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The Social Integration of Natives and Immigrants in  
Sweden*

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# Same, Same but (Initially) Different? The Social Integration of Natives and Immigrants in Sweden

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## Abstract

This study analyzes the social integration of immigrants and natives in Sweden using nine social measures; within region gender gaps in education, international and intra-national marriage propensities, young marriage, cohabitation, divorce, partner age gaps, female employment rates and female education levels. A process of social integration is found for all indicators as measured by relative gaps to natives across immigrant generations from the same region of origin. The relatively few deviations from this pattern found for some groups, primarily concerning international, intra-national marriage rates and cohabitation, is contingent on the selected sample of second generation immigrants with parents from the same country of origin. When estimation includes the majority of second generation immigrants with mixed backgrounds, a process of social integration is found for all groups and all social measures.

Keywords: Immigration, Social Integration, Acculturation  
JEL Codes: J15, J61, F22

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## 1. Introduction

Negative attitudes towards immigration may stem less from the economic implications of immigration and more from the perceived threats of immigration to social and cultural institutions (Card *et al.*, 2005; Dustmann and Preston, 2007). In Sweden, as in many other European countries, there is an ongoing public debate that immigrants are not adapting to the social and cultural norms of the host country. The empirical evidence is however scant. The purpose of this paper is to study the process of social integration by comparing relative gaps to natives, on a number of social indicators, across two generations of immigrants from the same region of origin.

While economic integration is easily quantified by a number of commonly accepted measures, such as the development of wage, income and employment gaps between natives and immigrants over time or across generations, social integration is not as readily definable. One reason for this is that what constitutes a social or cultural norm is inherently subjective and likely to be defined in relative terms. The cross cultural psychology literature stress the acculturation process, i.e., the changes in social norms defined by attitudes, customs and values in *both* the majority and minority populations due to the contact brought about by immigration (Berry, 1997, Berry *et al.*, 1997, 2006, Phinney 1989, 1990, Phinney *et al.*, 2001). The fluid nature of social norms implies that the choice of social indicators used to exemplify host country norms is likely to be defined relative to the predominant immigrant groups at the time. Religion is a case in point, if the dominant migrant groups have a similar religious affiliation to the majority population; religion is unlikely to be stressed as a defining cultural characteristic of the majority population. If however, newly-arrived immigrant groups differ in terms of religious belonging or religiosity, then religion is more likely to be seen as a defining cultural characteristic.<sup>1</sup> Initial gaps in social indicators between the predominant immigrant groups and natives are likely to be large precisely because it is this difference that defines the social norm of the majority population.

Although social integration is a process of adaptation in both the majority and minority groups, due to the asymmetry in size between the groups, the bulk of adaptation is likely to be

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<sup>1</sup> The recent focus on the cultural integration of Muslims in Europe in both the popular and academic debate is a case in point. Recent studies (and critiques) in economics on social or cultural integration with at least a partial focus on religion include Arai and Lundholm (2009), Bisin *et al.* (2004, 2008), Bisin and Verdier (2000), Constant *et al.* (2006), de la Rica and Ortega (2009), Georgiadis and Manning (2008) and Manning and Roy (2007).

on the side of immigrants. The majority population can however aid or inhibit this process through their attitudes and actions. If, for example, access to jobs is limited due to ethnic discrimination, some immigrant groups may never enter the social arenas necessary to forge contacts with natives which would in turn influence social indicators such as intermarriage propensities. Likewise a preference for or against certain characteristics in partners implies that the likelihood of intermarriage is heavily influenced by the behavior and attitudes of the much larger in size majority population.<sup>2</sup>

In order to determine the degree of social integration between immigrants and natives it is therefore important to follow immigrant groups over time and preferably over several generations to see how a defined social gap develops due to changes in both the majority population and the minority groups.<sup>3</sup> As data restrictions prevent an analysis of the intergenerational transmission of defined social measures, this study instead analyzes two generation of immigrants from the same region of origin at a given point in time, comparing gaps to natives across these generations. This study focuses on average differences between natives and a number of immigrant groups but recognizes that there is considerable heterogeneity within groups in the social integration process.

Using data from 2005, nine social measures are analyzed; within region gender gaps in education, international marriage, intra-national marriage (by national origin), marriage rates at age 25, cohabitation, divorce, partner age gaps as well as female employment rates and female education levels. In addition, descriptive information on acculturation is provided for a cohort of students with immigrant backgrounds. Natives are defined as those born in Sweden with two Swedish born parents. First generation immigrants are defined as the foreign born and are categorized by country of birth into seven regional groups. Second generation immigrants, i.e., those born in Sweden with at least one foreign born parent, are categorized according to parents region of birth. For comparative purposes, two samples of second generation immigrants are used in estimation. Initially, estimations are based on the minority of second generation immigrants with two parents born in the *same* non-Swedish country of

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<sup>2</sup> Studies on inter-marriage patterns among immigrants include Angrist (2002), Chiswick and Houseworth (2008), Furtado (2006), Gilbertson *et al.* (1996), Kalmijn (1991a, 1991b, 1993, 1998), Kantarevic (2004), Lievens (1999) and Nielsen *et al.* (2009).

<sup>3</sup> Recent measures used to analyze social integration within the economics literature include marriage patterns, fertility norms, residential segregation, religious affiliation and religiosity, attitudes towards gender equality and ethnic/national identity.

origin. Thereafter, a second round of estimations is carried out based on all second generation immigrants including the majority with mixed backgrounds. Region of origin for those with mixed backgrounds is based on mother's country of birth or, if the mother is born in Sweden, on father's country of birth.

Results are as follows: Within region gender gaps in education – using age left full time education as a proxy for years of education – are positive or insignificant for all regional groups including natives implying that females have more years of education or insignificant differences to men from the same region of origin. Positive (or insignificant) gender gaps in education are found for both first and second generation immigrants. In terms of international marriage rates, first generation immigrants indicate a larger likelihood than natives of partnering with a foreign-born but relative gaps to natives are reduced in the second generation for all groups except, in the sample with both parents from the same country of origin, those with Asian and African backgrounds. When estimation is based on all second generation immigrants, relative gaps to natives are significantly and considerably reduced for all groups. Similar results are found for intra-national marriages, first generation immigrants are less likely than natives to marry within their national group, a gap that grows for the second generation for all groups except those with both parents from the same country of origin and South American or African backgrounds. Again when estimation is based on all second generation immigrants including those with mixed backgrounds, the likelihood of marrying within ones national group is reduced in the second generation for all groups indicating a process of social integration in marriage norms.

Indeed, when estimation is based on the full sample of second generation immigrants, all social measures including cohabitation, divorce, partner age gaps and female employment rates, suggest a clear pattern of lower gaps to natives in the second generation in comparison to the first generation regardless of region of origin. Finally, gaps to natives in female levels of education as measured by age left full time education, are *positive* for all first generation immigrant groups, indicating greater years of education for the foreign born relative to natives but are smaller, insignificant or negative for the full sample of second generation immigrants implying a regression towards native levels of education. Taken together results in this study suggest that a process of social integration between immigrants and natives is occurring as initial gaps to natives on all social indicators decrease across immigrant generations.

This chapter continues in Section 2 with a short history of migration to Sweden and an overview of previous Swedish studies on social integration. This is followed in Section 3 with a description of the data and the empirical setup. Results are presented in Section 4 and concluding remarks in Section 5.

## **2. Migration to Sweden and Previous Studies**

Sweden has a relatively large immigrant population. Approximately fifteen percent of the working age population (16-64) today is foreign-born. In addition, another 12 percent of the population has a foreign background, defined as being born in Sweden with at least one foreign-born parent. Since the end of WWII, Sweden has been characterized by net immigration with three main sources of immigration. A common Nordic labor market was established in 1954 and a large source of migration has been and continues to be from the other Nordic countries, primarily Finland. In addition, until the late 1960s, migration legislation was non-restrictive aimed at attracting foreign labor to an expanding manufacturing sector. A second source of migration is therefore labor migration stemming from Southern and Eastern European countries in the 1950s and 1960s. Refugee migration is the third source of post WWII migration and, together with immigration due to family reunification, the largest source of migration to Sweden today. Refugee migration to Sweden stemmed from Hungary in the late 1950s, former Czechoslovakia in the late 1960s, Latin America, the Middle East and Africa in the 1970s, former Yugoslavia (mainly Bosnia-Herzegovina) in the 1990s and Iraq in the early 2000s. In 2005, the five largest immigrant groups in Sweden originated from Finland (15 percent of the foreign born population), Iraq (7 percent), Yugoslavia (6 percent), Iran (5 percent) and Bosnia-Herzegovina (5 percent).

