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Naturalizations and the economic and social integration of immigrants

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Naturalizations and the economic and social integration of immigrants[a]

by

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Abstract

I study the effects of naturalizations on labor market outcomes and family formation. The results show that naturalizations are associated with improving economic outcomes for immigrants from outside the OECD. The strength of the correlation varies depending on the country group and gender. A causal interpretation of the results is not possible as the outcomes start to improve already before the acquisition of citizenship. The study also shows that the propensity to get married rises for some country groups the years surrounding naturalizations. This is suggestive of naturalizations being related to not only labor market integration but also decisions regarding the family. Further, my findings illustrate that modeling assumptions are of great importance. Models that are not flexible enough could lead to false claims regarding causality.

Keywords: naturalizations, labor market outcomes, family formation

JEL-codes: J13, J15, J21, J61

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1 Introduction

Finding ways of better integrating migrants into host societies is high on the policy agenda in most western countries. Evidence from the US, Germany and France has shown that labor market outcomes of migrants improve following naturalizations (Bratsberg et al. 2002, Steinhardt 2012, Fougère and Safi 2009). One proposed explanation to why the outcomes improve is that naturalized citizens move into better jobs (Bratsberg et al. 2002). For example, before naturalization jobs that require citizenship are off limits. In addition, if employers perceive the choice to naturalize as a positive signal this could potentially also enhance labour market opportunities (e.g. OECD 2011). Recent evidence from Norway raises doubt about whether the observed impacts are causal effects or merely correlations (Bratsberg and Raaum 2011). The study shows that outcomes, if affected at all, start to improve already before the acquisition of citizenship. Evidence of labor market outcomes starting to improve before the acquisition of citizenship is found also in Swedish research (Ohlson 2008 and Bevelander and Helgertz 2012)

This paper provides new insights into this body of research. The effects of naturalizations on employment rates and earnings of migrants born outside the OECD are explored. One of the benefits of the study, in comparison with most of the earlier research, is that the model specifications used are very flexible as they capture yearly changes in outcomes during the five year period preceding naturalizations. This is important as it is far from certain that the relationship between naturalizations and the labor market outcomes of migrants is causal. A priori, it is not possible to exclude the possibility of other factors affecting both the labor market outcomes of immigrants and the decision to naturalize, e.g. the wish to better integrate into the labor market or the long-term plan to stay in the country could affect labor market outcomes prior to the naturalization event.

The study also contributes with unique evidence on the timing of the formation of families. This is potentially important as other shocks that coincide in time with naturalizations could bias estimates of the so called citizenship premium. For example, anecdotal evidence suggests that migrants planning to have children might naturalize since they, in some instances, have a preference for their children growing up as citizens

(Szabó 1997).[1] If this is the case we would observe increasing fertility rates following naturalizations. This in turn suggests that it is not certain that naturalizations improve labor market outcomes as behavior not necessarily associated with success on the labor market could be affected. Moreover, being married to (or cohabiting with) a citizen shortens the waiting time before it is possible to apply for citizenship in some countries. As a result, it is possible that marriage propensities rise the years preceding naturalizations. So far in the literature, these hypotheses have not been formally explored.

This study focuses on Sweden. Contrary to many other countries there is no language requirement in place, or any other test of civic knowledge that has to be fulfilled to be able to naturalize. This is likely to undermine the potential signaling value of naturalizations as employers are likely to be aware of the fact that it is relatively easy to become a citizen. Likewise, whereas in some countries many jobs are restricted to nationals (e.g. the US and Germany) other countries, including Sweden, have gone far to equalize the rights of citizens and foreigners (SOU 1999). In the latter case it is reasonable to expect a more modest impact of naturalizations. If we, despite this, find an impact of naturalizations on labor market outcomes there are reasons to believe that naturalizations have an effect in other contexts as well.

To further motivate the paper is worth noting that citizenship, more generally, is a legal status that formally regulates whom has the right to live in a country, enter the country freely and not to be deported. In some countries citizenship also determines the access to welfare, health and education services. Thus, a better understanding of the implications of acquiring citizenship should be of relevance for policy as changed requirements for naturalizations will affect the composition of the naturalized group, and thereby, the average performance of the naturalized population.

The analysis, in the paper, is based on population wide data covering the years 1990 to 2009, thus the same individuals are followed over time.[2] Cross-sectional data on outcomes of foreign citizens and naturalized immigrants is not sufficient to disentangle whether differences in labor market outcomes depend on different types of selection

[1] Children to citizens automatically become citizens in countries where the citizenship legislation follow the ius sanguinis tradition.

[2] There is only a handful of paper using longitudinal data, see e.g. Bratsberg et al. (2002), Bratsberg and Raaum (2011), Steinhardt (2012), Fougère and Safi (2009), Scott (2008) and Ohlsson (2008). These papers are reviewed in Section 2.

into citizenship or whether naturalizations causes labor market outcomes to improve. Furthermore, it is not possible to explore the timing of any potential effects and whether other behavioral changes are associated with the acquisition of citizenship, e.g. the formation of families. The use of panel data allows me to some extent to deal with these issues. However, that fact that part of the population chose not to naturalize is suggestive of the naturalized group not being representative of the foreign born population. It implies that what is identified is the average treatment effect on the treated.

The analysis focuses on migrants from outside the OECD as they on average face substantial difficulties in integrating into the labor market. The results can be summarized as follows: on average the labor market outcomes improve following naturalizations. To some extent the results vary in magnitude across country groups and gender. For most groups, however, the likelihood of finding a job increases and positive earnings growth is experienced. A strict causal interpretation of the results is not possible as the outcomes start to improve already before the acquisition of citizenship. Thus, we cannot rule out that it is, e.g. the long-term plan to stay in the country (which potentially has an independent effect on labor market outcomes) or the wish to integrate into the labor market that drives both naturalization decisions and the improvement in labor market outcomes. Obviously, e.g., the long-term plan to stay in a country could also affect other outcomes.

Regarding the formation of families the analysis gives some support of marriage propensities rising the years surrounding naturalizations. This is suggestive of family playing role for naturalization decisions. On the other hand, no evidence of naturalizations being correlated with the likelihood of having children is found.

The paper proceeds as follows: Section 2 outlines a general framework of how to understand the benefits and costs of acquiring citizenship. The section also contains a description of the relevant institutions and a summary of the previous literature. In section 3 the data is described. This section also discusses the general pattern of citizenship acquisitions in Sweden. Section 4 describes the empirical strategy and in Section 5 the main results are presented. Finally, in section 6, the main findings are summarized.

2 Background and institutions

2.1 Effects of citizenship

Naturalizations have formal as well as informal implications. In most countries only citizens have full access to the labor market. Thus, some jobs are off limits to foreigners. These often include jobs within the police, the military, the judiciary system, the government, but sometimes also other types of jobs. The restrictions vary across countries. Furthermore, because of visa restrictions jobs that require cross-border travels might be difficult to obtain depending on the nationality of the migrant. There could also be administrative costs related to hiring foreign citizens (OECD 2011). Altogether, this suggests that naturalizations can ease the labor market integration of migrants as they gain full access to the labor market.

Apart from the legal aspects naturalizations also have a more informal side. Barriers to employment potentially diminish if employers are more willing to hire citizens than foreigners (OECD 2011). It could be the case if naturalizations are perceived as a positive signal. One of the requirements for naturalizations is an interrupted period of stay in the host country, in many countries five years or more. This is a period normally long enough to at least attain some country-specific skills valued at the labor market. The fact that an individual naturalizes could also be perceived as the long-term commitment to stay in the country and it is therefore natural to believe that naturalizations could function as a proxy for these types of characteristics. Moreover, naturalized immigrants may face lower levels of statistical discrimination than foreign citizens.

