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### *Descriptive Findings*

## **Labor market status, migrant status, and first childbearing in Sweden**

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## **Labor market status, migrant status, and first childbearing in Sweden**

**Karin E. Lundström<sup>1</sup>**

**Gunnar Andersson<sup>2</sup>**

### **Abstract**

#### **BACKGROUND**

Labor market uncertainties and employment insecurity have emerged as increasingly important factors in research on family formation and fertility.

#### **OBJECTIVE**

In the present study, we provide evidence from Sweden on how non-employment, unemployment, and temporary employment relate to young people's first birth risks.

#### **METHODS**

We use a combination of Labor Force Survey data on employment characteristics and register data on demographic outcomes to investigate how the labor market status and stability of employment are associated with the first birth behavior of women and men, and of Swedish- and foreign-born people in Sweden.

#### **RESULTS**

Consistent with previous research, we find that people who are not in the labor force are less likely than those who are employed to enter parenthood. In most cases, we also find that young people who are in temporary employment are less likely than those who are permanently employed to start a family.

#### **CONCLUSIONS**

Our study demonstrates that foreign-born people living in Sweden tend to adapt to the behavior of native-born Swedes, and that patterns for women and men are largely similar. We relate these findings to the equalizing impact of the country's universal welfare regime.

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## 1. Introduction

At the turn of the century, labor market uncertainties and employment insecurity had emerged as key factors in research and debate on family formation and fertility in Europe. Economic uncertainties related to globalization and labor market restructuring have become prominent issues in the demographic literature (Mills and Blossfeld 2005; Blossfeld et al. 2005). The most recent economic volatility and crises of Europe have also led to increased interest in how labor market uncertainties relate to family-demographic behavior (Sobotka et al. 2011; Kreyenfeld et al. 2012). A string of recent publications have provided empirical evidence on how different dimensions of individual labor market status and labor market uncertainty relate to family formation among young people in Europe. Studies on Germany (Kreyenfeld 2010; Özcan et al. 2010; Berninger et al. 2011), the UK (Schmitt 2012), France (Pailhé and Solaz 2012), Italy (Santarelli 2011; Vignoli et al. 2012), Spain (Adsera 2011), Norway (Kravdal 2002), and Israel (Raz-Yurovich 2010) have provided ample evidence on how factors like unemployment and non-employment, unstable and temporary employment, and being in an insecure economic situation are associated with family formation and fertility among young women and men across Europe. The patterns in these associations are not always strong, and they sometimes differ between countries. In some countries, the labor market status of men seems to matter more for family formation than the status of women; while in other countries, the status of young people of both sexes seems to be equally important (for a summary and overview, see Kreyenfeld et al. 2012).

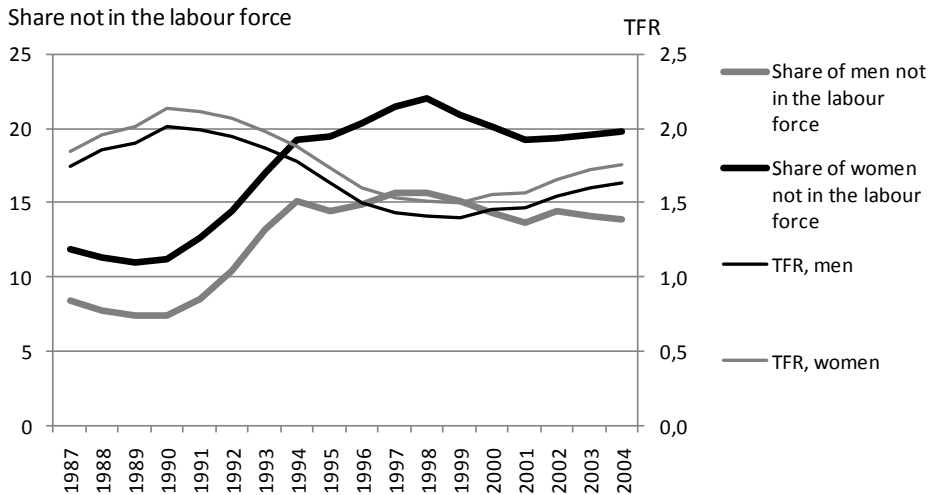
In the present study, we focus on Sweden. We present empirical evidence on how the labor market status of young adults in this country is related to their entry into parenthood during the period 1987-2004. We study how the non-employment, unemployment, or temporary employment status of a young person is related to his or her risk of having a first child. We focus on the birth of the first child, as this parity progression is the most crucial step in the family formation process; previous research on Sweden has shown that this transition is strongly associated with the process of becoming established in the labor market (cf. Andersson 2000; Hoem 2000). We also focus on different combinations of gender and migration status among people living in Sweden. International immigrants in Sweden face much greater obstacles than natives in becoming established in the labor market (SCB 2008, 2009). It is therefore particularly interesting to include the foreign-born in our study as a separate category. Our aims in this study are to find out (i) how the different dimensions of labor market status are related to first birth risks, and (ii) to what extent patterns differ by the gender and migration status of people in Sweden.