Before the mid 1970s, the foreign born in Sweden had slightly higher average employment levels than natives and similar income levels. This was especially true for female immigrants relative to female natives due to the relatively high labor force participation rates of female migrants. Since the mid 1970s, relative employment rates have dropped and a widening immigrant-native employment and income gap has developed over time. Numerous explanations have been forwarded for this shift in relative employment rates. Among these are structural changes in the industrial sector with a shift away from manufacturing jobs, the changing composition of immigrants, the changing underlying motivation for migration, skill biased technological change promoting soft skills such as language and communication skills, and discrimination of increasingly “visible” immigrants from predominantly non-European

countries. It is important to note that the shift in immigration in the mid 1970s from predominately labor migration to predominately refugee migration also lead to a shift in the skill composition of the foreign born from relatively unskilled labor migration to relatively skilled refugee migration. Today, the proportion with tertiary educations is approximately the same in the native and foreign born population at roughly 30 percent.<sup>4</sup>

Although labor market gaps between immigrants and natives have been studied intensively within economics, far fewer studies have analyzed social integration. Swedish studies include Åslund *et al.* (2008) on the impact of age at migration for social integration as measured by exposure to the foreign born. Immigration at an older age is found to increase the probability of living among, marrying and working with other foreign born individuals. Studies on the intermarriage patterns of immigrants find that intermarriage to natives is lower among groups with non-Western origin (Behtoui, 2009) and that assortative mating in terms of national background is lower among second generation immigrants in comparison to first generation immigrants (Çelikaksoy *et al.*, 2009). Andersson (2004) and Andersson and Scott (2005) study the fertility patterns of foreign born females in Sweden and find that most immigrant groups display higher levels of childbearing after immigration but that the determinants of first births are similar to that of natives with one exception. Foreign born women, unlike their native counterparts, are *less* likely to have a child while on welfare. A recent study on second generation immigrants finds even smaller differences to the majority population in fertility patterns (Scott and Stanfors, 2009). Finally, two studies examine how identification to the majority society and to the (ethnic) background cultures (so called acculturation identity) among second and middle generation immigrants influences the subsequent pursuit of higher education and, respectively, employment outcomes (Nekby *et al.*, 2007, 2009).<sup>5</sup> Results indicate that integrated men, i.e., men that identify with both the majority culture and the ethnic group are associated with higher probabilities of completed tertiary educations and similar employment rates in comparison to men that identify only with the majority culture (assimilated).

### **3. Data and Empirical Setup**

#### ***Data***

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<sup>4</sup> See Schröder (2007) for an overview of immigrant-native labor market gaps and integration policy in Sweden.

<sup>5</sup> Middle generation immigrants are defined as the foreign born that immigrated to Sweden before the age of 16, presumably as tied-movers to their parents.

The data used in estimation stems from registered information at Statistics Sweden (SCB) on the entire working age population (16-65 years of age) residing in Sweden in 2005.<sup>6</sup> Included in the data is rich individual information on personal and demographic characteristics, education, employment and income. In addition detailed information is available on country of birth and migration dates for the foreign-born portion of the population as well as parents' country of origin for the entire sample. Due to partner identification numbers, it is also possible to link individuals in partnerships. As such, detailed information is available not only on the main individual but also on partners provided that partners fall within the given age restrictions.<sup>7</sup> Partnership is defined as marriage, registered partnership for same sex couples or cohabitation in a household with common children. Data on partnerships stems from information on households. To date, Statistics Sweden tracks only married couples, couples in registered partnerships and cohabitants with children in common. This implies that we do not have partner information on cohabitants without children.

The original data from 2005 consist of 5,880,793 individuals. After dropping observations due to missing information on variables of interest, the sample used in estimation consists of 4,221,597 natives (Swedish born with two Swedish born parents) and 818,148 first generation immigrants (foreign born).<sup>8</sup> As exact definitions of second generation status vary across studies, two samples of second generation immigrants are defined and used in estimation. Both depart from a basic definition of second generation immigrant status as being someone born in Sweden with at least one foreign born parent. The first sample is restricted to the 128,808 second generation immigrants with homogenous national backgrounds, i.e., second generation immigrants with two parents stemming from the same (foreign) country of origin (23 percent of all second generation immigrants). The second sample consists of all second generation immigrants including those with mixed backgrounds, in total 549,156 individuals. A comparison of sample sizes therefore clearly indicates that the majority of second generation immigrants in Sweden have mixed backgrounds with either one foreign born and one Swedish born parent (68 percent of all second generation immigrants) or two foreign born

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<sup>6</sup> The data (Statistics on Immigrants - STATIV) was initially created by the Swedish Integration Board.

<sup>7</sup> Due to the age restrictions of the data, information on partners above the age of 65 is not available. It is possible however to identify the civil status of those with older spouses due to registered information on civil status.

<sup>8</sup> 186,839 observations are dropped due to missing values on variables of interest such as country of origin. This includes 134,961 individuals classified as second generation immigrants with one Swedish born parent and one foreign born parent but where information on the country of origin of the foreign born parent is missing (20 percent of the originally defined population of second generation immigrants). In addition, 2,816 persons stemming from Oceania are dropped from estimation due to the small size of this immigrant group.



parents stemming from different foreign countries of origin (8 percent of all second generation immigrants).<sup>9</sup> Region of origin for second generation immigrants in the second sample is based on mother's country of origin or, when the mother is born in Sweden, on father's country of origin.

Region of origin is classified according to a Statistics Sweden categorization into eight groups; Sweden, Nordic, West Europe (non-Nordic EU15), East Europe (non-Nordic, Non-EU15), South America, North/Central America, Asia and Africa. Table 1 shows the distribution of region of origin (own or parents) for first and second generation immigrants in Sweden. In parenthesis is the average duration of residence, measured in years, for the foreign born population.<sup>10</sup>

**Table 1: Region of Origin (and Duration of Residence) – Second Generation Immigrants with Parents from the Same Country of Origin**

<b>Region of Origin:</b>	<b>Native</b>	<b>1<sup>st</sup> Generation (Duration of Residence)</b>	<b>2<sup>nd</sup> Generation: Parents Same Origin</b>	<b>2<sup>nd</sup> Generation: Full Sample</b>
Sweden	100	--	--	
Nordic	--	22.3 (28.5)	51.9	55.1
West Europe(EU15)	--	8.1 (20.8)	8.2	16.3
East Europe	--	24.0 (16.2)	20.0	14.3
South America	--	2.1 (16.0)	0.1	2.8
North/Central America	--	6.0 (18.2)	2.7	1.9
Asia	--	31.1 (14.6)	15.0	7.6
Africa	--	6.5 (13.6)	2.0	1.9
No. of Observations	4,221,597	818,148	128,808	549,156

### *Empirical Framework*

Gaps to natives are estimated for first and second generation immigrants using nine different social measures described in greater detail below. Two model specifications are estimated. The first specification estimates differences to natives for first and second generation immigrants from different regions of origin controlling, where relevant, for gender, level of education (six levels) and age (quadratic). The second specification, used in estimation of female employment rates and female education levels, compares differences to natives for two

<sup>9</sup> Included in the group with mixed backgrounds are individuals with one foreign born parent and missing information on the other parent (1.8 percent of all second generation immigrants).

<sup>10</sup> Duration of residence is measured based on latest year of immigration and may be underestimated for frequent (registered) migrants.

age-cohorts of immigrants (younger than thirty and thirty plus) for each immigrant generation and region.

As the analysis is based on cross-section data for 2005, estimations provide a static picture of differences in gaps between natives and two generations of immigrants with the same regional background. First generation immigrants today are, however, likely to differ in many respects to the parents of second generation immigrants today, for example concerning reasons for migration, the distribution of source countries and the economic conditions at immigration, all of which may have an impact on gaps in social measures to natives, thereby confounding measures of social integration. To fully capture the process of integration, it is necessary to study the intergenerational transmission of these measures or follow individuals over time. Such data is not available at present. Nonetheless, estimated gaps to natives across immigrant generations can give an indication of the degree to which natives and immigrants stemming from the same countries of origin have socially integrated into Swedish society today.

The measures used to exemplify social integration in this study are the following:

1. *Within region gender gaps in education* – Education is regressed on a female dummy variable for each region of origin and separately for natives, the foreign born and second generation immigrants. Two measures of education are used; age left full time education and university graduate. Age left full time education is defined as the age at which individuals graduate from the highest registered level of education. There are two potential drawbacks with this measure. Information on year of graduation is missing for 29 percent of the sample, partially due to fact that among first generation immigrants educations may have been acquired prior to immigration.<sup>11</sup> The foreign born may also be forced to validate foreign degrees or comply with Swedish-specific educational requirements for certain occupations implying more years of education but not necessarily higher levels of education. As such, the probability of being university educated is also estimated based on register information on highest completed level of education. University educated is defined as a dummy variable equal to one if an individual is registered as having completed a university education (or higher degree), and zero otherwise.

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<sup>11</sup> Broken down by immigrant status, year of graduation is missing for 26 percent of natives, 50 percent of first generation immigrants and 15 percent of second generation immigrants (full sample).

2. *International marriage rates* – An international marriage is defined as a dummy variable equal to one if an individual is partnered with, i.e., married, in a registered partnership or cohabitant with children in common, to a partner that is born abroad and zero otherwise.
3. *Intra-national marriage rates* – Intra-national marriage is defined as a dummy variable equal to one if an individual is in a partnership to someone from the same country of origin or same national background and zero otherwise. For natives, this implies a partnership with someone born in Sweden with two Swedish born parents. For the foreign born, intra-marriage is a partnership to a foreign born individual from the same country of origin or to a second generation immigrant with a parent from the same country of origin. For second generation immigrants, intra-national marriage is defined as a partnership to someone born in the same country of origin as a foreign born parent or a partnership to another second generation immigrant with a similar (foreign) national background.
4. *Young marriage* – Young marriage is defined as a dummy variable equal to one if age at first marriage is less than or equal to 25 and zero otherwise. Note that marriage dates are registered only for those who change their civil status in Sweden. This implies that there is no information on date of marriage for the foreign born who married prior to immigration. For these individuals, only subsequent changes of civil status, after immigration are registered. As such, native-immigrant gaps in young marriage rates are considered for second generation immigrants only.
5. *Cohabitation rates* – Cohabitation is defined as a dummy variable equal to one if a non-married individual is registered as living in the same household with a partner where there are children in common, i.e., both partners are legal parents to at least one child in the household and zero otherwise. No information is available on cohabiting couples without children.
6. *Divorce Rates* – Divorce is defined as a dummy variable equal to one if the individual is registered as divorced in the year 2005 and zero otherwise.
7. *Partner age gaps* – Partner age gaps are defined as the absolute value of the age difference between partners (current unions).
8. *Female Employment Rates* - Employment is defined as a dummy variable equal to one if individuals are registered as employed during a measurement week in November and zero otherwise.