What's more, lower barriers to employment, or perceived lower barriers, could affect the search intensity for jobs. Similarly it could encourage investments in higher education as the return to education potentially rises. Incentives for family formation and childbearing could likewise change as citizenship, in many countries, is passed on from parents to children. Thus, if foreign residents perceive it as beneficial for their children to grow up as citizens they might apply for citizenship before having children. Anecdotal evidence from Sweden suggests that this might be true (Szabó 1997). On the other hand, it is possible to apply for citizenship at a later point in time as well. Similarly, the decision to naturalize might be correlated with marriages. The reason is that marriages with citizens in some countries shorten the waiting time before it is

possible to apply for citizenship. Further, one of the requirements to apply for naturalizations in most countries is an interrupted period of stay. This imply that migrants following naturalizations potentially spend more time abroad (visiting family or due to other reasons) (Bratsberg and Raaum 2011).[3] Altogether, this is suggestive of naturalizations affecting behavior not necessarily associated with improved economic outcomes.

2.2 Previous literature

The literature on impacts of naturalizations is limited. Most studies focus on labor market outcomes and the majority of the studies on labor market outcomes rely on cross-sectional data. From this evidence it is difficult to establish whether naturalizations actually have a causal impact on labor market outcomes. The observed differences between naturalized citizens and foreign citizens could be driven solely by the selection processes into citizenship. For this reason longitudinal data is essential as it allows for the exploration of the timing of the effects and it makes it possible to take into account unobserved differences between those naturalizes and those that do not.[4] By following individuals over time it is also possible to explore weather other types of behavioral changes coincide in time with naturalizations.

The existing evidence based on longitudinal data can easily be summarized. Fougère and Safi (2009) presents evidence of rising employment probabilities of immigrants that become French citizens. Bratsberg et al. (2002) explore the NLSY and show that naturalizations have a positive impact on the wage growth of male immigrants to the United States the years following naturalizations. Steinhardt (2012), furthermore, examined the situation in Germany and found an immediate effect of naturalizations on male wages. His analysis also shows that naturalizing leads to increased wage growth the years following naturalizations. A similar pattern is found for Switzerland (Steinhardt and Wedemeier 2011).

[3] There are a large number of studies that explores the correlation between immigrant characteristics and whom that naturalizes. This falls outside the scope of this paper but, in general, both individual characteristics and features of the country of origin and the host country are potentially important explanations (see e.g. Chiswick and Miller, 2009, for a good overview of the literature). Some examples include the age of the migrant, gender, the reason for immigration, years since immigration and country of birth. Other factors include the cost of returning (e.g. distance to the home country), the level of income, political freedom, civil and economic freedom in the country of origin. Institutional factors surely also play a role. Mazzolari (2009) has e.g. shown that rules restricting dual citizenship rights in migrants' source countries diminish the likelihood of naturalizing in the US.

[4] This is true as long as such differences are constant over time. Part of the selection problem can thus some extent be handled.

Little is known about why positive effects are found. Bratsberg et al. (2002) proposes that the positive outcome for the US partly can be explained by changes in the job distribution. They show that there is a tendency of naturalized migrants to move into better-paying sectors and/or sectors where job restrictions for foreign citizens exist.

The evidence from other countries is more mixed. For example, for Sweden, there is some evidence of positive earnings growth of immigrants already prior to the naturalization event (Ohlsson 2008). There is also a study showing mixed results on the impact of naturalizations on wages and employment (Scott 2008). For Norway, there is evidence of the correlation between naturalizations and labor market outcomes being an association rather than a causal relationship (Bratsberg and Raaum 2011). The study shows that for the country groups exhibiting improved labor market outcomes following naturalizations part of effect arise before naturalizations have taken place. This indicates that there are other factors than naturalizations that affect the outcomes of those that eventually naturalizes. Furthermore, the authors show that for some immigrant groups labor market outcomes deteriorate following naturalizations which potentially could be explained by the fact that naturalized citizens spend more time abroad following naturalizations.

Concerning other types of outcomes the collected evidence is even more scarce. The effects of granting birth-right citizenship in Germany on the social integration of immigrant parents has been evaluated by Avitabile, Clots-Figueras and Masella (2010). They show that parents whose children are born as German citizens following the reform are more likely to establish contacts with native Germans. In a follow up paper they also demonstrate that parents invest more in children that were born as citizens (Avitabile, Clots-Figueras and Masella 2012).

2.3 Institutions

In Sweden, the rules regulating citizenship acquisitions and losses are laid out in the Citizenship Act of 2001 (e.g. Björk and Sandesjö 2009). The nationality law is built on two main principles: the principle of ius sanguinis and avoidance of statelessness (Lokrantz Bernitz and Bernitz 2006). The first principle refers to the practice of determining an individual's nationality according to the citizenship of a parent or an ancestor. The second principle can be traced back to the 'Universal Declaration of Human Rights' from 1948 that affirms that everyone has the right to a nationality.

There are three main ways of acquiring citizenship in Sweden: automatically, by notification and by naturalization. Children to citizens belong to the group that receives citizenship automatically. The notification procedure is a simplified procedure for foreign citizens aged 18 to 19 years old who have had a residence permit since the age of 13. A simplified procedure also applies for Nordic citizens.[5] All individuals that do not receive citizenship automatically or cannot make use of the notification procedure will have to apply for naturalization. To naturalize an individual must fulfil the following requirements: the applicant must be able to identify him- or herself, be at least eighteen years old, have a permanent residence permit, have resided in Sweden for five years and fulfil the good conduct requirement (Björk and Sandesjö 2005).[6] In comparison with the practice in many other countries the required residence period is relatively short. Further, there is no language requirement in place, nor any test of civic knowledge or other requirements that have to be fulfilled to be able to naturalize.[7] The current requirements have at large been the same since the late 1970s.

2.4 Rights and duties of citizenship

A guiding principle to equalize the rights and duties of foreign and Swedish citizens has existed since the late 1960s. Over time permanent residents have gained most of the rights that citizens have (SOU 1999). This includes, e.g. full access to the social insurance system and other welfare systems.[8] As a result of this policy the formal significance of being a citizen has decreased (see e.g. Lokrantz Bernitz and Bernitz 2006, SOU 2000 and Ds A 1984).

Some rights (and duties) are however reserved to citizens. These can be categorized into four groups: restrictions on political participation, labour market restrictions, the permanent right to reside in Sweden, and mobility restrictions. With regards to the first group, only Swedish citizens are allowed to vote in national elections and get elected into parliament.[9] The second group includes the restriction of certain occupations to citizens. Jobs exclusive for nationals include a number of government posts, posts in the

[5] There is a long tradition of collaboration between the Nordic countries regarding citizenship law that started to develop in the 1890's. See Lokrants Bernitz (2009) for a short overview.
[6] For refugees the residence requirement is four years. Individuals married to or cohabiting with a Swedish citizen can apply for citizenship after three years.
[7] See Guimezanes (2011) for an overview of nationality laws in the European Union and selected OECD countries.
[8] Another example of the ambition to equalize rights and duties between Swedish and foreign citizens is the right to vote in municipal elections. This is a legal right for foreign citizens since 1975 (see Ds A 1984:6).
[9] Since 1976 foreign citizens are allowed to vote in municipal elections as long as they have resided three years in the country.

judiciary sector and certain occupations within the military and police services (SOU 1999). The third restriction denotes that the ever-lasting right to reside in Sweden is limited to citizens. Finally, the last group of restrictions is conditional on the earlier citizenship. E.g. having a Swedish passport increases international mobility for most migrant groups. This could be of importance for jobs that require cross-country travels. One example is that for citizens from outside the European Union, Swedish citizenship guarantees full mobility within the European Union (SOU 2000).