## 1.1 Background: Pro-cyclical fertility in Sweden

Sweden is a universalistic welfare state with relatively high labor force participation rates among both women and men, and relatively high fertility levels (Figure 1). Over the last century, the total fertility rate (TFR) has been characterized by large fluctuations from one period to the next. In recent decades, trends in childbearing have evolved in tandem with the business cycle. It is plausible that the positive connection between fertility and economic growth is stronger in this country than in many other contexts. Sweden and the other Nordic countries are known for their implementation of social policies that make it easier for women and men to balance childrearing with paid employment (Bernhardt 1993; Hoem 1993; Andersson 2000, 2008; Oláh and Bernhardt 2008). The option to combine these two life domains likely strengthens the positive association between aggregate fertility and economic swings. At the individual level, a positive association for women between their attachment to the labor market and childbearing is maintained and supported by, for example, a policy design that ties the economic compensation paid during parental leave to previous income from work (Andersson 2000, 2008). This gives additional incentives to both women and men to establish themselves in the labor market before becoming a parent. Previous studies have shown that women and men who are not in the labor force have a lower propensity to have a first child than those who are employed (Andersson 2000; Hoem 2000; Duvander and Olsson 2001; Andersson and Scott 2005; Scott and Stanfors 2011); i.e., that women and men tend to postpone starting a family until their situation in the labor market has been properly established. Research has also indicated that having a temporary position in the labor market has a negative effect on the propensity to become a first-time mother or father (Persson 2001). Based on these previous findings, we expect to find a negative association for most indicators of weak labor market status and first-birth fertility, and we expect to observe that patterns for women and men in Sweden's dual-breadwinner system are fairly similar.

As an introduction to our study, we provide data in Figure 1 on the total fertility of Swedish women and men, respectively, and the proportion of people aged 20-44 who are not in the labor force. The former measures were calculated from register data maintained by Statistics Sweden, and the latter measures were derived from data from Statistics Sweden's Labor Force Surveys. The category of people who are not in the labor force mainly consists of students and of individuals participating in certain labor market policy programs. The diagram nicely demonstrates the "pro-cyclical" relationship between recent fertility trends and the business cycle.

**Figure 1: Fraction of women and men aged 20-44 not in the labor force and total fertility rate (TFR) for women and men in Sweden, 1987-2004**



Source: Statistics Sweden

## 1.2 Background: Childbearing after migration to Sweden

In addition to looking at the childbearing behavior of Swedish-born women and men, we have also chosen to study the behavior of a few aggregated groups of foreign-born women and men. This provides further insight into both the gendered nature of the association between labor market status and fertility, and the role that contextual factors may play in shaping such relationships. In particular, looking at the foreign-born population has the potential to provide insight into the relationships between migration and childbearing, and into immigrants' patterns of adaptation to the prevailing fertility behaviors in the country of destination.

The composition of foreign-born people in Sweden has changed over time. Like many other countries in Western Europe, Sweden became a country of immigration after the Second World War. Before the early 1970s, immigration was dominated by labor market migrants, mostly from neighboring Finland. Since the beginning of the 1970s, immigration has taken on a somewhat different character, as it has become more common for refugees and their relatives to move to Sweden (Nilsson 2004). Today's

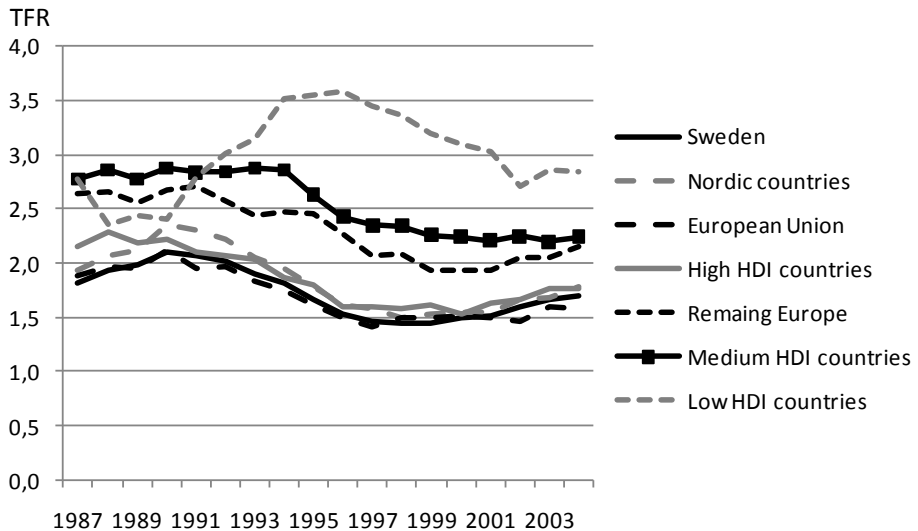
migrants come from a large number of countries located across the globe. There are clear differences in immigrants' levels of success in the labor market based on where they came from and when they arrived in Sweden. While the early groups of immigrants had very high rates of labor force participation, more recent groups of migrants have had greater difficulties in becoming established in the Swedish labor market (e.g., Scott 1999; Bevelander 2000; Bevelander and Skyt Nielsen 2001; le Grand and Szulkin 2002; Rosholm et al. 2006; for statistics on immigrant integration in Sweden and its labor market, see SCB 2008, 2009). The labor market status of many immigrant groups deteriorated gradually during the 1980s and 1990s. Various studies have sought to explain these developments by examining the relative role of demand factors related to labor market restructuring, supply factors related to the qualifications of newly arrived migrants, discrimination in the Swedish labor market, and deficiencies in Swedish immigrant integration policies (for an overview of the literature on immigrants' integration into the Swedish labor market, see Schröder 2007).