9. *Female Education Levels* - Education is defined as above using two measures, age left full time education and university educated.

Descriptive statistics are shown in Table 2. Sample means suggest that gaps to natives on a number of social indicators such as young marriage, cohabitation, divorce and partner age gaps are small or non-existent for second generation immigrants (regardless of which sample of second generation immigrants is considered). For other indicators such as international and intra-national marriage rates, although differences to natives remain pronounced for second generation immigrants, especially for those with homogenous foreign national backgrounds, these gaps are considerably smaller than those found between natives and first generation immigrants, indicating a pattern of social integration across immigrant generations. Higher intra-national marriage rates for second generation immigrants with homogenous backgrounds (parents from the same foreign country of origin) is consistent with theories suggesting a relatively stronger emphasis on ethnic group belonging as a basis for partnership choice in homogenous families, all else equal, implying potentially greater social and psychological costs for children who marry outside the ethnic (national) group.

The economic indicators show that employment and income gaps to natives have diminished for second generation immigrants in comparison to the gaps between natives and first generation immigrants. Economic integration across immigrant generation is however weaker for second generation immigrants with homogenous national backgrounds. As mean age, the distribution of education and the distribution of origin vary by immigrant status, it is important to control for these differences in estimation of social gaps to natives.

**Table 2: Descriptive Statistics by Immigrant Status (2005)**

	Natives	1 <sup>st</sup> Generation	2 <sup>nd</sup> Generation - Parents Same Origin	2 <sup>nd</sup> Generation- Full Sample
<b>Social Indicators:</b>				
Age Left FT Education	24.4 (F) 22.4 (M)	25.6 (F) 24.5 (M)	21.6 (F) 20.6 (M)	23.9 (F) 22.1 (M)
International Marriage	2.7 (5.7)	24.5 (46.9)	7.2 (19.9)	3.8 (9.4)
Intra-national Marriage	39.7 (82.7)	28.7 (55.0)	7.3 (20.0)	2.7 (6.7)
Young Marriage	13.7	-	14.2	13.0
Cohabitation	12.1 (22.4)	6.9 (12.3)	12.3 (28.6)	11.1 (23.8)

Divorce	10.0	17.1	7.1	10.8
Partner Age Gap	3.3	5.0	3.5	3.5
Female Employment Rate	73.2	53.8	63.0	66.8
<b>Economic Indicators:</b>				
Log Income	7.35	7.06	7.09	7.23
Employment	74.8	55.4	63.8	67.7
<b>Other Characteristics:</b>				
Level of Education:				
Short Compulsory	4.8	11.8	0.9	4.1
Compulsory	16.0	14.9	24.7	19.5
Secondary	47.6	41.2	49.4	47.6
Short Tertiary	6.3	5.1	6.9	6.6
University	24.5	25.4	17.6	21.6
PhD	0.7	1.6	0.5	0.7
Female	49.0	51.2	48.7	49.0
Age	40.8	41.1	32.2	38.8
% ≥ Thirty (Age)	74.1	77.8	55.0	62.9
Duration of Residence (years)	--	18.8	--	--
No. of Observations	4,221,597	818,148	128,808	674,732

Note: In parenthesis, percentage of those in partnerships (married, cohabitation with children in common, registered partnerships).

#### 4. Results

##### *Within Region Gender Gaps in Education*

To begin with, gender gaps in education within each region of origin are explored. Separate estimations on age left full time education are estimated for each region, immigrant status (native, first generation, second generation) and age cohort (less than 30 and 30-65) including a female dummy variable and controls for age (quadratic). Table 3 reports estimated coefficients for the female dummy variable in each cell. With this measure of education, results show that women are more educated than likewise men in all groups with the exception of first generation immigrants stemming from Africa (insignificant gender differences in education in both age cohorts) and, in the sample of second generation immigrants with parents from the same country of origin, older second generation immigrants with backgrounds in South America, North/Central America and Africa (insignificant gender differences in education).<sup>12</sup> Significantly higher years of education for women are, however, found for all regions in the full sample of second generation immigrants. Within age group comparisons suggest that older native and Nordic women have the largest (positive) differential to likewise men.

<sup>12</sup> Note that sample sizes are small for older second generation immigrants with homogenous national backgrounds. Only 30 individuals with South American backgrounds are thirty years or older and have parents stemming from the same country of origin and only 80 individuals with North/Central American backgrounds.

**Table 3: Within Region Gender Gaps in Age Left Full-Time Education, by Region of Origin and Age-Cohort**

Age-Cohort	Native	Nordic	West European	East European	South America	North/Central America	Asia	Africa
< 30	0.433*** (0.005)	--	--	--	--	--	--	--
30-65	2.262 *** (0.010)	--	--	--	--	--	--	--
<b>1<sup>st</sup> Generation</b>								
< 30	--	0.760*** (0.059)	0.189*** (0.067)	0.501*** (0.024)	0.449*** (0.098)	0.386*** (0.049)	0.255*** (0.022)	0.048 (0.051)
30-65	--	2.681*** (0.056)	1.501*** (0.107)	1.587*** (0.068)	0.494*** (0.187)	0.362*** (0.116)	0.123** (0.059)	0.029 (0.136)
<b>2<sup>nd</sup> Generation – Parents from the Same Country of Origin</b>								
< 30	--	0.530*** (0.022)	0.386*** (0.110)	0.349*** (0.048)	0.189*** (0.100)	0.261*** (0.073)	0.318*** (0.032)	0.283*** (0.078)
30-65	--	2.125*** (0.069)	1.757*** (0.174)	0.934*** (0.122)	-2.368 (3.059)	0.566 (1.202)	1.527*** (0.349)	1.174 (0.828)
<b>2<sup>nd</sup> Generation – Full Sample</b>								
< 30	--	0.425*** (0.017)	0.399*** (0.033)	0.390*** (0.029)	0.337*** (0.069)	0.339*** (0.046)	0.285*** (0.024)	0.333*** (0.052)
30-65	--	2.275*** (0.036)	1.730*** (0.062)	1.425*** (0.070)	1.944*** (0.188)	0.777** (0.354)	1.654*** (0.163)	0.862*** (0.256)

Reported coefficients are for a female dummy variable in separate OLS estimation, within each age cohort and region of origin, on age left full-time education. Included in estimation are controls for age (quadratic). Robust standard errors in parenthesis.

Age left full time education may be a misleading measure of level of education as year of graduation is missing for 29 percent of the sample (50 percent of first generation immigrants). In addition, higher age left full time education may reflect the need to redo/validate educations for the foreign born after immigration implying increased years of education but not necessarily higher levels of education. Men and women may also have systematically different paths through the educational system due to for example higher age of entry into university educations because of military service, an interim period in the labor market or other reasons. Gender gaps in education are therefore re-estimated using completed university education as the dependent variable.

Results shown in Table 4 largely confirm significantly higher levels of education for women in most age-immigrant status cells. The exceptions are first generation African women (both age cohorts) and Asian/Middle Eastern women (older cohort) who are associated with significantly lower higher education probabilities than likewise men. This pattern is however reversed in the second generation for these origin groups, regardless of which second

generation sample is used. A significantly higher probability for women to be university graduated is found for all origin groups and both age cohorts in the full sample of second generation immigrants.

**Table 4: With Region Gender Gaps in University Educations, by Region of Origin and Age-Cohort**

Age-Cohort	Native	Nordic	West European	East European	South America	North/Central America	Asia/Middle East	Africa
< 30	0.061*** (0.007)	--	--	--	--	--	--	--
30-65	0.101*** (0.001)	--	--	--	--	--	--	--
<b>1<sup>st</sup> Generation</b>								
< 30	--	0.107*** (0.007)	0.060*** (0.009)	0.094*** (0.003)	0.071*** (0.013)	0.052*** (0.006)	0.035*** (0.003)	-0.018*** (0.005)
30-65	--	0.097*** (0.002)	0.042*** (0.004)	0.054*** (0.002)	0.016* (0.009)	0.045*** (0.005)	-0.007*** (0.002)	-0.076*** (0.005)
<b>2<sup>nd</sup> Generation – Parents from the Same Country of Origin</b>								
< 30	--	0.060*** (0.004)	0.043*** (0.014)	0.047*** (0.006)	-0.034 (0.026)	0.020** (0.008)	0.025*** (0.004)	0.036*** (0.010)
30-65	--	0.101*** (0.004)	0.097*** (0.010)	0.056*** (0.008)	-0.076 (0.204)	0.107 (0.111)	0.071*** (0.019)	0.111* (0.063)
<b>2<sup>nd</sup> Generation – Full Sample</b>								
< 30	--	0.052*** (0.002)	0.050*** (0.004)	0.047*** (0.004)	0.027*** (0.009)	0.034*** (0.006)	0.028*** (0.003)	0.039*** (0.006)
30-65	--	0.100*** (0.002)	0.085*** (0.004)	0.074*** (0.004)	0.096*** (0.009)	0.059** (0.025)	0.077*** (0.010)	0.088*** (0.019)

Note: Reported coefficients are for a female dummy variable in separate estimations, for each age cohort and region of origin, on the probability of being university educated based on register information on highest level of completed education. Included in estimation are controls for age (quadratic). Robust standard errors in parenthesis.