Duties or obligations limited to citizens are few. One example is the previous mandatory military service for men[10], another is that Swedish citizens are subject to Swedish law when spending time abroad (SOU 2000).

To summarize, the Swedish institutions are suggestive of a modest impact of naturalizations given the fact that it is relatively easy to become a citizen and that only a few jobs are restricted to nationals.[11]

3 Data and descriptive statistics

The analysis is built on register data administrated by Statistics Sweden. The data covers the full population in working age between 1990 and 2009, and it includes a rich set of human capital and sociodemographic characteristics including; e.g. the latest year of immigration, country of birth, educational background as well as information on labour market outcomes. This dataset is linked, through a personal identifier, to a population register that contains information on dates of naturalizations.

The analysis focuses on migrants from outside the OECD, with a few exceptions, as this group faces substantial difficulties in integrating into the labor market (Lemaître 2007). Table A 1 in the Appendix includes a full list of the countries in the sample. The sample is split into different subgroups based on birth regions as naturalization motives and productivity differences between the groups are possible. Further, the sample is divided by gender as the propensity to naturalize varies between men and women (this is discussed below).

[10] The system with compulsory enrollment to the army was abolished in 2010.

[11] In a comparison between the US and Norway, Bratsberg and Raaum (2011) argues that relatively few jobs are exclusive for nationals in Norway. They also put forward the argument that since most migrants naturalize after a relatively short time period in Norway, the signaling value of naturalizations is likely to be low. Similar arguments are likely to hold also for Sweden.

In Table 1 the studied cohorts are presented. They include all immigrants aged 20 to 64 years old that have arrived from a selected number of countries (see Table A 1 in the appendix) between 1985 and 2009. The sample is restricted to individuals between 20 and 55 years at the time of immigration. The upper age limit is set to 55 as the primary outcomes include labor market outcomes which imply that all individuals in the sample have at least ten years left before they reach the normal retirement age at 65. The reason why immigrants close to the retirement age are excluded is that they are likely to face different set of incentives to integrate into the labor market then younger migrants. The lower age limit is set as there is a simplified procedure for naturalizations for individuals younger than 20 (Section 2.3). Furthermore, immigrants that are Swedish citizens the observed immigration year are dropped.[12]

Table 1. Cohorts studied

	Balkans & Eastern Europe	Middle East & North Africa	Sub-Saharan Africa	Asia	Latin America
Women					
Individuals	64 859	78 343	25 973	40 843	20 592
Mean year of arrival	1995.21	1994.12	1995.50	1996.34	1993.20
Mean age of arrival	32.49	30.39	28.23	29.94	31.59
Fraction naturalised by end of 2009	0.84	0.85	0.70	0.64	0.69
Men					
Individuals	57 918	99 093	28 318	27 711	18 279
Mean year of arrival	1994.85	1993.44	1994.75	1996.62	1992.78
Mean age of arrival	32.77	30.65	29.90	30.07	31.29
Fraction naturalised by end of 2009	0.81	0.80	0.63	0.55	0.60

Notes: The sample includes all immigrants arriving to Sweden between 1985 and 2009 from selected birth regions, aged 20-64 years old the year of observation, and that were between 20-55 years old at the time of immigration. Further, to be included the migrant must be observed at least once between 1990 and 2009.

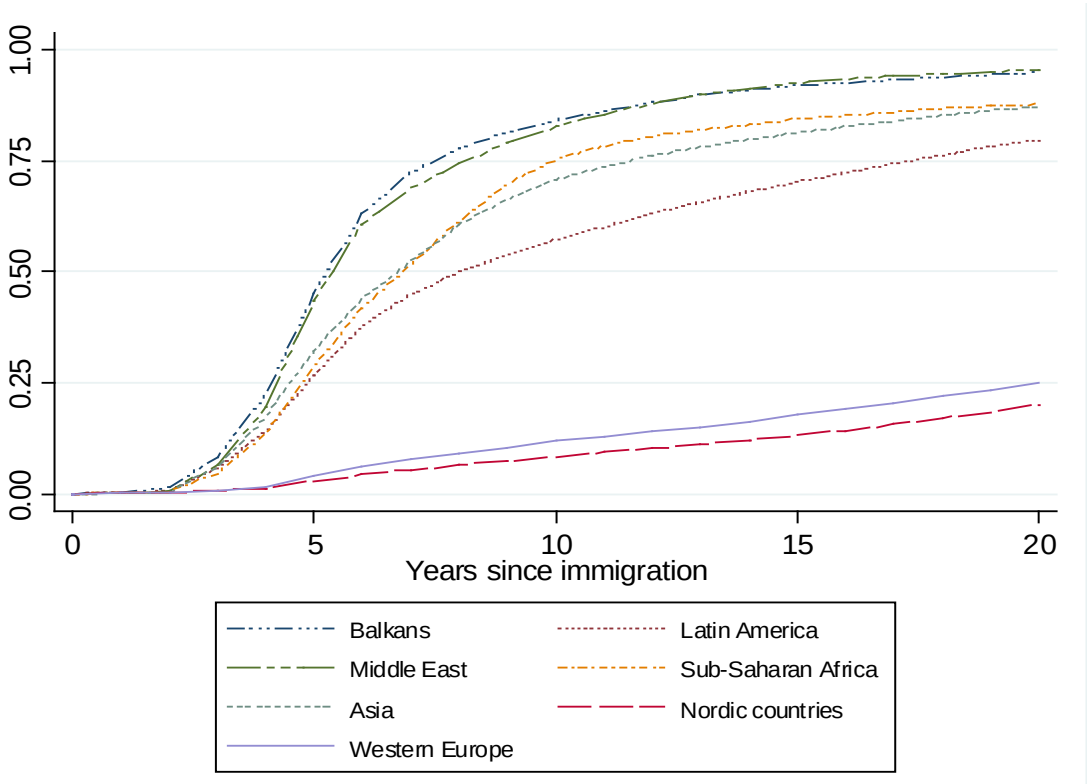
The table displays some interesting patterns. The largest source regions are the Balkans and Eastern Europe and the Middle East and North Africa. Further, a large share of the migrants from all source regions have naturalized by the end of the observation period. Women are somewhat more likely to have naturalized than men. Moreover, the table

[12] This group obviously has spent time in Sweden at an earlier point of time and is therefore dropped. What I observe in data is the latest year of arrival.

also shows that the mean age at the time of arrival is around 30 years for all groups and that there is some variation in the time of arrival to Sweden.

Individual decisions to naturalize are likely not to be determined solely by labor market considerations or expectations of faster economic integration but rather an interplay of factors (see Section 2.1).[13] That the country of origin matters is clearly illustrated in Figure 1. Migrants from low- and middle-income countries are much more likely to naturalize than migrants born in high-income countries. This pattern is consistent with the general pattern in the OECD-countries. In comparison with immigrants to other OECD countries though, a relatively large share of the immigrants to Sweden naturalizes (OECD 2011 and Lokrantz Bernitz 2009).

Figure 1. Share of immigrants that have naturalized by time since immigration



Notes: The y-axis is the share of immigrants that have naturalized. Immigrants born in the Nordic countries (Norway, Denmark, Finland and Iceland) and Western Europe are added to the sample as a reference. For sample restrictions see Table 1.

The regression sample is presented in Table 2. It shows substantial variation in labor market outcomes across birth regions and gender. In terms of labor market outcomes

[13] This, of course complicates the identification of any labor market effects and I discuss this issue in greater length in section 4.

women from the Balkans, Eastern Europe, Asia and Latin America are somewhat better off in comparison with other women. For example, fewer than half of the women from the Middle East, North Africa and Sub-Saharan Africa had any income from labor during the observation period. Similarly, almost fifty percent belonged to households that received income support (social assistance). The outcomes of men are, on average, better. Further, the majority of men and women from all countries are married and at least sixty percent of the women have children present in the household.