An inspection of crude TFR statistics for different groups of immigrants suggests that the aggregate group of foreign-born women in Sweden have a somewhat higher fertility rate than Swedish-born women. Figure 2 illustrates the levels and trends in total fertility among women living in Sweden by their country of origin. Following Statistics Sweden's demographic analysis practices, we map countries outside of Europe according to their classification in the UN's Human Development Index (HDI). The various non-European countries of origin are classified into three levels based on their HDI value in 2007: low, medium, and high.

Figure 2 reveals that the TFR values of women born in other Nordic countries, the EU, and non-European countries with a high HDI rank are very similar to those of Swedish-born women. The fertility rates for other groups of immigrants are visibly higher, but their trends in TFR values largely follow those of the Swedish-born population.

For our subsequent analyses, we use these crude TFR statistics on women to distinguish two very broad groups of foreign-born people: (i) immigrants from other Nordic countries, the EU, and non-European countries with a high HDI rank; and (ii) immigrants from non-EU Europe and non-European countries with a low or medium HDI rank. Based on the TFR statistics, we expect to find that the former group of foreign-born people resemble the Swedish-born population in their childbearing behavior more than the latter group. The former group includes a large contingent of immigrants from Finland, while the latter group consists of migrants from countries such as Iran, Iraq, Turkey, and the former Yugoslavia. Many people in this group came to Sweden as refugees or because they needed protection, while others were relatives of earlier immigrants.

**Figure 2: Total fertility rate (TFR) of women living in Sweden, by country groups of birth, 1987-2004**



Source: Statistics Sweden

Previous research has shown that the elevated fertility rates of immigrants can often be attributed to so-called “migration effects” in childbearing behavior: i.e., the tendency to postpone becoming a parent until after migration produces artificially high fertility rates for migrants in their country of destination (Andersson 2004; Milewski 2007; Parrado 2011). Clear duration dependencies in migrant fertility are manifested in elevated fertility shortly after the time of migration, but no or only weak elevated fertility over longer periods of time. This seems to hold for migrant women in particular, while the fertility of male migrants may peak at a somewhat later point in time after migration (Toulemon and Mazuy 2004; Persson 2008). Previous studies on Sweden have shown that the childbearing patterns of most groups of immigrant women tend to resemble the patterns of the Swedish-born population after the women have lived for a relatively short period of time in the destination country (Andersson 2004; Andersson & Scott 2005; Persson 2008). Evidently, in any study that involves the fertility of migrants, it is crucial to account for the amount of time that has elapsed since migration.

As we noted above, many groups of recent immigrants to Sweden have had a weak attachment to the labor market. This situation seems to reflect increasing structural disadvantages rather than circumstances that are specific to recent business cycles.



Thus, the role of labor market status in childbearing behavior may be quite different for foreign- and Swedish-born people. In addition, if the role of cultural factors that prescribe different modes of gendered behavior for different groups of immigrants is decisive in childbearing decisions, we would expect to find clear differences between groups of migrants in how female labor market status relates to fertility. We would also expect to observe clear differences in how male and female labor market status influences such behavior (for a discussion, see Andersson and Scott 2005). However, the available research has indicated that the role of socioeconomic factors in childbearing behavior is remarkably similar for Swedish- and foreign-born women (Andersson and Scott 2005, 2007). A study on the fertility of children born to immigrants in Sweden has found that this largely holds for “second-generation” immigrants as well (Scott and Stanfors 2011). In our study, we therefore expect to find evidence of similar patterns among foreign- and Swedish-born women. Given the lack of previous related research on male migrants to Sweden, we are less certain that we will see the same similarities between different groups of men. However, as the demographic literature has been less ambiguous in its predictions regarding relationships between the labor market status and fertility of men, we generally expect to find that the associations between various indicators of weak male labor market attachment and first birth fertility are negative.

## **2. Data and methods**

### **2.1 Data**

Our study relies on two types of data: information on labor market status derived from Statistics Sweden's Labor Force Surveys during 1987-2004, and demographic data derived from population registers maintained by Statistics Sweden and linked to the information from the Labor Force Surveys (LFS). It was possible to link the data because each individual living in Sweden has a unique PIN code as his or her identifier.

The LFS is a sample survey conducted each month by Statistics Sweden for the Ministry of Finance. The objectives of the survey are to describe current employment conditions and to provide information about ongoing developments in the labor market. Selected survey participants are interviewed once every three months over a period of two years about their labor market situation during a given week of the month of the interview; the present study is based on the situation as reported at the first interview. Our study includes women and men who were childless and between the ages of 20 and 44 at the time of their first interview in the LFS. Information from the LFS is then linked to information on subsequent childbearing from the Multigenerational Register

and to data on previous and subsequent migration from the Historical Population Register; both registers are maintained by Statistics Sweden.

In our analyses, we study the propensity of survey respondents to become a parent during the two years following their survey participation. Individuals who had a child within nine months of their initial participation in the survey were removed from the analysis, as they were already expecting a child when their labor market status was measured. Individuals who emigrated or died within these two years were also excluded from the analysis. Table 1 provides summary statistics on the study population. It indicates that about 11% of the study population are foreign-born.

**Table 1: Study population, childless women and men in Sweden, by country group of birth, who participated in Labor Force Surveys during 1987-2004, and number of first births**

	Number of childless women	Number of first births	Number of childless men	Number of first births
Swedish-born	48,610	4,173	66,378	4 130
Born in other Nordic countries, the EU, or non-European countries with high HDI	2,966	265	3,502	243
Born in non-EU Europe or non- European countries with medium or low HDI	2,259	234	3,559	331

Source: Swedish Labor Force Surveys and population registers maintained by Statistics Sweden; authors' own calculations.