Both measures of education therefore suggest that females tend to have higher years of education as well as higher probabilities of being university educated in comparison to men from the same region of origin and age cohort. Deviations from this pattern, for example in terms of relatively lower levels of higher education for Asian and African first generation females, are reversed in the second generation and approach the native norm of positive gender gaps in education. Results therefore suggest that a process of social integration in gender norms on education is occurring.

### ***Marriage Patterns***

The degree of assortative mating in terms of immigrant status or national background is an interesting measure of social integration as marriage markets reflect the degree of openness between social groups. If for example social or economic boundaries between ethnic or

national groups are strong due to residential or workplace segregation, a high degree of assortative mating within ethnic/national groups may prevail, reinforcing social and economic gaps across generations. As such, marriage gaps to natives are analyzed for a broad range of marriage patterns (international marriage, intra-national marriage, young marriage, cohabitation, divorce and partner age gaps). Estimations of native-immigrant differences in marriage patterns are based on individuals thirty years or older in order to mitigate censoring problems or selection effects. With the exception of young marriage, estimations are also based on current unions. In general, parental pressure is thought to be lower in higher order partnerships implying for example that rates of intermarriage may be larger for those in second (or higher order) partnerships. Unfortunately, we are unable to control for this in estimation.

### ***International Marriage***

Results of linear probability models on international marriage, defined as a partnership to someone born abroad, are presented in Table 5. As expected, first generation immigrants are significantly more likely than natives to be partnered with someone who is also born abroad. This is, at least partially, due to the fact that spouses immigrate together. Indeed, 38 percent of the foreign born with a foreign born partner immigrated within two years of each other suggesting that they were married before immigration to Sweden. First generation immigrants from the Nordic countries, West Europe and South America are associated with approximately 30 to 45 percentage point higher probabilities than natives of partnering with a foreign-born person while those from East Europe, North/Central America, Asia and Africa indicate a lower relative gap at approximately 18 percentage points.

**Table 5: International Marriage (Thirty Plus Age Group)**

	<b>1<sup>st</sup> Generation</b>	<b>2<sup>nd</sup> Generation – Parents Same Origin</b>	<b>2<sup>nd</sup> Generation – Full Sample</b>
Native with Native Parents	Ref	Ref	Ref
Nordic	0.315*** (0.001)	0.032*** (0.001)	0.015*** (0.001)
West Europe	0.414*** (0.002)	0.048*** (0.003)	0.015*** (0.001)
East Europe	0.186*** (0.001)	0.101*** (0.003)	0.040*** (0.001)
South America	0.459*** (0.004)	0.025 (0.046)	0.007*** (0.002)



North/Central America	0.234*** (0.002)	0.033 (0.030)	0.028*** (0.006)
Asia	0.179*** (0.001)	0.230*** (0.010)	0.059*** (0.003)
Africa	0.188*** (0.002)	0.180*** (0.028)	0.028*** (0.005)
No. of Observations		3,837,395	4,111,711
R <sup>2</sup>		0.139	0.132
Controls	Age (quadratic), Education, Gender		

Note: Linear probability model on international marriage defined as a partnership to a foreign born individual. No. of observations varies as estimation is done separately for two different samples of second generation together with the same sample of natives and first generation immigrants. Robust standard errors in parenthesis.

Marriage gaps to natives in terms of international marriage probabilities decrease considerably for second generation immigrants with homogenous national backgrounds from all regions except for those with Asian and African origin and are insignificant for those with origins in South and North/Central America. Although results for those with Asian and African backgrounds suggest a lack of social integration to natives across immigrant generations, this result is heavily contingent on having a homogenous foreign national background. If this restriction is relaxed and estimation is based on all second generation immigrants, a clear reduction in international marriage propensities for the second generation is noted even for those with Asian and African backgrounds. In these estimations, and in comparison to natives, second generation immigrants from Asia are associated with 5.9 percentage point higher probabilities of international marriage and second generation immigrants from Africa with only 2.8 percentage point higher relative probabilities.

These results suggest that it is important to consider not only the selected sample of second generation immigrants with parents from the same country of region but also the majority of second generation immigrants with mixed backgrounds. The few indications of a lack of social integration in international marriage rates across immigrant generations found for the sample of second generation immigrants with homogenous backgrounds disappear when the full sample of second generation immigrants is considered in the analysis. These results are consistent with a higher relative focus on ethnicity as a basis for marital choice in families with homogenous national backgrounds in comparison to families with mixed backgrounds.

### *Intra-national Marriage*

Results of linear probability models on intra-national marriage are shown in Table 6. As expected, due to the high propensity of natives to partner with other natives, both first and second generation immigrants are associated with significantly lower levels of intra-national marriage than natives. A comparison of first and second generation immigrants suggests that differences to natives are larger in the second generation for most regions of origin, implying a significant decline in the propensity to marry within ones non-Swedish ethnic group. Differences between first generation immigrants and second generation immigrants with homogenous foreign backgrounds are insignificant for those stemming from South American and Africa but become large and significant in the full sample of second generation immigrants. A significantly lower propensity to intra-marry in the second generation compared to the first generation suggests that the social boundaries between ethnic groups in Sweden are declining across immigrant generation leading to higher inter-marriage rates.

**Table 6: Intra-National Marriage (Thirty Plus Age Group)**

	1 <sup>st</sup> Generation	2 <sup>nd</sup> Generation – Parents Same Origin	2 <sup>nd</sup> Generation – Full Sample
Native with Native Parents	Ref	Ref	Ref
Nordic	-0.299*** (0.001)	-0.426*** (0.001)	-0.464*** (0.001)
West Europe	-0.362*** (0.002)	-0.458*** (0.003)	-0.496*** (0.001)
East Europe	-0.088*** (0.001)	-0.397*** (0.002)	-0.469*** (0.001)
South America	-0.439*** (0.002)	-0.472*** (0.003)	-0.503*** (0.001)
North/Central America	-0.265*** (0.002)	-0.398*** (0.035)	-0.474*** (0.004)
Asia	-0.048*** (0.001)	-0.252*** (0.026)	-0.447*** (0.026)
Africa	-0.211*** (0.002)	-0.299*** (0.010)	-0.469*** (0.003)
No. of Observations		3,846,049	4,111,711
R <sup>2</sup>		0.139	0.094
Controls	Age (quadratic), Education, Gender		

Note: Linear probability model on ethnic endogamy defined as a partnership to someone from the same country of origin (own or parents). No. of observations varies as estimation is done separately for two different samples of second generation together with the same sample of natives and first generation immigrants. Robust standard errors in parenthesis.

### *Young Marriages*

Another measure of social integration concerns the probability of marrying young, that is to say before (or during) the age of 25. Date of marriage is registered only for those who change their civil status in Sweden. This implies that for first generation immigrants, date of first marriage is based on first marriage in Sweden, after immigration. The proportion that married young will therefore be underestimated for those that immigrated to Sweden as adults. For this reason, the discussion focuses on differences in the propensity to marry young between natives and second generation immigrants only.

Results from linear probability models on young marriage are reported in Table 7. Results for the selected sample of second generation immigrants with homogenous backgrounds indicate that those with origins in West Europe, East Europe, Asia and Africa are associated with higher probabilities of young marriage than likewise natives. Differences are largest for those with Asian backgrounds with a 15.6 percentage point higher relative probability of young marriage. No young marriage gap to natives is found for those with Nordic backgrounds and only weakly significant differences for those with South and North/Central America backgrounds.

**Table 7: Young Marriage (Thirty Plus Age Group)**

	<b>1<sup>st</sup> Generation</b>	<b>2<sup>nd</sup> Generation – Parents Same Origin</b>	<b>2<sup>nd</sup> Generation – Full Sample</b>
Native with Native Parents	Ref	Ref	Ref
Nordic	NA	-0.002 (0.002)	-0.006*** (0.001)
West Europe	NA	0.012*** (0.004)	-0.016*** (0.001)
East Europe	NA	0.058*** (0.003)	0.009*** (0.002)
South America	NA	-0.087* (0.045)	-0.001 (0.004)
North/Central America	NA	0.046* (0.028)	-0.016* (0.008)
Asia/Middle East	NA	0.156*** (0.010)	0.025*** (0.003)
Africa	NA	0.089*** (0.023)	0.013** (0.006)
No. of Observations		3,200,474	3,474,663
R <sup>2</sup>		0.058	0.057
Controls	Age (quadratic), Education, Gender		

Note: Linear probability model on young marriage defined as marriage before on or before the age of 25. No. of observations varies as estimation is done separately for two different samples of second generation together with the same sample of natives and first generation immigrants. Robust standard errors in parenthesis.