As a comparison, but also to be able to identify business cycle effects (I return to this in Section 4 were the empirical strategy is discussed), a sample of 10 percent of the Swedish born population without a high school diploma is added to the baseline sample. The group was chosen as it is the one that most resembles the foreign born population in terms of labor market outcomes. Nevertheless, for all migrant groups outcomes are worse than among the Swedish born (Table 2).[14]

The characteristics of those that naturalize are likely to differ from those that do not. Figure 2 illustrate that this is a relevant observation for both women and men from all country groups. Migrants that naturalize within the observation period experience a faster increase in the probability of having any work-related income than migrants that do not naturalize.

Another interesting observation is that the increase of the likelihood of being employed is smooth for migrants that eventually naturalize around the time period when most migrants naturalize, i.e. between 5 and 10 years after immigration (cf. Figure 1). As no deviation of the trend is observed it is suggestive of an at most modest impact of naturalizations.[15] On the other hand, the differences between those that naturalize and those that do not arise during the same time period which could be interpreted as evidence of an effect. Somewhat similar observations can be made for annual earnings and also for the likelihood of having a child and getting married (see Figure B 1 and Figure B 4 in the appendix).

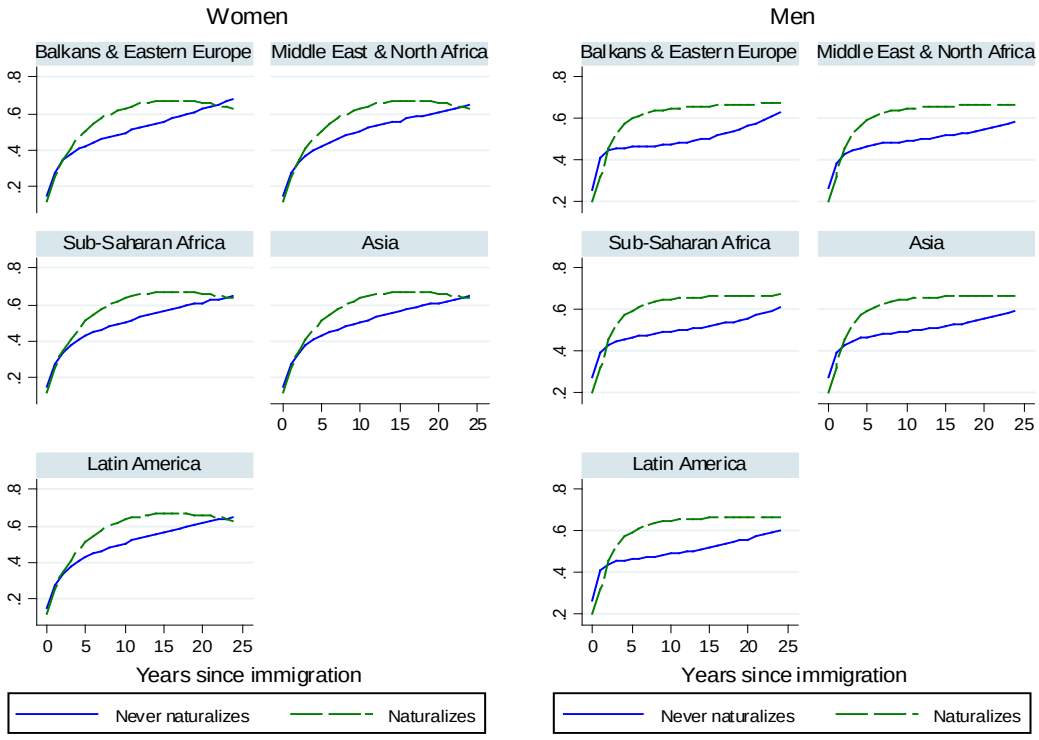
[14] See Eriksson (2011) for an overview of studies on labor market outcomes of immigrants to Sweden.
[15] The same pattern is observed in Norway (Bratsberg and Raaum 2011).

Table 2. Regression sample

	Balkans & Eastern Europe	Middle East & North Africa	Sub-Saharan Africa	Asia	Latin America	Native born
			Women			
Observations (in 1000's)	686	781	209	319	210	1 076
Any work-related income	0.54	0.37	0.47	0.54	0.64	0.66
Annual earnings from labor unconditional on employment	888.68	495.90	633.01	717.17	930.00	958.02
Social Assistance	0.35	0.46	0.46	0.20	0.24	0.09
Age	39.35	37.99	34.86	36.29	39.56	43.85
Married	0.70	0.75	0.61	0.64	0.53	0.45
Child in household	0.60	0.69	0.65	0.60	0.60	0.30
College degree	0.39	0.34	0.23	0.32	0.38	N/A
Years since immigration	6.85	7.60	6.63	6.34	7.98	N/A
Naturalized	0.50	0.51	0.40	0.36	0.39	N/A
			Men			
Observations (in 1000's)	615	100	229	175	189	1 337
Any work-related income	0.62	0.48	0.58	0.56	0.73	0.69
Annual earnings from labor unconditional on employment	1279.69	781.46	948.85	963.26	1401.00	1484.64
Social Assistance	0.34	0.41	0.40	0.28	0.22	0.08
Age	39.78	38.64	36.83	36.10	39.46	44.10
Married	0.69	0.65	0.56	0.57	0.47	0.40
Child in household	0.54	0.51	0.37	0.42	0.42	0.25
College degree	0.34	0.36	0.35	0.44	0.37	N/A
Years since immigration	7.01	7.99	6.93	6.04	8.17	N/A
Naturalized	0.49	0.51	0.38	0.33	0.34	N/A

Notes: The native born sample includes a 10 percent sample of the Swedish born population without a high school diploma. For more information on the sample restrictions see Table 1. Having any work-related income is defined as having annual earnings from work larger than zero; social assistance refers to social assistance receipts at the household level.

Figure 2. Share of immigrants having any income from labor by time since immigration



Notes: The figure is predicted from a regression of a dummy indicating whether the individual were employed on a quartic function of years since immigration. For sample restrictions see Table 1.

4 Empirical model

The relationship between naturalizations and labor market outcomes and family formation is modeled in the following fashion:

$$\boldsymbol{y_{it}} = \boldsymbol{a_0} + \boldsymbol{a_1 N_{it}} + \boldsymbol{a_2 D_i X_{it}} + \boldsymbol{\delta X_{it}} + \boldsymbol{\gamma Z_{it}} + \boldsymbol{\mu_i} + \boldsymbol{\vartheta_t} + \boldsymbol{\varepsilon_{it}} \quad (1)$$

It follows the modeling approach in Bratsberg et al. (2002) and Bratsberg and Raaum (2011). The discussion in this section relates closely to the latter paper. y_{it} is the outcome of interest of individual *i* at time *t*. N_{it} is an indicator of naturalization status that is set to unity the naturalization year and all subsequent years. a_1, the parameter of interest, thus captures the immediate impact of becoming a citizen. X_{it} is labor market experience from the Swedish labor market approximated by years since immigration as actual experience is not observed in the data. D_i is a time-constant dummy set to unity for individuals that naturalize during the observation period and a_2 thus captures

potential differences in the experience profiles of individuals that naturalize during the observation period and individuals that do not (both the main effect and the interaction effect is estimated). Figure 2 highlights the importance of taking such differences into account. Z_{it} is a control for age. ϑ_t is the observation year to control for business cycle effects. To be able to identify the model a ten percent sample of the Swedish born population without a high school diploma is included (Borjas 1999).[16] The formal argument of why this is necessary is developed below. μ_i is an individual fixed effect and ε_{it} is a common error term. Standard errors are clustered within individuals.