## 2.2 Variables

In our analyses, the data on *labor market status* as derived from the LFS have been categorized as follows:

- *Not in the labor force:* These are mainly students, but the category also includes people in certain labor market policy programs and others who were not in the labor force.
- *Employed:* This category includes people with permanent or temporary employment, self-employed individuals, and people who assist self-employed family members. People who have worked at least one hour during the reference week are considered employed by the LFS. The category also includes employed people who were temporarily absent

from work during the reference week. In our analysis, we will further distinguish between those individuals with *permanent employment* and those with *temporary employment*. The latter group consists of people in replacement positions, public employment support, seasonal work, trial employment, or different types of project employment.

- *Unemployed*: This category is made up of people who looked for work and were able to work during the reference week, as well as individuals who were scheduled to begin working within three months of the reference week. There are not very many unemployed in our data, and estimates for this category may not become statistically significant, especially for the smaller groups of foreign-born individuals. Thus, it may be difficult to make reliable comparisons between the Swedish- and the foreign-born respondents when it comes to the role of unemployment in first birth behavior.

The labor market status of each respondent was measured at the time of his or her initial participation in the LFS. The outcome variable of our study is that of a first birth occurring during the 9-24 months observed subsequent to the collection of data on labor market status.

In our multivariate analysis of first birth behavior, we also include a number of essential control variables. In particular, when studying patterns in childbearing among foreign-born people, it is important to consider *time since migration* to Sweden. In our analyses, this variable is divided into three categories:

- the foreign-born people who migrated to Sweden *during childhood* (before age 15),
- immigrants with *less than two years* between their migration to Sweden and participation in the LFS, and
- immigrants with *two years or more* between their migration to Sweden and participation in the LFS.

For individuals who immigrated before 1968, there is no information on dates of migration. These people have been classified as having moved to Sweden while under age 15.

We also include controls for the age category of the survey participant, the calendar year period of survey participation, and the respondent's family status as reported in the LFS. Tables 1-3 in the appendix provide summary statistics on the distribution of survey respondents over the different categories of variables, and the number of children born to these respondents. Separate statistics are provided for

women and men who belong to each country group of birth under study. These statistics reveal some crucial differences between different groups in their distributions across labor market status categories. In general, childless women and men had quite similar levels of employment, but women were more likely than men to be in temporary employment. This held for the foreign-born as well as for native Swedes. Immigrants from countries in the EU, the Nordic region, and non-European countries with a high HDI rank had patterns of labor market attachment that were very similar to those of the Swedish-born population (Appendix Tables 1 and 2). Among immigrant groups from other parts of the world, far lower percentages were in permanent employment, and higher shares were outside the labor force (Appendix Table 3). Overall, about three in four childless women and men of the first two populations were employed, while in the latter population about half of the childless women and men had permanent or temporary employment.

### **2.3 Method**

The likelihood of becoming a first-time mother or father is estimated in a logistic regression model. The outcome that is modeled is whether a first birth occurred during the 9-24 months subsequent to survey participation. Analyses are conducted separately for women and men belonging to each of the three country groups of origin defined above.

It is important to note that our data are not as extensive as the data from the population registers covering the total population of the country, which Swedish demographers are otherwise fortunate to be able to work with. In particular, there are considerably fewer observations of foreign-born people than of respondents born in Sweden. This means that many of the differences observed between different categories of foreign-born women and men will not be strong enough to be statistically significant.

### 3. Results

#### 3.1 Labor market status

Table 2 presents the results on the role of labor market status for the three country groups of *women* in Sweden. In this first step of our analysis, we define the labor market status using three categories: not in the labor force, employed, and unemployed. The results for Swedish born women confirmed previous findings that showed that women who were not in the labor force were considerably less likely to become mothers (e.g., Andersson 2000; Hoem 2000; Persson 2001). Consistent with this research, we did not, however, find a clear effect of being *unemployed* on first birth risks. The results for our control variables were also as expected: first birth fertility was highest in the age group 25-34 and for women with a co-resident partner, and it followed known trends in fertility by calendar year.

The results for women born in other Nordic countries, the EU, or in a non-European country with a high HDI rank (middle column of Table 1) showed a pattern by labor market status that was similar to that of Swedish-born women. Again, women who were outside the labor force had a lower propensity to become a mother than those in the labor force. The patterns by the various control variables were also similar to those of the Swedish-born population. The model also includes a control for time since migration to Sweden. This variable did not indicate that the first birth fertility of this group of migrants was influenced by any visible “migration effects.”

The results for women born in non-EU Europe or in a non-European country with low or medium HDI are presented in the last column of Table 1. Previously observed patterns by labor market status seemed to hold for this group of women as well. Women outside the labor force were less likely to become a mother than those who were in the labor force. In addition, for this group of migrants, the results showed a strong connection between time since migration to Sweden and the propensity to become a mother. Those who had immigrated to Sweden during the two years prior to their survey participation had much higher odds of having a first birth than any other group of women.

