.93	0.000
Low income	0.83	0.81	0.85	0.000
High income	1.15	1.13	1.18	0.000
Very high income	1.36	1.32	1.39	0.000
Student	0.68	0.66	0.70	0.000
Unemployed, receiving unemployment benefit	0.89	0.86	0.92	0.000
Region (Reference: Large cities)	1.00			
Metropolitan cities (Stockholm, Göteborg, and Malmö)	1.02	1.01	1.04	0.011
Commuter municipality near metropolitan cities	0.84	0.82	0.86	0.000
Commuter municipalities near large or small cities	0.89	0.87	0.91	0.000
Small cities and towns	0.89	0.87	0.92	0.000
Rural municipalities	0.72	0.69	0.75	0.000
Birth cohort (Reference: 1984-1988)	1.00			
1979-1983	1.14	1.12	1.15	0.000
1989-1993	0.78	0.76	0.79	0.000
1994-1998	0.47	0.45	0.49	0.000

Table 5. Hazard ratios of first entry to childbirth in a competing risks Cox Proportional Hazards models by immigrant generations (1.5G, 2G, 2.5G) and country-groups of origin, socioeconomic, and region of residence variables (N=2,196,101 individuals).

	HR	**95% Lower CI**	**95% Higher CI**	**P-value**
Immigrant groups (Reference: Native-Swedes)	1.00			
Nordic 1.5G	1.28	1.18	1.38	0.000
Western Europe 1.5G	0.87	0.78	0.97	0.013
Central and Eastern Europe 1.5G	1.08	1.01	1.15	0.019
Southern Europe 1.5G	1.04	0.87	1.25	0.666
Ex-Yugoslavia 1.5G	1.32	1.28	1.36	0.000
Poland 1.5G	1.07	0.99	1.16	0.090
Latin America 1.5G	1.51	1.45	1.57	0.000
Turkey 1.5G	0.92	0.83	1.02	0.121
Iran 1.5G	0.51	0.47	0.56	0.000
Middle East and North Africa 1.5G	1.05	1.01	1.09	0.007
Sub-Saharan Africa 1.5G	1.82	1.75	1.89	0.000
East Asia 1.5G	0.58	0.52	0.66	0.000
South-East Asia 1.5G	1.33	1.26	1.41	0.000
India 1.5G	0.78	0.71	0.86	0.000
Afghanistan/Pakistan/Bangladesh 1.5G	1.36	1.25	1.49	0.000
Other 1.5G	0.80	0.72	0.88	0.000
Nordic 2G	1.19	1.15	1.24	0.000
Western Europe 2G	0.86	0.72	1.02	0.080
Central and Eastern Europe 2G	0.98	0.87	1.11	0.793
Southern Europe 2G	0.70	0.61	0.80	0.000
Ex-Yugoslavia 2G	0.87	0.82	0.93	0.000
Poland 2G	0.93	0.85	1.02	0.142
Latin America 2G	1.58	1.48	1.68	0.000
Turkey 2G	0.49	0.46	0.53	0.000
Iran 2G	0.32	0.26	0.40	0.000
Middle East and North Africa 2G	0.68	0.64	0.73	0.000
Sub-Saharan Africa 2G	0.59	0.52	0.68	0.000
East Asia 2G	0.22	0.13	0.36	0.000
South-East Asia 2G	0.52	0.43	0.62	0.000
India 2G	0.21	0.13	0.33	0.000
Afghanistan/Pakistan/Bangladesh 2G	0.52	0.41	0.67	0.000
Other 2G	0.75	0.52	1.07	0.114
Nordic 2.5G	1.15	1.13	1.18	0.000
Western Europe 2.5G	0.91	0.86	0.96	0.000
Central and Eastern Europe 2.5G	0.93	0.85	1.03	0.152
Southern Europe 2.5G	0.94	0.87	1.00	0.064
Ex-Yugoslavia 2.5G	0.98	0.91	1.06	0.600
Poland 2.5G	0.87	0.81	0.95	0.001
Latin America 2.5G	1.19	1.11	1.27	0.000
Turkey 2.5G	0.98	0.85	1.13	0.774
Iran 2.5G	0.83	0.72	0.97	0.016
Middle East and North Africa 2.5G	0.96	0.88	1.05	0.384

Sub-Saharan Africa 2.5G	1.12	1.01	1.24	0.038
East Asia 2.5G	0.82	0.68	1.00	0.053
South-East Asia 2.5G	1.00	0.91	1.11	0.950
India 2.5G	0.66	0.50	0.88	0.004
Afghanistan/Pakistan/Bangladesh 2.5G	0.87	0.63	1.19	0.374
Other 2.5G	0.84	0.76	0.92	0.000
Sex (Reference: Male)	1.00			
Female	2.06	2.04	2.08	0.000
Education (Reference: Secondary 3 years)	1.00			
Post-secondary 5 or more years	0.72	0.68	0.76	0.000
Post-secondary 3 to 4 years	0.74	0.73	0.75	0.000
Post-secondary less than 3 years	0.61	0.60	0.62	0.000
Secondary less than 3 years	1.66	1.63	1.69	0.000
Pre-secondary 9 or less schooling years	2.55	2.51	2.58	0.000
Unknown information	1.31	1.26	1.37	0.000
Earnings (Reference: Moderate income)	1.00			
Not belonging to the below categories/unknown information	0.44	0.43	0.45	0.000
Very low income	1.67	1.63	1.71	0.000
Low income	0.87	0.85	0.88	0.000
High income	0.83	0.81	0.84	0.000
Very high income	0.90	0.88	0.92	0.000
Student	0.34	0.33	0.34	0.000
Unemployed, receiving unemployment benefit	0.88	0.86	0.90	0.000
Region (Reference: Large cities)	1.00			
Metropolitan cities (Stockholm, Göteborg, and Malmö)	0.81	0.80	0.82	0.000
Commuter municipality near metropolitan cities	0.80	0.79	0.81	0.000
Commuter municipalities near large or small cities	1.05	1.03	1.07	0.000
Small cities and towns	1.02	1.00	1.04	0.019
Rural municipalities	0.98	0.95	1.00	0.032
Birth cohort (Reference: 1984-1988)	1.00			
1979-1983	1.01	1.00	1.02	0.094
1989-1993	0.89	0.88	0.91	0.000
1994-1998	0.64	0.62	0.66	0.000