Depending on the model restrictions, identification arises from different sources. In the coming section I will present results from three variations of the basic model. The first set of results come from a model where D_i = 0, i.e., we assume that those that eventually naturalize and those that do not have similar returns to experience. The second set of results takes these differences into account. In both specifications identification of the parameter a_1 arises from the fact that immigrants naturalize at different points in time. The difference between the models is that in the latter model, where D_i = 1, the effect of naturalizations is identified by differences in the timing of naturalizations within the group that eventually naturalizes while the first model is identified by a comparison of outcomes between those that have naturalized and those have not, irrespective of whether they will naturalize or not during the observation period.

In neither of the models individual fixed effects are taken into account. Including individual fixed effects imply that the effect of naturalizations is identified by changes in outcomes the years surrounding naturalizations, i.e., the outcomes after the naturalization event is compared to the outcomes the period preceding the naturalization event. Thus, the fact that we take into account that migrants chose to naturalize at different points as well as all individual time-invariant characteristics imply that what is identified is the within-individual effect of naturalizations (Bratsberg and Raaum 2011). The inclusion of individual fixed effects however introduces colinearities in the model since controlling for individual fixed effect implicitly means that we control for the year of birth (Borjas 1999). Thus, age and the year of observation will be perfectly collinear as *year=age+year of birth* and to fully identify the model we exclude the control for

[16] The results are not sensitive to these sample restrictions. The use of a 10 percent sample of the Swedish born population unconditional on education gives similar results.

period effects. Worth noting is thus, that business cycle effects potentially affects the estimated year since migration profile in the fixed effects model.

Another identification problem that arises when including individual fixed effects is that age is a perfect linear combination of years since immigration and the age at the time of immigration (as *age=age at immigration+ysm*), thus we have to impose the constraint that the effect of age is the same for the native and the immigrant population to be able to identify the model (Borjas 1999).

One weakness of models based on equation (1) is that they do not take into account any changes related to the acquisition of citizenship that occur prior the naturalization event. As discussed it is possible that other factors play a role. For example the long-term plan to settle in the country or the wish to better integrate on the labor market could drive both the decision to naturalize and the change in outcomes. Thus, it is possible that outcomes start to improve before the actual acquisition of citizenship.

To this end, I also estimate an augmented model that allows for a gradual change in outcomes the years following naturalizations:

$$\boldsymbol{y_{it}} = \boldsymbol{a_0} + \sum_{\boldsymbol{j=-5}}^{\boldsymbol{6}} \boldsymbol{a_j N_{it+j}} + \boldsymbol{a_3 D_i X_{it}} + \boldsymbol{\delta X_{it}} + \boldsymbol{\gamma Z_{it}} + \boldsymbol{\mu_i} + \boldsymbol{\vartheta_t} + \boldsymbol{\varepsilon_{it}} \qquad (\mathbf{2})$$

In comparison with model (1) that only capture the average constant effect of naturalizations this model is less restrictive as any potential changes in outcomes 5 years prior to naturalizations are captured. Moreover, the year-specific effects of naturalizations up to 6 years and onwards after the naturalization event are estimated.[17] The model takes individual fixed effects into account and if any pre-effects effects are observed it would be an indication of the estimated effects of naturalizations not being purely causal.

Thus, for all models unbiased effects of naturalizations requires that no other shocks are correlated with the naturalization decision. E.g., if it turns out that the hypothesis regarding the family related outcomes is true, i.e., that naturalizations affects the timing of the formation of families this, this should be seen as support for the labor market

[17] The dummy for the sixth year after naturalization is set to unity for all time periods larger or equal to six years after naturalization. The reason is that I want to capture any lasting effects following naturalization. Without this restriction the effects of naturalization would be identified by changes prior to and after the observation window.

effects being biased. The opposite is of course also true, if naturalization affects labor market outcomes this would bias our estimates of effects on family formation.

All models, of course, control for time since immigration. Thus, any observed changes are on top of the effect arising from more time spent in Sweden.

5 Results

This section contains two parts: Section 5.1 discusses the effects of naturalizations on labor market outcomes and Section 5.2 explores the potential association between family formation and naturalizations.

5.1 Labor market attachment

The labor market attachment of many migrants to Sweden is limited. Around 50 percent of the population under study had any income from labor during the observation period (Table 2). A natural starting point is thus to explore whether naturalizations has an impact on the probability of migrants having any income from labor at all. In Table 3 the baseline results are presented.

The table includes estimates from the three different model specifications, based on equation (1), that we discussed in Section 4. The first row presents a simple comparison of outcomes between immigrants naturalizes during the observation period and immigrants that eventually naturalizes and those that do not (model i). As time spent in Sweden is taken into account any observed differences are on top of the return to experience from the Swedish labor market. The table shows that naturalizations are associated with an increase in the likelihood of having any income from labor for women from all country groups. The strength of the association, however, varies between the country groups.

The second model that takes into account that the labor market experience of those that naturalize might differ from immigrants that chose not to naturalize (as suggested by Figure 2) give support to this notion. The results show that when this factor is taken into account the estimated correlation between naturalizations and the likelihood of having any income from work is substantially lower.

The last model, that include a control for overtime fixed individual characteristics, such as e.g. inherent ability, the age at time of immigration, education obtained in the home country, the country of birth, and the exact timing of the naturalization event

show that these factors matter as the estimated effects are much smaller (model iii). Thus, if we do not take this into account we would overestimate the naturalization premium. For all groups, except for women from Latin America, the effect of naturalizations nevertheless is positive. The point estimates shows that the likelihood of having any income from labor increases by between 0,5 percentage point and 2 percentage points depending on the country group.

Table 3. Effect of naturalizations on having any income from labor by country groups

Women	**Balkans & Eastern Europe**	**Middle East & North Africa**	**Sub-Saharan Africa**	**Asia**	**Latin America**	**All**
I: Common ysm profile	0.089***	0.075***	0.164***	0.058***	0.102***	0.069***
	(0.004)	(0.003)	(0.007)	(0.005)	(0.006)	(0.002)
II: Separate ysm profile	0.044***	0.054***	0.149***	0.051***	0.042***	0.043***
	(0.004)	(0.003)	(0.007)	(0.006)	(0.006)	(0.002)
III: Separate ysm-profile and individual fixed effects	0.006*	0.018***	0.020***	0.010*	0.004	0.016***
	(0.003)	(0.003)	(0.005)	(0.004)	(0.005)	(0.002)
Men						
I: Common ysm profile	0.139***	0.113***	0.169***	0.144***	0.102***	0.108***
	(0.004)	(0.003)	(0.006)	(0.008)	(0.005)	(0.002)
II: Separate ysm profile	0.057***	0.051***	0.056***	0.045***	0.012*	0.032***
	(0.004)	(0.003)	(0.007)	(0.008)	(0.006)	(0.002)
III: Separate ysm-profile and individual fixed effects	0.007**	0.010***	-0.020***	-0.017**	-0.007	0.005***
	(0.003)	(0.003)	(0.005)	(0.006)	(0.005)	(0.002)