**Table 2: Odds ratios of becoming a mother, for three country groups of women in Sweden, results from logistic regressions**

Variables		Swedish-born	Other Nordic countries, EU, high HDI	Non-EU Europe, low and medium HDI
Labor market status	Not in the labor force	0.473***	0.687**	0.689**
	Employed (ref)	1	1	1
	Unemployed	0.883	1.167	1.348
Time since immigration	Childhood (ref)	Not applicable	1	1
	<2 years	Not applicable	0.924	2.125***
	>2 years	Not applicable	0.971	1.271
Age	20-24	0.614***	0.601**	1.283
	25-29 (ref)	1	1	1
	30-34	0.949	0.555**	0.913
	35-44	0.183***	0.128***	0.202***
Calendar period	1987-1990 (ref)	1	1	1
	1991-1994	0.868***	0.918	1.335
	1995-1999	0.676***	0.544**	0.906
	2000-2004	0.724***	0.648**	1.159
Civil status	Married/cohabiting	1	1	1
	Single	0.180***	0.332***	0.138***

\*significance at 10% level, \*\*significance at 5% level, \*\*\*significance at 1% level

Source: Swedish Labor Force Surveys and population registers maintained by Statistics Sweden; authors' own calculations.

Table 3 displays the results from the corresponding logistic regressions for the three country groups of men. The results for Swedish-born men showed that their labor market status pattern was almost identical to the pattern observed for Swedish-born women. Men outside the labor force had a greatly reduced propensity to become a father. The results for the various control variables were also very similar to those of women born in Sweden. However, for foreign-born men we found no significant differences in the propensity to become a father between those who were employed, outside the labor force, and unemployed. The odds of entering parenthood were lower for foreign-born men outside the labor force, but the effect was not very large and was not statistically significant.

In addition, there was a clear connection between our male fertility variable and the time since migration to Sweden, but the association was only significant for the group of men born in non-EU Europe or in non-European countries with a low or medium HDI rank. The association differed from the relationship observed for women from the same countries. Among migrant men, those who had been in Sweden for more

than two years were the most likely to become a father. This pattern may be related to the fact that, among migrating couples, it is common for the man to move to Sweden first and then be joined by his female partner, thus making it more likely that the couple's first child will be born relatively close to the woman's date of immigration (Persson 2008). A similar gender-specific pattern of migrant fertility has been observed for France (Toulemon and Mazuy 2004).

**Table 3: Odds ratios of becoming a father, for three country groups of men in Sweden, results from logistic regressions**

Variables		Swedish-born	Other Nordic countries, EU, high HDI	Non-EU Europe, low and medium HDI
Labor market status	Not in the labor force	0.541***	0.884	0.844
	Employed (ref)	1	1	1
	Unemployed	0.850**	0.961	1.136
Time since immigration	Childhood (ref)	Not applicable	1	1
	<2 years	Not applicable	0.814	1.260
	>2 years	Not applicable	1.190	1.421*
Age	20-24	0.563***	0.719*	0.674**
	25-29 (ref)	1	1	1
	30-34	0.989	0.700**	1.032
	35-44	0.346***	0.199***	0.867
Calendar period	1987-1990 (ref)	1	1	1
	1991-1994	0.784***	0.844	0.951
	1995-1999	0.642***	0.628**	0.881
	2000-2004	0.689***	0.764	0.876
Civil status	Married/cohabiting	1	1	1
	Single	0.145***	0.160***	0.199***

\*significance at 10% level, \*\*significance at 5% level, \*\*\*significance at 1% level

Source: Swedish Labor Force Surveys and population registers maintained by Statistics Sweden; authors' own calculations.

### 3.2 Permanent and temporary employment

To derive further evidence on how an individual's degree of uncertainty in the labor market influences his or her first birth fertility, we divided the employed individuals into groups based on whether their employment can be considered permanent or temporary. (We classified the self-employed and their assisting family members as permanently employed.) When interpreting the effects of job security on fertility in

Sweden, it is important to take into account the fact that individuals with temporary employment have the same entitlement to parental leave benefits based on their previous earnings as those who are permanently employed. In our models, we used the same control variables as in Tables 2-3.

The results from the extended analyses for women in Sweden are presented in Table 4. Swedish-born women were the only group for whom being in temporary employment significantly reduced their chances of entering parenthood. The pattern was very similar for the group of foreign-born women from Nordic/EU/high-HDI countries, but the results for temporary employment for these migrants were not statistically significant. In addition, the negative effect for the Swedish-born of being unemployed became stronger and more statistically significant.

**Table 4: Odds ratios of becoming a mother, for three country groups of women in Sweden, results from logistic regressions. Separate categories for permanently and temporarily employed women.**

Variables		Swedish-born	Other Nordic countries, EU, high HDI	Non-EU Europe, low and medium HDI
Labor market status	Not in the labor force	0.434***	0.644**	0.687*
	Permanently employed (ref)	1	1	1
	Temporarily employed	0.771***	0.821	0.994
	Unemployed	0.815**	1.100	1.345
Time since immigration	Childhood (ref)	Not applicable	1	1
	<2 years	Not applicable	0.933	2.126**
	>2 years	Not applicable	0.962	1.271
Age	20-24	0.638***	0.611**	1.284
	25-29 (ref)	1	1	1
	30-34	0.926	0.552**	0.913
	35-44	0.177***	0.126***	0.202***
Calendar period	1987-1990 (ref)	1	1	1
	1991-1994	0.879**	0.926	1.336
	1995-1999	0.697***	0.554**	0.907
	2000-2004	0.746***	0.666**	1.160
Civil status	Married/cohabiting	1	1	1
	Single	0.182***	0.334***	0.138***

\*significance at 10% level, \*\*significance at 5% level, \*\*\*significance at 1% level

Source: Swedish Labor Force Surveys and population registers maintained by Statistics Sweden; authors' own calculations.