Results based on the full sample of second generation immigrants show that second generation immigrants from the Nordic countries, West Europe, South and North/Central America are associated with similar or significantly lower young marriage probabilities in comparison to natives. Those with Asian and African backgrounds continue to show significantly higher relative probabilities but at considerably smaller levels than those reported for the selected sample of second generation immigrants with homogenous backgrounds. In the full sample, second generation immigrants with Asian backgrounds are associated with only a 2.5 percentage point higher relative probability of young marriage and those with African backgrounds with a 1.3 percentage point higher relative probability.

### ***Cohabitation***

Cohabitation without formal marriage is a relatively common phenomenon in Sweden. Eleven percent of the working age population today is registered as cohabiting in comparison to 40 percent who are registered as married. Registered information on cohabitation is based on household information and available only for those cohabitants that have children in common meaning that we miss cohabitants without children. Nonetheless, cohabitation is a recognized legal union for couples that live together on a permanent basis even for those without children. Sweden and Denmark are often seen as the forerunners of this type of household constellation. Already in the early 1960s, cohabitation became socially acceptable as a type of trial marriage. By 1975, the social pressure for cohabiting couples to marry was relaxed and cohabitation became an accepted alternative to marriage. This family type is however less common in Non-Nordic countries, especially for couples with children, suggesting that cohabitation can be an interesting measure of social integration between immigrants and natives in Sweden.

**Table 8: Cohabitation (Thirty Plus Age Group)**

	<b>1<sup>st</sup> Generation</b>	<b>2<sup>nd</sup> Generation – Parents Same Origin</b>	<b>2<sup>nd</sup> Generation – Full Sample</b>
Native with Native Parents	Ref	Ref	Ref
Nordic	-0.013*** (0.001)	-0.004*** (0.002)	-0.004*** (0.001)

West Europe	-0.040*** (0.001)	-0.052*** (0.004)	-0.023*** (0.001)
East Europe	-0.067*** (0.001)	-0.051*** (0.003)	-0.028*** (0.002)
South America	-0.069*** (0.002)	-0.133*** (0.037)	-0.022*** (0.003)
North/Central America	-0.033*** (0.002)	-0.102*** (0.039)	-0.040*** (0.008)
Asia	-0.104*** (0.001)	-0.110*** (0.006)	-0.048*** (0.003)
Africa	-0.094*** (0.001)	-0.153*** (0.018)	-0.071*** (0.018)
No. of Observations		3,837,395	4,111,711
R <sup>2</sup>		0.058	0.056
Controls	Age (quadratic), Education, Gender		

Note: Linear probability model on cohabitation defined for cohabitants with children in common. No. of observations varies as estimation is done separately for two different samples of second generation together with the same sample of natives and first generation immigrants. Robust standard errors in parenthesis.

Results from linear probability models on cohabitation are shown in Table 8. Differences to natives are surprisingly small for both first and second generation immigrants. Among first generation immigrants, this is partially a reflection of higher marriage propensities than natives rather than cohabitation.<sup>13</sup> The largest difference to natives among first generation immigrants is found for those born in an Asian country with a 10.4 lower percentage point probability of cohabitation relative to natives.<sup>14</sup> Second generation immigrants are in some cases found to be even less likely than first generation immigrants to cohabit (relative to natives) suggesting a lack of social integration across immigrant generations in this dimension. This is the case for second generation immigrants with homogenous national backgrounds stemming from South and North/Central America and Africa. In this case, lower propensities to cohabit do not stem from higher marriage propensities as these two groups have similar propensities to be married rather than single in comparison to natives (see Table A1 in appendix).

When estimation is based on all second generation immigrants including those with mixed backgrounds, although point estimates continue to show significantly lower likelihood of

<sup>13</sup> See Table A1 in Appendix for an analysis of differences in marital status between natives and first and second generation immigrants. A multinomial logit model on four civil status categories is estimated; single, married/registered partner, cohabitant or divorced. With the exception of first generation immigrants from the Nordic countries, all first generation immigrants are more likely to be married than single relative to natives. These estimations also confirm lower propensities to cohabit than remain single relative to natives.

<sup>14</sup> Asian first generation immigrants also have the highest relative probability of being married rather than single in comparison to natives (see Table A1).

cohabitation for all origin groups, coefficient estimates are smaller than those found for first generation immigrants from the same region of origin (with the exception of North/Central Americans). Similar results are found when taking into account different forms of marital status (see Table A1 in Appendix). Results therefore suggest that a process of social integration across immigrant generations in terms of cohabitation is occurring for the majority of immigrants in Sweden.

### ***Divorce***

Based on registered information on current civil status, the probability of being divorced is estimated with linear probability models. Results, reported in Table 9, show that both first and second generation immigrants are associated with higher divorce rates than natives (with the exception of second generation immigrants with backgrounds in a South America country who indicate no divorce gap to natives). Divorce gaps to natives are highest for first generation immigrants from North/Central America and Africa (approximately 16 percentage points higher than natives).<sup>15</sup> In the second generation, divorce gaps to natives are highest for second generation immigrants with homogenous backgrounds stemming from an African country (9.7 percentage point higher relative probability). In the full sample of second generation immigrants, differences between regions are small, a positive divorce gap to natives of approximately 2 percentage points is found for all regions (except South America). As divorce gaps to natives are smaller among second generation immigrants in comparison to first generation immigrants, results again suggest that a process of social integration to native norms is occurring. See also Table A1 in Appendix.

**Table 9: Divorce (Thirty Plus Age Group)**

	<b>1<sup>st</sup> Generation</b>	<b>2<sup>nd</sup> Generation – Parents Same Origin</b>	<b>2<sup>nd</sup> Generation – Full Sample</b>
Native with Native Parents	Ref	Ref	Ref
Nordic	0.059*** (0.001)	0.019*** (0.001)	0.020*** (0.001)
West Europe	0.042*** (0.002)	0.020*** (0.004)	0.020*** (0.001)

<sup>15</sup> Estimation allowing for different types of civil status (see Table A1 in Appendix) confirm that first generation immigrants are more likely to be divorced than single relative to natives, regardless of region of origin and that differences to natives decrease for the second generation with the exception of second generation immigrants with African backgrounds who have similar divorce propensities as first generation immigrants from African countries.

East Europe	0.092*** (0.001)	0.028*** (0.003)	0.020*** (0.001)
South America	0.088*** (0.003)	0.039 (0.060)	0.001 (0.003)
North/Central America	0.163*** (0.002)	0.043* (0.026)	0.023*** (0.007)
Asia	0.077*** (0.001)	0.040*** (0.008)	0.025*** (0.003)
Africa	0.165*** (0.002)	0.097*** (0.023)	0.023*** (0.005)
No. of Observations		3,837,395	4,111,711
R <sup>2</sup>		0.039	0.039

Controls Age (quadratic), Education, Gender

Note: Linear probability models on divorce. No. of observations varies as estimation is done separately for two different samples of second generation together with the same sample of natives and first generation immigrants. Robust standard errors in parenthesis.

### *Partner Age Gaps*

On average, natives differ in age from their partners by 3.3 years, first generation immigrants by 5 years and second generation immigrants by 3.5 years. Results from OLS estimation on partner age gaps controlling for differences in age, education and gender are shown in Table 10. As expected, first generation immigrants tend to have larger age gaps between partners than natives, with as much as 4 years for those born in an African country. In the second generation, relative differences to natives are much reduced for all groups in comparison to first generation levels, especially when considering the full sample of second generation immigrants.

**Table 10: Partner Age Gaps (Thirty Plus Age Group)**

	1 <sup>st</sup> Generation	2 <sup>nd</sup> Generation – Parents Same Origin	2 <sup>nd</sup> Generation – Full Sample
Native with Native Parents	Ref	Ref	Ref
Nordic	0.391*** (0.012)	0.179*** (0.020)	0.198*** (0.010)
West Europe	1.040 *** (0.022)	0.382*** (0.052)	0.214*** (0.018)
East Europe	1.369*** (0.014)	0.182*** (0.035)	0.140*** (0.019)
South America	1.254*** (0.050)	1.034* (0.544)	0.080** (0.039)
North/Central America	1.519*** (0.035)	0.208 (0.569)	0.123 (0.108)
Asia	2.615*** (0.014)	0.248*** (0.091)	0.294*** (0.043)

Africa	4.009*** (0.040)	1.306*** (0.350)	0.293*** (0.087)
No. of Observations		2,335,102	2,490,230
R <sup>2</sup>		0.054	0.051
Controls	Age (quadratic), Education, Gender		

Note: OLS estimations on partner age gaps defined as the absolute value of partner age differences. No. of observations varies as estimation is done separately for two different samples of second generation together with the same sample of natives and first generation immigrants. Robust standard errors in parenthesis.

### ***Female Employment Rates***

Unlike social integration, the economic integration of immigrants and natives in Sweden has been widely researched. The consensus in this literature is that employment gaps to natives are larger than wage gaps. Due to widespread unionization and collective agreements that also cover non-union members, the scope for wage discrimination in Sweden is relatively small. In addition, native-immigrant wage gaps have been found to be smaller among female workers than male workers (le Grand and Szulkin, 2002). Differences in female employment rates to natives can reflect both social and economic integration as a decline in employment gaps between native and immigrant women is a sign of economic integration but also a sign of social integration due to potentially different initial norms concerning the trade-off between home and market production.<sup>16</sup>

Results from linear probability models on employment comparing native women with first and second generation women are shown in Table 11. Three specifications are shown, for the entire sample as well as for two immigrant age-cohorts (younger than 30 and 30 plus). Throughout, the reference group is working age native women (16-65). Results for all women (Column 1), indicates that there is a significant employment gap to natives for all first and second generation immigrants. In comparison to first generation immigrants, the employment gap to natives for second generation immigrants is significantly smaller for all groups suggesting both social and economic integration across immigrant generations. A comparison of the two age cohorts of immigrants shows that gaps to natives among first generation immigrants are larger for the older age group for all regions except the Nordic and West European.