Notes: The results are estimated by OLS. Standard errors clustered within individuals in parentheses. Each cell represents a separate regression. In all models controls for years since immigration, age, the interaction between age and whether the individual was born in Sweden or not, and the observation year, are included (all controls are introduced as dummies). Model I includes a joint experience profile for those that naturalize and those that do not, model II relaxes this restriction and in model III individual fixed effects are included. Sample sizes for women by birth region are for Balkans & Eastern Europe (1 762 831), Middle East & North Africa (1 857 367), Sub-Saharan Africa (1 285 172), Asia (1 395 677), Latin America (1 286 665), All (3 373 177), and for men (1 951 784); (2 342 476); (1 566 105); (1 512 387); (1 525 724); (3 613 660). The female sample includes a ten percent sample of Swedish born women without a high school diploma which correspond to 1 076 494 observations and for men 1 336 944. * p<0.05, ** p<0.01, *** p<0.001

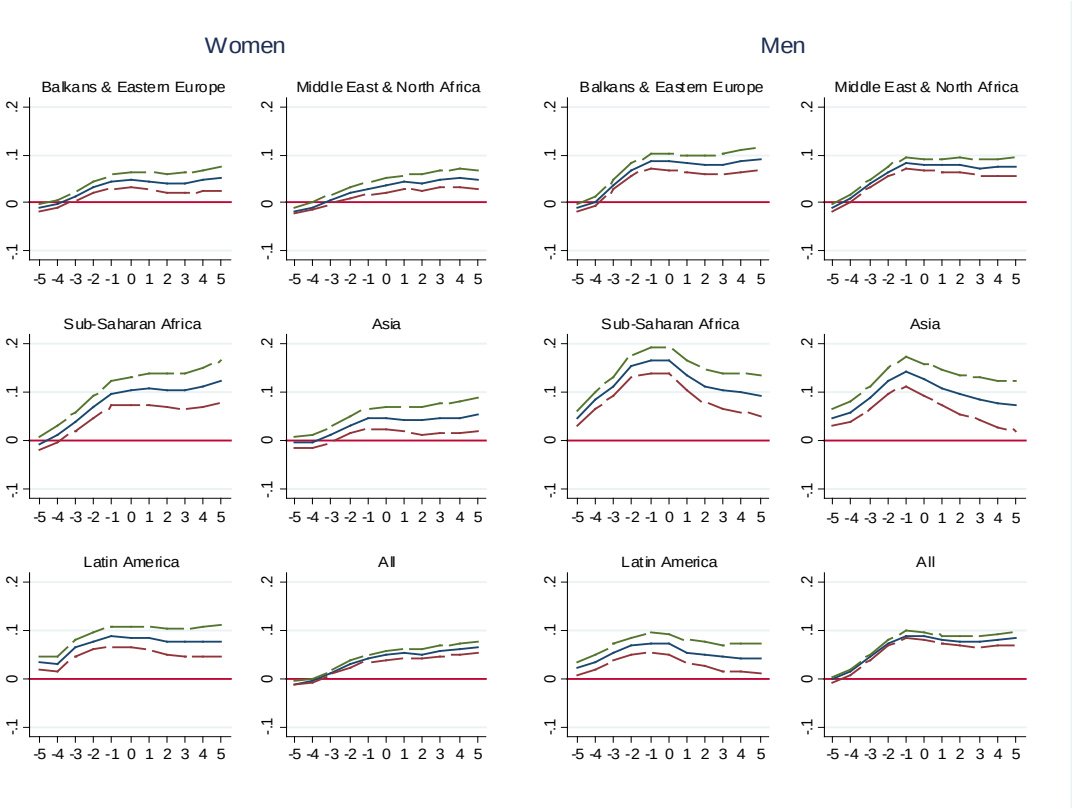
For men, a similar pattern is found. The first model shows that, on average, naturalized men are more likely to have any earnings from labor than the non-naturalized. However, if differences in labor market experience are taken into account the estimated correlation become weaker (compare model i and ii). Moreover, Model (iii) demonstrate that naturalizations are followed by a positive increase in the likelihood of having any income from labor but that there is substantial variation across the country groups: Men from the Balkans and Eastern Europe and Middle East and North Africa are positively affected while the effects are either zero or negative for the other groups.

Why the likelihood of having any income from labor would fall following naturalizations is not clear. One explanation could be that migrants spend more time abroad following naturalizations (Bratsberg and Raaum 2011). Another candidate explanation is that the estimated model is biased. The estimates reported in Table 3 should be interpreted as the constant effect of naturalizations on the likelihood of being employed. This model is restrictive as it is possible that outcomes changes already prior to naturalizations. To explore that possibility a model that allows outcomes to change the years before and after the acquisition of citizenship is needed.

Figure 3 presents the results from the more flexible model based on equation (2) (see Table C 1 in the appendix for the regression estimates). It shows that the likelihood of having any income from labor for women and men from all country groups increase following naturalizations. It also shows that the increase in likelihood of having any income from labor rises already before the naturalization event. Thus, the figure highlights that a causal interpretation of the estimated effects of naturalizations would be incorrect. If they would have been causal we would not expect to observe any effects during the period preceding the naturalization event. This is suggestive of other factors affecting both the labor market outcomes of immigrants and the decision to naturalize, e.g. the wish to better integrate into the labor market or the long-term plan to stay in the country. This shows that the models based on equation (1) are not correctly specified as they do not capture these dynamics, i.e., the above results are biased (Table 3).

Moreover, for the two groups, for which we observed a negative likelihood of being employed following naturalizations, i.e., men from Sub-Saharan Africa and Asia, Figure 3 show that the increase in the likelihood prior to the naturalization event is particularly strong. Further, the figure shows that this increase cling off relatively fast following naturalizations which is likely to explain the negative estimates reported in Table 3. The estimates presented in Table C 1 in the appendix nevertheless show that the likelihood of having any income from labor remain higher following naturalizations than the period preceding the observation window also for these groups.

Figure 3. Effect of naturalizations on having an income from labor by country groups



Notes: Parameter estimates from separate OLS regressions of the effect of naturalizations on the likelihood of being employed. The x-axis illustrates the period surrounding naturalization; the naturalization year is defined as year zero. The y-axis expresses the size of the estimated effects. The upper and lower dashed lines are the bounds for the 95 percent confidence interval.

Annual earnings just above zero is not sufficient for self-sufficiency. For this reason I also estimate a model with a more conservative employment measure. The employment measure is defined as having annual earnings equal to or larger than 133 500 SEK in 2013 (or approximately 14 600 Euro).[18] Figure B 5 in the appendix presents the results based on equation 2, the more dynamic model.[19] The figure shows that, for women from the Balkans and Eastern Europe and Latin America, the likelihood of being employed increases following naturalizations. The increase is persistent, i.e., the likelihood of having any income does not return to zero the years following naturalizations. For the other groups the estimated time pattern is harder to interpret although a resembling time pattern is observed for women from the Middle East and North Africa and Sub-Saharan Africa. For men, the effect of naturalization on employment is stronger. Consistent with

[18] It corresponds to three basic amounts which is an amount based on the consumer price index. It is adjusted annually by the government and is used, e.g., within the social insurance system to set benefit levels. The use of two basic amounts as a cut-off yield similar results. Results are available upon request.
[19] The full regression results are found in Table C2 in the appendix

the earlier observation the outcomes start to improve before the naturalization event. Hereafter I will, therefore, refer to the estimates as associations; this is true also for annual earrings that I will turn to next.

In Table 4 the association between naturalizations and annual earnings is presented. The sample is conditioned on having positive earnings from labor. The table's first row shows that for women, on average, naturalizations are associated with increased earnings (model i). It also shows that the correlation is positive for all groups but that it varies in strength. The second model (model ii) that takes into account differences in the payoff from experience on the Swedish labor market between those that eventually naturalize and those that do not show that this consideration is somewhat less important than for employment, i.e., the results are not as affected by the inclusion of this control as in the earlier case. This is in line with the observation that the earnings curve of the group that eventually naturalizes follows the one of those that remain foreign citizens more closely than for employment (Figure B 2 in the appendix). Further, the third model demonstrates that the association between naturalizations and annual earnings is only significant for women from the Balkans and Eastern Europe, the Middle East and North Africa and Asia. The point estimates are however positive in all instances.