Table 5 presents the corresponding model results for men. Again, the results revealed that the patterns of Swedish-born men and women were similar (Tables 4 and 5), as were patterns of the Swedish-born and the foreign-born, although to a lesser extent. For Swedish-born men, being outside the labor force, unemployed, or having temporary employment all had negative effects on the propensity to become a father, although the size of the negative effects was, perhaps, slightly weaker for men (Table 5) than for women (Table 4). For immigrant men, we found that migrants from non-EU Europe or non-European countries with a low or medium HDI rank showed a similar pattern of a reduced likelihood of becoming a father when in temporary employment or not in the labor force. When the temporarily employed were treated as a separate category, both effects became statistically significant.

**Table 5: Odds ratios of becoming a father, for three country groups of men in Sweden, results from logistic regressions. Separate categories for permanently and temporarily employed men**

Variables		Swedish-born	Other Nordic countries, EU, high HDI	Non-EU Europe, low and medium HDI
Labor market status	Not in the labor force	0.527***	0.879	0.743**
	Permanently employed (ref)	1	1	1
	Temporarily employed	0.862**	0.973	0.615**
	Unemployed	0.830**	0.955	1.005
Time since immigration	Childhood (ref)	Not applicable	1	1
	<2 years	Not applicable	0.817	1.343
	>2 years	Not applicable	1.192	1.457**
Age	20-24	0.569***	0.721*	0.686**
	25-29 (ref)	1	1	1
	30-34	0.983	0.700**	1.026
	35-44	0.342***	0.198***	0.844
Calendar period	1987-1990 (ref)	1	1	1
	1991-1994	0.787***	0.845	0.976
	1995-1999	0.630***	0.630**	0.913
	2000-2004	0.696***	0.766	0.897
Civil status	Married/cohabiting	1	1	1
	Single	0.145***	0.160***	0.202***

\*significance at 10% level, \*\*significance at 5% level, \*\*\*significance at 1% level

Source: Swedish Labor Force Surveys and population registers maintained by Statistics Sweden; authors' own calculations.

## 4. Conclusions

The increasing difficulties young people face in establishing themselves in the labor market are often cited by those seeking to explain the declining rates of family formation and postponement of childbearing across Europe. With the most recent economic volatility in Europe, additional concerns have been expressed about the possible negative effects of economic uncertainty on demographic outcomes. The purpose of the present study has been to add empirical evidence from Sweden to a recent stream of research that addresses the issue of how a precarious labor market situation may affect a young person's family formation and fertility decisions (see introduction). Previous research on Sweden has demonstrated a distinct pattern of pro-cyclical fertility in which first birth rates move in tandem with the business cycle. This pattern is driven by the tendency among young people to postpone starting a family until they have achieved a reasonably secure position in the labor market. The present study sought to assess the influence of individual non-employment, unemployment, and temporary employment on the propensity of childless people to enter parenthood. We focused on detecting similarities and differences in these patterns between women and men, and between Swedish-born and foreign-born residents of Sweden.

As expected, we found that not being in the labor force instead of being employed (or unemployed), and that having temporary employment instead of being permanently employed, had negative effects on the propensity to become a parent. More interestingly, we found striking similarities in the patterns of women and men, and of Swedish-born people and immigrants in Sweden. The similarities in the patterns of women and men may be a feature that is particular to the Nordic context, where for decades social policies have been geared toward promoting gender equality and supporting the combining of work and family. We noted that the positive association between having secure employment and becoming a parent actually appears to be slightly stronger for women than for men. Incentives in the Swedish parental leave system that tie benefits to previous earnings likely support this tendency. The similarities in the patterns of foreign-born and Swedish-born people suggest that immigrant fertility behavior has adapted to some extent to the prevailing behavior in the destination country. This finding lends support to the argument that contextual factors related to social policies and to local labor markets are important in shaping childbearing behavior. When exposed to the same context within the universalistic welfare regime of Sweden, immigrants and natives tend to make similar decisions about starting a family. The size of our dataset does not allow for further disaggregation of relationships by population subgroups or combinations of variables. We therefore leave it to future researchers using larger register datasets to explore how, for example, the

associations between the labor market status and fertility of different subgroups of immigrants may change based on the length of time they have lived in Sweden.

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## References

- Adsera, A. (2011). The interplay of employment uncertainty and education in explaining second births in Europe. *Demographic Research* 25(16): 513-544. doi:10.4054/DemRes.2011.25.16.
- Andersson, G. (2000). The impact of labor-force participation on childbearing behaviour: Pro-cyclical fertility in Sweden during the 1980s and the 1990s. *European Journal of Population* 16(4): 293-333. doi:10.1023/A:1006454909642.
- Andersson, G. (2004). Childbearing after migration: Fertility patterns of foreign-born women in Sweden. *International Migration Review* 38(2): 747-774. doi:10.1111/j.1747-7379.2004.tb00216.x.
- Andersson, G. (2008). A review of policies and practices related to the “highest-low” fertility of Sweden. *Vienna Yearbook of Population Research* 2008: 89-102. doi:10.1553/populationyearbook2008s89.
- Andersson, G. and 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. doi:10.1080/0032472052000332683.
- Andersson, G. and Scott, K. (2007). Childbearing dynamics of couples in a universalistic welfare state: The role of labor-market status, country of origin, and gender. *Demographic Research* 17(30): 897-938. doi:10.4054/DemRes.2007.17.30.
- Bernhardt, E. (1993). Fertility and employment. *European Sociological Review* 9: 25-42.
- Berninger, I., Weiß, B., and Wagner, M. (2011). On the links between employment, partnership quality, and the desire to have a first child: The case of West Germany. *Demographic Research* 24(24): 579-610. doi:10.4054/DemRes.2011.24.24.
- Bevelander, P. (2000). *Immigrant Employment Integration and Structural Change in Sweden, 1970-1995*. Södertälje: Almqvist & Wiksell International.
- Bevelander, P. and Skyt Nielsen, H. (2001). Declining employment success of immigrant males in Sweden: Observed or unobserved characteristics? *Journal of Population Economics* 14(3): 455-471. doi:10.1007/s001480000036.