**Table 11: Female Employment Rates**

	All	Immigrants Under Thirty	Immigrants Thirty Plus
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<sup>16</sup> See also estimation of female native-immigrant income gaps reported in Table A2.



Natives with Native Parents (16-65)	Ref.	Ref.	Ref.
<b>1<sup>st</sup> Generation:</b>			
Nordic	-0.098*** (0.001)	-0.132*** (0.006)	-0.098*** (0.001)
West Europe	-0.189*** (0.003)	-0.208*** (0.007)	-0.188*** (0.003)
East Europe	-0.206*** (0.001)	-0.141*** (0.003)	-0.228*** (0.002)
South America	-0.233*** (0.005)	-0.228*** (0.011)	-0.238*** (0.006)
North/Central America	-0.175*** (0.003)	-0.115*** (0.006)	-0.201*** (0.004)
Asia	-0.284*** (0.001)	-0.208*** (0.002)	-0.323*** (0.002)
Africa	-0.264*** (0.006)	-0.210*** (0.005)	-0.291*** (0.004)
<b>2<sup>nd</sup> Generation – Parents from the Same Country of Origin</b>			
Nordic	-0.037*** (0.002)	0.006 (0.005)	-0.056*** (0.003)
West Europe	-0.087*** (0.006)	-0.122*** (0.013)	-0.074*** (0.007)
East Europe	-0.060*** (0.004)	-0.065*** (0.006)	-0.054*** (0.005)
South America	-0.171*** (0.037)	-0.170*** (0.039)	-0.132 (0.101)
North/Central America	-0.108*** (0.009)	-0.101*** (0.010)	-0.080 (0.068)
Asia	-0.091*** (0.004)	-0.085*** (0.004)	-0.074*** (0.014)
Africa	-0.132*** (0.011)	-0.122*** (0.012)	-0.150*** (0.045)
No. of Observations	2,548,710	2,188,280	2,427,294
R <sup>2</sup>	0.221	0.237	0.208
<b>2<sup>nd</sup> Generation – Full Sample:</b>			
Nordic	-0.035*** (0.001)	-0.005 (0.002)	-0.048*** (0.001)
West Europe	-0.053*** (0.002)	-0.053*** (0.004)	-0.053*** (0.002)
East Europe	-0.052*** (0.002)	-0.056*** (0.004)	-0.048*** (0.003)
South America	-0.034*** (0.005)	-0.090*** (0.009)	-0.012** (0.005)
North/Central America	-0.081*** (0.006)	-0.076*** (0.006)	-0.063*** (0.015)
Asia	-0.079*** (0.003)	-0.077*** (0.003)	-0.064*** (0.005)
Africa	-0.096*** (0.005)	-0.093*** (0.006)	-0.085*** (0.011)
No. of Observations	2,753,867	2,259,718	2,561,013

R <sup>2</sup>	0.222	0.244	0.203
Controls	Age (quadratic), Education		

Note: Linear probability models on employment. Robust standard errors in parenthesis.

There are a number of potential explanations for larger employment gaps to natives among older female first generation immigrants. Older first generation immigrants have a higher age at immigration (on average, first generation immigrants in the thirty plus cohort are 25 years old at immigration in comparison to 13 years old for the younger cohort) which may decrease social and economic integration rates. The older cohort also has a higher duration of residence, 25 percent immigrated before the mid 1970s in comparison to less than one percent in the younger cohort.<sup>17</sup> A higher duration of residence should arguably improve employment chances. However, the immigrants that arrived prior to the mid 1970s were primarily labor immigrants recruited to work in the booming manufacturing sector. Female immigrants at the time had higher employment rates than likewise natives, which has subsequently lead to higher rates of early retirement due to disabilities or for other health related reasons. There may also be cohort effects not accounted for in estimation. Gaps to natives among second generation immigrants are for many groups larger in the younger age group. Note again that sample sizes are small for older second generation females from South and North/Central America with homogenous national backgrounds.

### *Female Education Gaps*

As a final measure of social and economic integration, female native-immigrant gaps in education are examined. Results from estimation of age left full time education for women are shown in Table 12.

**Table 12: Female Education Levels (Dependent Variable: Age Left Full-Time Education)**

	All	Immigrants Under Thirty	Immigrants Thirty Plus
Natives with Native Parents (16-65)	Ref.	Ref.	Ref.
<b>1<sup>st</sup> Generation:</b>			
Nordic	1.376*** (0.036)	1.144*** (0.043)	1.430*** (0.040)
West Europe	1.124*** (0.067)	1.145*** (0.056)	1.147*** (0.083)
East Europe	0.254***	0.364***	0.215***

<sup>17</sup> Note that duration of residence is based on latest year of immigration which may underestimate duration of residence for frequent migrants. This may especially be true for immigrants from the Nordic countries.

	(0.031)	(0.019)	(0.048)
South America	1.440***	0.660***	1.822***
	(0.102)	(0.078)	(0.143)
North/Central America	0.917***	0.048	1.533***
	(0.054)	(0.038)	(0.085)
Asia	0.781***	0.207***	1.342***
	(0.025)	(0.017)	(0.044)
Africa	1.041***	-0.299***	2.363***
	(0.061)	(0.039)	(0.111)
<b>2<sup>nd</sup> Generation – Parents from the Same Country of Origin:</b>			
Nordic	-0.451***	-0.309***	-0.486***
	(0.037)	(0.029)	(0.055)
West Europe	-0.455***	0.095	-0.665***
	(0.099)	(0.081)	(0.140)
East Europe	-0.334***	-0.052	-0.597***
	(0.050)	(0.037)	(0.094)
South America	-0.740***	-1.024***	0.817
	(0.286)	(0.187)	(1.596)
North/Central America	-0.589***	-0.666***	2.078**
	(0.062)	(0.059)	(0.988)
Asia	-0.571***	-0.618***	-0.257
	(0.031)	(0.024)	(0.276)
Africa	-0.434***	-0.610***	1.470***
	(0.073)	(0.061)	(0.581)
No. of Observations	1,810,550	1,644,419	1,715,209
R <sup>2</sup>	0.323	0.332	0.310
<b>2<sup>nd</sup> Generation – Full Sample:</b>			
Nordic	-0.085***	-0.107***	-0.004
	(0.020)	(0.014)	(0.030)
West Europe	0.275***	0.341***	0.310***
	(0.032)	(0.025)	(0.048)
East Europe	0.013	0.171***	-0.051
	(0.031)	(0.023)	(0.053)
South America	0.183**	0.070	0.290**
	(0.091)	(0.055)	(0.140)
North/Central America	-0.109**	-0.267***	0.981***
	(0.046)	(0.038)	(0.263)
Asia	-0.157***	-0.375***	0.685***
	(0.029)	(0.019)	(0.115)
Africa	0.097**	-0.242***	1.356***
	(0.049)	(0.039)	(0.174)
No. of Observations	1,976,128	1,713,377	1,811,829
R <sup>2</sup>	0.325	0.435	0.302
Controls		Age (quadratic)	

Note: OLS estimation age left full time education. Robust standard errors in parenthesis.

Results for all women (Table 12, Column 1) indicate that first generation immigrants have positive education gaps to natives, i.e., higher years of education. Second generation

immigrant women with homogenous national backgrounds are associated with significantly lower years of education than natives, regardless of region of origin. In the full sample of second generation immigrants, gaps to natives are negative and significant for those with Nordic, North/Central American and Asian backgrounds, but at considerably smaller levels than that found for second generation immigrants with homogenous national backgrounds. Gap to natives are positive and significant for second generation immigrants with West European and South American backgrounds in the full sample. These results suggest a regression to native levels of education across immigrant generations for women. Results may also reflect selection effects, i.e., the fact that second generation immigrants today are to a large degree the descendents of relatively unskilled labor migrants while first generation immigrants today are more likely to be relatively educated refugees or tied movers.

The probability of having a university degree is also estimated and results shown in Table 13. Results indicate greater heterogeneity in higher education gaps between natives and immigrants. First generation immigrants from West Europe and South America are associated with higher probabilities of being university educated in comparison to likewise female natives while first generation immigrants from other regions have lower relative probabilities. In the full sample of second generation immigrants, differences to natives are attenuated in comparison to first generation levels as positive gaps are smaller for West European and South American backgrounds and negative gaps are smaller for the other groups (insignificant for those with backgrounds in East Europe and Africa). Similar to the pattern established above for other social indicators, second generation immigrants with two parents from the same region of origin show relatively less social integration as university gaps to natives are negative and significant for all regions, often at similar or lower levels than first generation immigrants from the same region of origin.