For men the results shows that naturalized immigrants from all country groups have higher earnings than foreign citizens (model i and ii). When individual fixed effects are taken into account the positive correlation however only remains for migrants from the Balkans and Eastern Europe and the Middle East and North Africa.

Table 4. Effect of naturalizations on the log of annual earnings

Women	Balkans & Eastern Europe	Middle East & North Africa	Sub-Saharan Africa	Asia	Latin America	All
I: Common ysm profile	0.106***	0.066***	0.095***	0.031*	0.103***	0.074***
	(0.009)	(0.012)	(0.020)	(0.012)	(0.014)	(0.006)
II: Separate ysm profile	0.085***	0.075***	0.080***	0.009	0.040*	0.062***
	(0.010)	(0.012)	(0.021)	(0.015)	(0.016)	(0.006)
III: Separate ysm-profile and individual fixed effects	0.041***	0.031*	0.014	0.034*	0.021	0.043***
	(0.010)	(0.013)	(0.021)	(0.015)	(0.016)	(0.006)
Men						
I: Common ysm profile	0.165***	0.215***	0.244***	0.048*	0.179***	0.157***
	(0.009)	(0.009)	(0.018)	(0.020)	(0.014)	(0.005)
II: Separate ysm profile	0.079***	0.141***	0.159***	0.046	0.006	0.082***
	(0.010)	(0.010)	(0.020)	(0.024)	(0.017)	(0.006)
III: Separate ysm-profile and individual fixed effects	0.031***	0.045***	0.000	-0.021	0.024	0.034***
	(0.009)	(0.009)	(0.019)	(0.021)	(0.015)	(0.005)

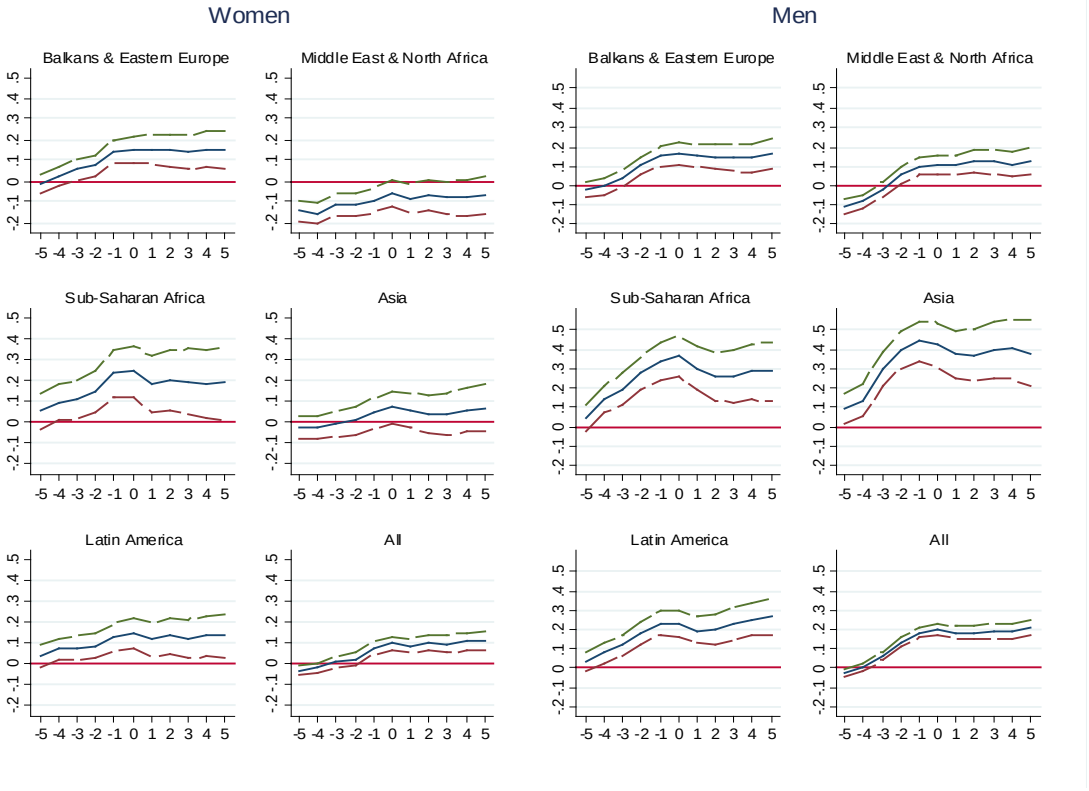
Notes: The results are estimated by OLS. Standard errors clustered within individuals in parentheses. Each cell represents a separate regression. In all models controls for years since immigration, age, the interaction between age and whether the individual was born in Sweden or not, and the observation year, are included (all controls are introduced as dummies). Model I includes a joint experience profile for those that naturalize and those that do not, model II relaxes this restriction and in model III individual fixed effects are included. Sample sizes for women by birth region are for Balkans & Eastern Europe (1 084 815), Middle East & North Africa (998 731), Sub-Saharan Africa (810 414), Asia (884 048), Latin America (846 684), All (1 816 076), and for men (1 299 071); (1 401 753); (1 048 833); (1 014 918); (1 055 145); (2 182 082). The female sample includes a ten percent sample of Swedish born women without a high school diploma which correspond to 1 076 494 observations and for men 1 336 944. * p<0.05, ** p<0.01, *** p<0.001

Figure 4 presents the estimated association between naturalizations and annual earnings from the model that allows for changes already prior to naturalizations (the full regression results are found in Table C 3 in the Appendix). The figure shows that for women, on average, earnings start to grow the years before naturalizations. It also shows that the earnings growth is persistent. That is, following naturalizations women, on top of the experience effect from being in Sweden, have higher earnings than in the preceding period. Looking at the different country groups separately however reveals that the association is not significant for women from the Middle East and North Africa and Asia. This indicates that improving outcomes the years surrounding naturalizations is not a universal phenomenon. For men, the observed associations are stronger than for women and for both sexes, again, the evidence is suggestive of naturalizations being correlated with the increase in earnings with but not the cause.

Worth noting, before closing the section is that the observed increase in earnings is driven by those with relatively low levels of income. Figure B 6 in the appendix shows

that when earnings are conditioned on employment (defined as earnings equal to or larger than 3 basic amounts) the estimated correlation is much weaker.

Figure 4. Effect of naturalization on annual earnings by country groups



Notes: Parameter estimates from separate OLS regressions of the effect of naturalizations on annual earnings. The x-axis illustrates the period surrounding naturalization; the naturalization year is defined as year zero. The y-axis expresses the size of the estimated effects. The upper and lower dashed lines are the bounds for the 95 percent confidence interval.