- Blossfeld, H.-P., Klijzing, E., Mills, M., and Kurz, K. (Eds.) (2005). *Globalization, Uncertainty and Youth in Society*. London/New York: Routledge.
- Duvander, A. and Olsson, S. (2001). När har vi råd att skaffa barn? [When can we afford to have children?]. Stockholm: National Social Insurance Agency. (RFV analyserar 2001:8)
- Hoem, B. (1993). The compatibility of employment and childbearing in contemporary Sweden. *Acta Sociologica* 36: 101–120. doi:10.1177/000169939303600202.
- Hoem, B. (2000). Entry into motherhood in Sweden: The influence of economic factors on the rise and fall in fertility, 1986–1997. *Demographic Research* 2(4). doi:10.4054/DemRes.2000.2.4.
- Kravdal, Ø. (2002). The impact of individual and aggregate unemployment on fertility in Norway. *Demographic Research* 6(10): 263-294. doi:10.4054/DemRes.2002.6.10.
- Kreyenfeld, M. (2010). Uncertainties in female employment careers and the postponement of parenthood in Germany. *European Sociological Review* 26(3): 351-366. doi:10.1093/esr/jcp026.
- Kreyenfeld, M., Andersson, G., and Pailhé, A. (2012 forthcoming). Economic uncertainty and family dynamics in Europe. Introduction to Special Collection of *Demographic Research*.
- le Grand, C. and Szulkin, R. (2002). Permanent disadvantage or gradual integration: Explaining the immigrant – native earnings gap in Sweden. *Labour* 16(1): 37-64. doi:10.1111/1467-9914.00186.
- Milewski, N. (2007). First child of immigrant workers and their descendants in West Germany: Interrelation of events, disruption, or adaptation? *Demographic Research* 17(29): 859-896. doi:10.4054/DemRes.2007.17.29.
- Mills, M. and Blossfeld, H.-P. (2005). Globalization, uncertainty and changes in early life courses. In: Blossfeld, H.-P., Klijzing, E., Mills, M., and Kurz, K. (eds.), *Globalization, Uncertainty and Youth in Society*. London/New York: Routledge: 1-24.
- Nilsson, Å. (2004). Efterkrigstidens invandring och utvandring [Immigration and emigration after the World War]. Stockholm: Statistiska centralbyrån. (Demografiska rapporter 2004:5)

- Oláh, L.S. and Bernhardt, E. (2008). Sweden: Combining childbearing and gender equality. *Demographic Research* Special Collection 19(28): 1105–1143  
[doi:10.4054/DemRes.2008.19.28](https://doi.org/10.4054/DemRes.2008.19.28).
- Özcan, B., Mayer, K.-U., and Luedicke, J. (2010). The impact of unemployment on the transition to parenthood. *Demographic Research* 23(29): 807-846.  
[doi:10.4054/DemRes.2010.23.29](https://doi.org/10.4054/DemRes.2010.23.29).
- Pailhé, A. and Solaz, A. (2012). The influence of employment uncertainty on childbearing in France: A tempo or quantum effect? *Demographic Research* 26(1): 1-40. [doi:10.4054/DemRes.2012.26.1](https://doi.org/10.4054/DemRes.2012.26.1).
- Parrado, E. (2011). How high is Hispanic/Mexican fertility in the United States? Immigration and tempo considerations. *Demography* 48(3): 1059-1080.  
[doi:10.1007/s13524-011-0045-0](https://doi.org/10.1007/s13524-011-0045-0).
- Persson, L. (2001). Arbetsmarknadsstatus och fruktsamhet. Påverkar anknytningen till arbetsmarknaden kvinnors och mäns barnafödande? [Labor market status and fertility – Does the connection to the labor market affect women’s and men’s childbearing?] Stockholm: Statistiska centralbyrån. (Demografiska rapporter 2001: 2)
- Persson, L. (2008). Barnafödande bland inrikes och utrikes födda [Childbearing among native and foreign born.] Stockholm: Statistiska centralbyrån. (Demografiska rapporter 2008: 2)
- Raz-Yurovich, L. (2010). Men’s and women’s economic activity and first marriage: Jews in Israel, 1987-1995. *Demographic Research* 22(29): 933-964.  
[doi:10.4054/DemRes.2010.22.29](https://doi.org/10.4054/DemRes.2010.22.29).
- Rosholm, M., Scott, K., and Husted, L. (2006). The times they are a-changin’?. Declining Immigrant Employment Opportunities in Scandinavia. *International Migration Review* 40(2): 318-347. [doi:10.1111/j.1747-7379.2006.00019.x](https://doi.org/10.1111/j.1747-7379.2006.00019.x)
- Santarelli, E. (2011). Economic resources and the first child in Italy: A focus on income and job stability. *Demographic Research* 25(9): 311-336.  
[doi:10.4054/DemRes.2011.25.9](https://doi.org/10.4054/DemRes.2011.25.9).
- SCB (2008). Integration – en beskrivning av läget i Sverige [Integration: An overview of the situation in Sweden]. Stockholm: Statistiska centralbyrån. (Integration: Rapport 1)