**Table 13: Female Education Levels (Dependent Variable: University Educated)**

	All	Immigrants Under Thirty	Immigrants Thirty Plus
Natives with Native Parents (16-65)	Ref.	Ref.	Ref.
<b>1<sup>st</sup> Generation:</b>			
Nordic	-0.049*** (0.001)	0.154*** (0.006)	-0.064*** (0.001)
West Europe	0.110*** (0.003)	0.222*** (0.007)	0.091*** (0.003)
East Europe	-0.015*** (0.001)	0.030*** (0.003)	-0.027*** (0.002)

South America	0.190*** (0.006)	0.124*** (0.003)	0.213*** (0.007)
North/Central America	-0.026*** (0.003)	-0.034*** (0.004)	-0.021*** (0.004)
Asia	-0.045*** (0.001)	-0.015*** (0.002)	-0.055*** (0.002)
Africa	-0.136*** (0.003)	-0.096*** (0.004)	-0.149*** (0.003)
<b>2<sup>nd</sup> Generation – Parents from the Same Country of Origin:</b>			
Nordic	-0.101*** (0.002)	-0.057*** (0.003)	-0.115*** (0.003)
West Europe	-0.034*** (0.006)	0.004 (0.011)	-0.044*** (0.008)
East Europe	-0.018*** (0.004)	-0.006 (0.005)	-0.019*** (0.006)
South America	-0.062** (0.026)	-0.084*** (0.015)	0.089 (0.118)
North/Central America	-0.072*** (0.006)	-0.065*** (0.006)	0.070 (0.081)
Asia	-0.064*** (0.003)	-0.055*** (0.003)	-0.056*** (0.014)
Africa	-0.054*** (0.008)	-0.051*** (0.008)	0.032 (0.047)
No. of Observations	2,548,710	2,188,280	2,427,294
R <sup>2</sup>	0.043	0.049	0.039
<b>2<sup>nd</sup> Generation – Full Sample:</b>			
Nordic	-0.057*** (0.001)	-0.029*** (0.002)	-0.064*** (0.002)
West Europe	0.012*** (0.002)	0.016*** (0.003)	0.015*** (0.003)
East Europe	-0.003 (0.002)	0.006** (0.003)	-0.002 (0.003)
South America	0.043*** (0.005)	-0.014*** (0.007)	0.070*** (0.007)
North/Central America	-0.034*** (0.004)	-0.040*** (0.004)	0.073*** (0.018)
Asia	-0.025*** (0.002)	-0.035*** (0.002)	0.037*** (0.007)
Africa	-0.006 (0.005)	-0.031*** (0.005)	0.104*** (0.013)
No. of Observations	2,753,781	2,259,695	2,560,950
R <sup>2</sup>	0.045	0.053	0.037
Controls		Age (quadratic)	

Note: linear probability models on the probability of having a university degree. Robust standard errors in parenthesis.

### ***Subjective Values – Acculturation Identity***

No information on subjective values is available in the register data used above to estimate the

social integration between natives and immigrants. Data on subjective values in Sweden comes from survey studies which tend to cover smaller, not always random, samples of the population. One such survey is the 1995 *Follow-up Surveys of Pupils* which follows a cohort of students that graduated from compulsory school in 1988.<sup>18</sup> The 1995 survey, conducted seven years after graduation from compulsory school when the majority of respondents were 23 years of age, sampled the entire population of students with immigrant backgrounds, defined as having one or both parents born abroad (in total 4,867 individuals). These individuals were asked a number of specific questions relating to their foreign background, including questions concerning identification to the (ethnic) background culture and the (Swedish) majority culture. Similar questions were not asked to respondents with Swedish backgrounds prohibiting a comparison of identity between natives and immigrants. In addition, as the sample surveyed consists of a cohort of compulsory school graduates, immigrants in the sample are either born in Sweden with a foreign born parent (second generation) or foreign born but immigrated before the age of sixteen (middle generation). As such, a comparison across two immigrant generations is less relevant as the majority of the foreign born in the sample immigrated to Sweden before school start.

Nonetheless, survey responses provide unique information on how a cohort of students with immigrant backgrounds identify to the majority society and to their background cultures. Respondents were asked the following questions: To what degree do you feel affinity to your original background culture? To what degree do you feel affinity to Swedish culture? Answers to these questions are coded into a four-level scale based on the answer options available (completely, partially, little, not at all). Departing from a categorization of individual identity, the acculturation framework developed in the cross-cultural psychology literature, individuals are coded into one of the following four categories (Berry, 1997; Berry and Sam, 1997; Berry *et al.*, 2006; Phinney 1989, 1990; Phinney *et al.*, 2001; Martinez and Dukes, 1997). The first, *integration*, implies a strong sense of belonging to the ethnic group together with a strong identification to the majority society. *Assimilation* implies a strong identification to the majority culture but weakened ties to the culture of origin while *separation* is the opposite, a strong affiliation to the ethnic group but weak ties to the

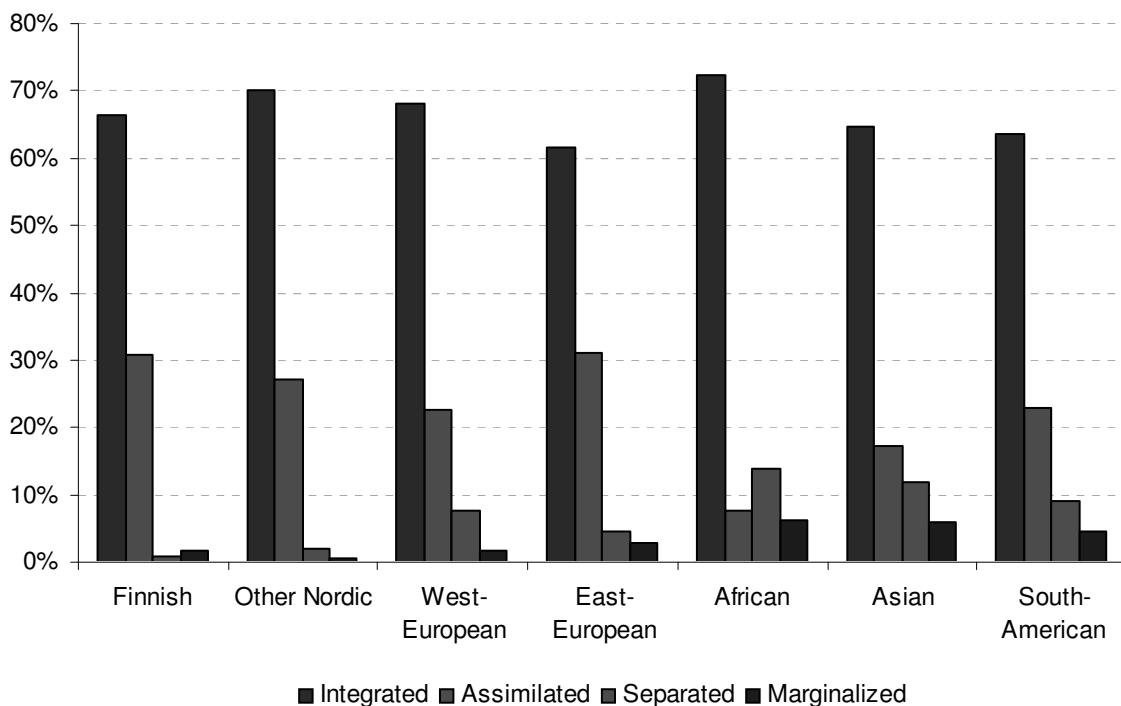
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<sup>18</sup> Previous surveys on this cohort of students were conducted in 1990 and 1992.

majority. Finally, *marginalization* implies weak ties to both the ethnic group and the majority.<sup>19</sup>

The distribution of acculturation identity for respective region of origin is shown in Figure 1.<sup>20</sup> Within each region, the majority of respondents self-identify as integrated. Thereafter, the next largest proportion of respondents self-identify as assimilated. This implies that the vast majority in each region completely or partially feel an affinity for the Swedish majority culture. Those with Non-European backgrounds (African, Asian and South American) have the highest relative shares of separated and marginalized but these groups also have the highest share of individuals born abroad. Ninety-three percent of respondents with non-European backgrounds were born abroad and immigrated before 1988 compared to approximately 30 percent of those with Nordic or European backgrounds.<sup>21</sup>

**Figure 1: Distribution of Acculturation Identity (Self-Assessed), by Region of Origin**



their ethnic background culture are categorized as *assimilated*. At the other extreme, those that identify with the ethnic background culture (completely or partially) but do not identify with the majority culture (little or not at all) are categorized as *separated*. Individuals that identify both with the majority culture and the ethnic group (completely or partially on respective question) are categorized as *integrated* and finally, individuals that do not identify with either culture (little or not at all on respective question) are categorized as *marginalized*.

<sup>20</sup> Note that few respondents to the survey had North American backgrounds. This group is therefore not included in the comparison.

<sup>21</sup> Separate estimation by immigration status yields largely similar results for middle and second generation immigrants. This is a likely consequence of the sample surveyed where the foreign born by definition have a low age at entry.

## **5. Conclusions**

Using data on the entire working age population of Sweden in 2005, this study has analyzed gaps to natives on a number of social measures for first and second generation immigrants. Nine social measures are considered; within region gender gaps in education, international marriage, intra-national marriage, marriage rates at age 25, cohabitation, divorce, partner age gaps, female employment rates and female education levels. Social integration is measured by differences to natives across immigrant generations from the same region of origin.