- SCB (2009). Integration – utrikes födda på arbetsmarknaden [Integration: Foreign-born at the labor market]. Stockholm: Statistiska centralbyrån. (Integration: Rapport 2)
- Schmitt, C. (2012). Labour market integration, occupational uncertainty, and fertility choices in Germany and the UK. *Demographic Research* 26(12): 253-292. doi:10.4054/DemRes.2012.26.12.
- Schröder, L. (2007). From problematic objects to resourceful subjects: An overview of immigrant-native labour market gaps from a policy perspective. *Swedish Economic Policy Review* 14(1): 7-31.
- Scott, K. (1999). *The Immigrant Experience: Changing Employment and Income Patterns in Sweden, 1970-1993*. Lund: Lund University Press.
- Scott, K. and 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. doi:10.1016/j.alcr.2011.09.003.
- Sobotka, T., Skirbekk, V., and Philipov, D. (2011). Economic recession and fertility in the developed world. *Population and Development Review* 37(2): 267-306. doi:10.1111/j.1728-4457.2011.00411.x.
- Toulemon, L. and Mazuy, M. (2004). Comment prendre en compte l'âge à l'arrivée et la durée de séjour en France dans la mesure de la fécondité des immigrants? Paris: INED. (Documents de travail 120)
- Vignoli, D., Drefahl, S., and DeSantis, G. (2012). Whose job instability affects the likelihood of becoming a parent in Italy? A tale of two partners. *Demographic Research* 26(2): 41-62. doi:10.4054/DemRes.2012.26.2.

## Appendix

**Appendix Table 1: Number of study objects and number of first births, Swedish-born women and men**

Variables		Number of childless women			Number of childless men		
		n	%	Had a first child	n	%	Had a first child
Labor market status	Permanently employed	24 785	51	2 773	40 989	62	3 235
	Temporarily employed	10 620	22	851	8 364	13	420
	Not in labor force	10 878	22	373	12 991	20	301
	Unemployed	2 327	5	176	4 034	6	174
Age	20-24	25 191	52	1 677	29 576	45	1 088
	25-29	11 649	24	1 612	16 606	25	1 664
	30-34	5 628	12	700	9 432	14	961
	35-44	6 142	13	184	10 764	16	417
Calendar period	1987-1990	13 137	27	1 367	18 228	27	1 406
	1991-1994	10 021	21	890	13 642	21	827
	1995-1999	11 857	24	835	16 184	24	826
	2000-2004	13 595	28	1 081	18 324	28	1 071
Civil status	Married/cohabiting	19 909	41	3 266	19 256	29	3 066
	Single	28 687	59	906	46 832	71	1 062
N		48 610		66 378			

Source: Swedish Labor Force Surveys and population registers maintained by Statistics Sweden; authors' own calculations.



**Appendix Table 2: Number of study objects and number of first births, women and men born in other Nordic countries, EU countries, and non-European countries with a high HDI rank**

Variables		Number of childless women			Number of childless men		
		n	%	Had a first child	n	%	Had a first child
Labor market status	Permanently employed	1 486	50	149	2 041	58	155
	Temporarily employed	578	20	50	450	13	35
	Not in labor force	736	25	47	767	22	39
	Unemployed	166	6	19	244	7	14
Time since immigration	Childhood	1 330	45	118	1 705	49	97
	<2 years	441	15	52	456	13	35
	>2 years	1 195	40	95	1 341	38	111
Age	20-24	1 029	35	92	1 031	29	57
	25-29	709	24	104	879	25	101
	30-34	462	16	48	634	18	56
	35-44	766	26	21	958	27	29
Calendar period	1987-1990	1 067	36	117	1 299	37	104
	1991-1994	619	21	60	716	20	51
	1995-1999	640	22	39	691	20	38
	2000-2004	640	22	49	796	23	50
Civil status	Married/cohabiting	1 524	51	197	1 288	37	179
	Single	1 440	49	68	2 212	63	64
N		2 966		3 502			

Source: Swedish Labor Force Surveys and population registers maintained by Statistics Sweden; authors' own calculations.

**Appendix Table 3: Number of study objects and number of first births, women and men born in non-EU Europe and non-European countries with a medium or low HDI rank**

Variables		Number of childless women			Number of childless men		
		n	%	Had a first child	n	%	Had a first child
Labor market status	Permanently employed	617	27	70	1 253	35	153
	Temporarily employed	477	21	51	507	14	37
	Not in labor force	953	42	84	1 277	36	92
	Unemployed	212	9	29	522	15	49
Time since immigration	Childhood	897	40	66	1 003	28	51
	<2 years	366	16	77	631	18	70
	>2 years	996	44	91	1 925	54	210
Age	20-24	1 147	51	113	1 394	39	69
	25-29	491	22	70	955	27	112
	30-34	303	13	39	668	19	86
	35-44	318	14	12	542	15	64
Calendar period	1987-1990	379	17	50	778	22	82
	1991-1994	326	14	44	607	17	62
	1995-1999	647	29	48	937	26	82
	2000-2004	907	40	92	1 237	35	105
Civil status	Married/cohabiting	953	42	188	986	28	213
	Single	1 305	58	46	2 570	72	118
N		2 259			3 559		

Source: Swedish Labor Force Surveys and population registers maintained by Statistics Sweden; authors' own calculations.