For comparative purposes, estimation on second generation immigrants is based on two samples of second generation immigrants. Initially, a selected sample of second generation immigrants with parents from the same country of origin is considered. This group constitutes about 23 percent of the population of second generation immigrants defined as individuals born in Sweden with at least one foreign born parent. The majority of second generation immigrants therefore have mixed backgrounds, of which 68 percent have one foreign born parent and one Swedish born parent. A second round of estimation is therefore based on the full sample of second generation immigrants including those with mixed backgrounds. Region of origin for those with mixed backgrounds is based on mother's country of origin or, when the mother is Swedish born, father's country of origin.

Results, across the board, suggest a large degree of social integration between natives and immigrants in Sweden. Gender gaps in education as measured by age left full time education are positive for all immigrant groups (and natives) with the exception of first generation immigrants from Africa for whom no gender differences in education are found. Younger second generation immigrants with African origin, however, show a positive gender gap in education suggesting social integration across immigrant generations to native norms concerning female education.

An analysis of marriage patterns (international marriage, intra-national marriage, divorce, cohabitation and partner age gaps), suggests a high degree of social integration across generations. Deviations from this pattern, for example no reduction in international or intra-national marriage propensities across immigrant generations for some groups, is highly contingent on the selected sample of second generation immigrants with both parents from the



same country of origin. When estimation includes the majority of second generation immigrants with mixed backgrounds, relative gaps to natives always decrease significantly from first generation levels indicating that a process of social integration is occurring for the majority of immigrants to Sweden.

Other indicators such as female employment rates and female education levels yield similar results. Female employment gaps to natives are found to be negative and significant for both first and second generation immigrants, but relative gaps to natives smaller among second generation immigrants. In terms of education gaps, first generation immigrants are found to have positive education gaps to natives, i.e., higher years of education as measured by age left full time education, while second generation immigrants (full sample) are associated with smaller or insignificant positive gaps or negative and significant gaps to natives, indicating a regression to native levels of education.

A remaining question to answer is why social integration patterns are weaker for the selected (and relatively small) sample of second generation immigrants with homogenous national backgrounds. Results concerning partnership patterns are in line with theories stressing a higher relative emphasis on ethnic group belonging as a basis for marital choices in families with homogenous backgrounds. A lower degree of integration in terms of female employment rates and female education levels among this group of second generation immigrants may also be due to a higher orientation towards origin countries implying lower investment in host country skills and less interaction with the majority population (as well as other ethnic groups) such that the social and economic boundaries between groups remain relatively more persistent across generations.

In conclusion, results from this study show that there is a process of social integration occurring between natives and immigrants in Sweden as measured by relative gaps to natives across immigrant generations from the same region of origin. Initial differences in social measures are expected as it is precisely these differences which may define the social norms of the majority population. Due to subsequent adaptations in both the majority and minority populations, initial differences are expected to diminish over time and across generations. This study provides empirical support that such a process is indeed occurring across immigrant generations in Sweden.

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## Appendix

**Table A1: Multinomial Logit Estimation of Marital Status (Single, Married, Cohabitation, Divorce).**

	1 <sup>st</sup> Generation	2 <sup>nd</sup> Generation – Parents Same Origin	2 <sup>nd</sup> Generation – Full Sample
<b>Marriage</b>			
Native with Native Parents	Ref	Ref	Ref
Nordic	-0.217*** (0.007) [-0.061]	-0.236*** (0.011) [-0.056]	-0.230*** (0.006) [-0.052]
West Europe	0.220*** (0.011) [0.034]	-0.084*** (0.027) [-0.007]	-0.171*** (0.010) [-0.033]
East Europe	0.972*** (0.009) [0.111]	-0.006 (0.021) [0.002]	-0.181*** (0.011) [-0.032]
South America	0.296*** (0.023) [0.017]	-0.041 (0.438) [0.008]	-0.080*** (0.024) [-0.001]
North/Central America	0.197*** (0.015) [-0.054]	-0.893*** (0.291) [-0.210]	-0.368*** (0.057) [-0.068]
Asia	1.260*** (0.008) [0.160]	0.504*** (0.061) [0.091]	-0.120*** (0.023) [-0.016]
Africa	0.921*** (0.015) [0.034]	0.045 (0.154) [-0.078]	-0.391*** (0.043) [-0.066]
<b>Cohabitation</b>			
Native with Native Parents	Ref	Ref	Ref
Nordic	-0.211*** (0.010) [-0.010]	-0.171*** (0.014) [-0.004]	-0.158*** (0.007) [-0.003]
West Europe	-0.307*** (0.018) [-0.036]	-0.507*** (0.040) [-0.033]	-0.291*** (0.013) [-0.016]
East Europe	-0.074*** (0.013) [-0.057]	-0.426*** (0.029) [-0.032]	-0.331*** (0.015) [-0.018]
South America	-0.506*** (0.037) [-0.052]	-1.765* (1.060) [-0.077]	-0.302*** (0.039) [-0.019]
North/Central America	-0.057*** (0.020) [-0.029]	-0.863*** (0.333) [-0.034]	-0.462*** (0.076) [-0.019]
Asia	-0.321*** (0.013)	-0.848*** (0.099)	-0.492*** (0.033)

	[-0.074]	[ -0.066]	[-0.032]
Africa	-0.254***	-1.142	-0.716
	(0.023)	(0.263)	(0.059)
	[-0.065]	[ -0.069]	[-0.035]
<b>Divorce</b>			
Native with Native Parents	Ref	Ref	Ref
Nordic	0.228***	0.072***	0.034***
	(0.008)	(0.017)	(0.008)
	[0.046]	[0.027]	[0.022]
West Europe	0.419***	0.108***	0.062***
	(0.015)	(0.041)	(0.015)
	[0.036]	[0.024]	[0.022]
East Europe	1.282***	0.199***	0.026
	(0.010)	(0.031)	(0.016)
	[0.076]	[0.028]	[0.019]
South America	0.822***	0.323	-0.068**
	(0.030)	(0.622)	(0.033)
	[0.090]	[0.056]	[0.001]
North/Central America	1.083***	0.288	-0.048
	(0.018)	(0.461)	(0.096)
	[0.143]	[0.125]	[0.025]
Asia	1.446***	0.652***	0.100***
	(0.010)	(0.090)	(0.034)
	[0.066]	[0.042]	[0.025]
Africa	1.732***	1.131***	-0.033
	(0.018)	(0.230)	(0.075)
	[0.166]	[0.188]	[0.031]
No. of Observations		3,837,395	4,111,584
Pseudo R <sup>2</sup>		0.070	0.070
Controls	Age, Education, Gender		

Note: Robust standard errors in parenthesis. Marginal effects in square brackets.

**Table A2: Female Income Levels (Dependent Variable: Log Income)**

	All	Immigrants Under Thirty	Immigrants Thirty Plus
Natives with Native Parents (16-65)	Ref.	Ref.	Ref.
<b>1<sup>st</sup> Generation:</b>			
Nordic	-0.073*** (0.004)	-0.010 (0.018)	-0.081*** (0.004)
West Europe	-0.240*** (0.009)	-0.213*** (0.025)	-0.247*** (0.009)
East Europe	-0.304*** (0.004)	-0.185*** (0.010)	-0.341*** (0.004)
South America	-0.367*** (0.016)	-0.342*** (0.038)	-0.377*** (0.018)
North/Central America	-0.301*** (0.009)	-0.148*** (0.018)	-0.362*** (0.010)
Asia	-0.499*** (0.004)	-0.300*** (0.008)	-0.593*** (0.005)
Africa	-0.442*** (0.010)	-0.271*** (0.019)	-0.510*** (0.011)
<b>2<sup>nd</sup> Generation – Parents from the Same Country of Origin</b>			
Nordic	-0.008 (0.006)	0.189*** (0.013)	-0.071*** (0.006)
West Europe	-0.062*** (0.016)	0.006 (0.041)	-0.081*** (0.017)
East Europe	-0.006 (0.016)	-0.023 (0.020)	0.014 (0.012)
South America	-0.780*** (0.197)	-1.068*** (0.247)	0.065 (0.161)
North/Central America	-0.310*** (0.039)	-0.292*** (0.040)	-0.077 (0.191)
Asia	-0.182*** (0.017)	-0.182*** (0.018)	-0.038 (0.036)
Africa	-0.317*** (0.046)	-0.309*** (0.048)	0.168 (0.141)
No. of Observations	2,165,447	1,897,776	2,078,301
R <sup>2</sup>	0.326	0.360	0.312
<b>2<sup>nd</sup> Generation – Full Sample:</b>			
Nordic	-0.038*** (0.003)	0.089*** (0.006)	-0.078*** (0.003)
West Europe	-0.052*** (0.005)	-0.001 (0.012)	-0.064*** (0.006)
East Europe	-0.035*** (0.006)	-0.027** (0.012)	-0.027*** (0.006)
South America	-0.095*** (0.013)	-0.260*** (0.031)	-0.034*** (0.014)
North/Central America	-0.213*** (0.020)	-0.213*** (0.023)	-0.072* (0.038)
Asia	-0.159*** (0.010)	-0.167*** (0.013)	-0.079*** (0.014)

Africa	-0.181*** (0.019)	-0.212*** (0.023)	-0.031 (0.029)
No. of Observations	2,341,251	1,954,290	2,197,591
R <sup>2</sup>	0.330	0.371	0.304
Controls	Age (quadratic), Education		

Note: OLS estimation on annual work income. Robust standard errors in parenthesis.





## The Stockholm University Linnaeus Center for Integration Studies (SULCIS)

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