5.2 Marriage propensities and childbearing

One of the implications of being a citizen is that newborn children automatically become nationals, I thus hypothesized that migrants potentially postpone childbirth until they have become citizens if they have a strong preference for their children growing up as citizens. Moreover, as marriages with a citizen shortens the waiting period before it is possible to apply for citizenship it could have an effect on the timing of marriages. In this case it is hard to predict whether we should expect marriage propensities to rise before or after naturalizations as there are at least two potential mechanisms that point in different directions. One the one hand, a foreigner that marries a citizen can apply for citizenship after a shorter waiting period. This is suggestive of marriage propensities rising before naturalizations. On the other hand, a naturalized citizen might get married

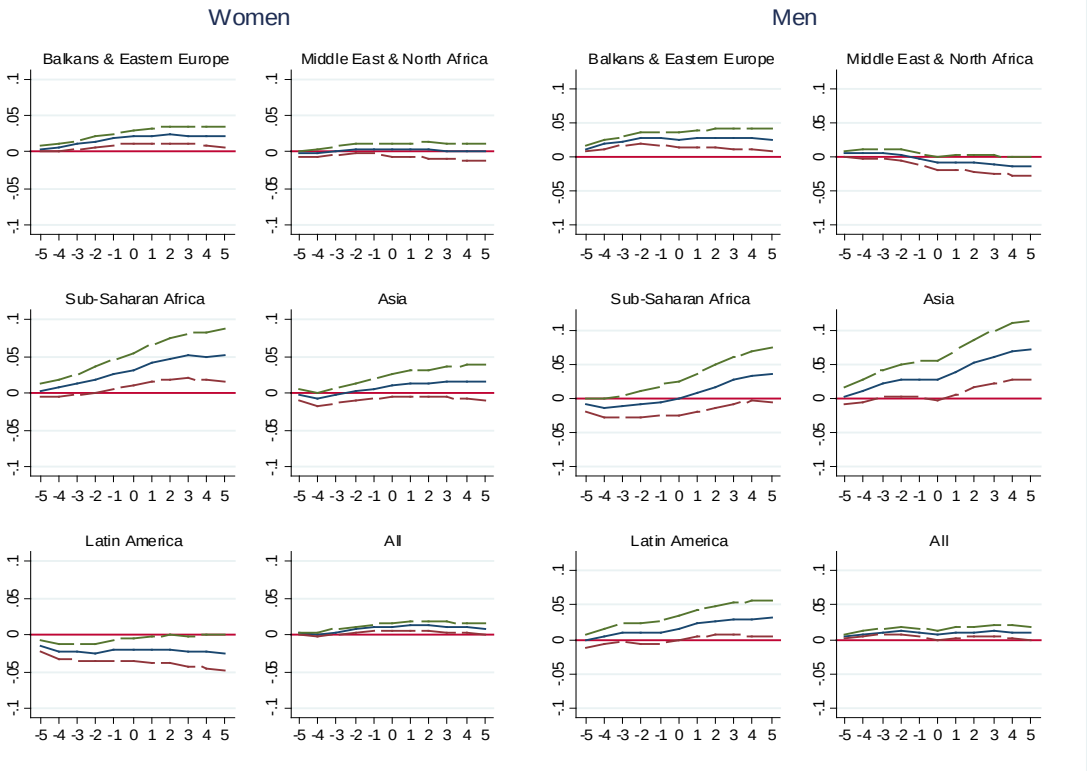
to shorten the waiting period for his or her partner. This, obviously suggest that the likelihood of marriages would increase following naturalizations.

Regarding both marriages and childbirth the timing of the event is of relevance, to this end it is natural to focus on the more dynamic models based on equation 2.

Figure 5 illustrates the results on the correlation between marriages and naturalizations (the full regression output is found in Table C 5 in the appendix). It shows that the propensity to get married increases slightly for women in general the years surrounding naturalizations. The association is however fully driven by women from two country groups: Balkans and Eastern Europe and Sub-Saharan Africa. For the other groups the association is close to zero and not significant or even negative.

For men the figure shows that the same tendency is true as for women, i.e. men in general are slightly more likely to get married the years surrounding naturalizations than the period preceding the observation window.

Figure 5. Effect of naturalization on the probability of getting married by country groups

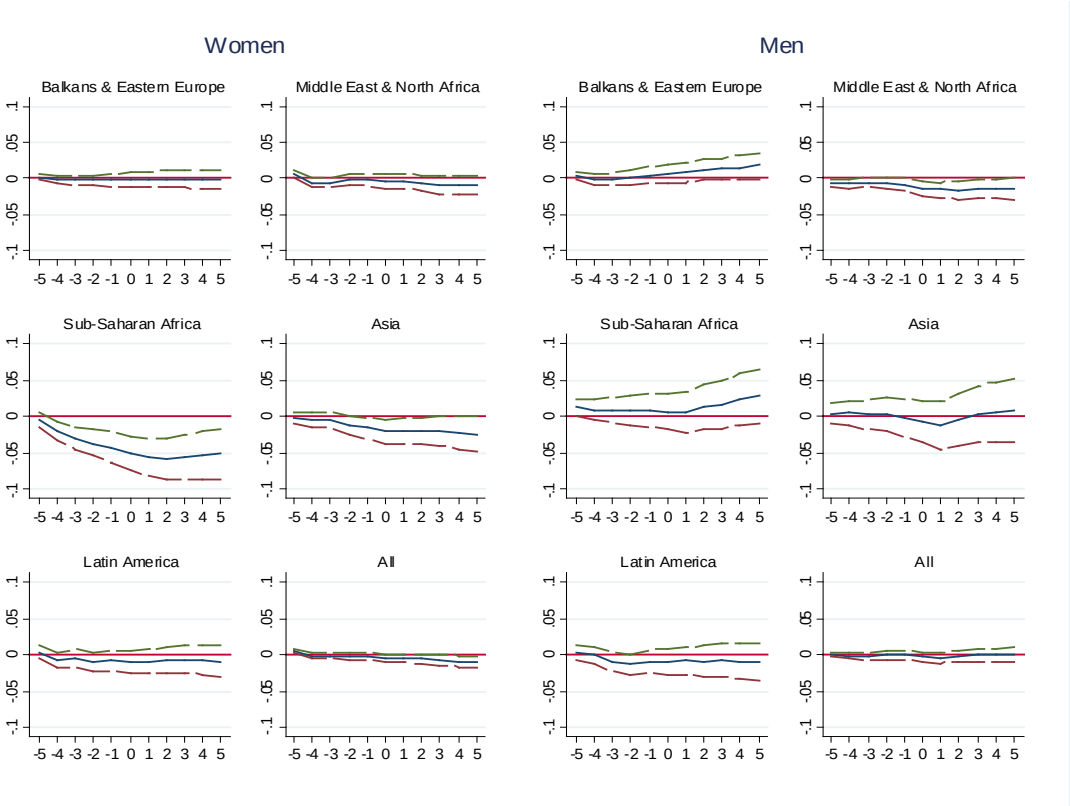


Notes: Parameter estimates from separate OLS regressions of the effect of naturalizations on the likelihood of getting married. The x-axis illustrates the period surrounding naturalization; the naturalization year is defined as year zero. The y-axis expresses the size of the estimated effects. The upper and lower dashed lines are the bounds for the 95 percent confidence interval.

Figure 6 shows that, on average, there is no association between naturalizations and childbirth (the full regression output is found in Table C 6 in the appendix). That is, there is no evidence in support of naturalizations being correlated with the timing of childbirth. The only exception is women from Sub-Saharan Africa who's propensity to have children fall the years surrounding naturalizations. Why this is the case is not clear.

Altogether, this section provides some evidence of naturalizations being associated with marriages although the time pattern varies between the country groups. No link is however found between childbirth and naturalizations.

Figure 6. Effect of naturalization on having a child by country groups



Notes: Parameter estimates from separate OLS regressions of the effect of naturalizations on the likelihood having a child. The x-axis illustrates the period surrounding naturalization; the naturalization year is defined as year zero. The y-axis expresses the size of the estimated effects. The upper and lower dashed lines are the bounds for the 95 percent confidence interval.

6 Conclusions

In the light of declining rates of economic assimilation of migrants in most Western countries, the observation that naturalizations are associated with improving labor market outcomes in some countries is interesting. Key for policy is the perceived value of citizenship. This closely relates to the benefits associated with naturalizations, including the potential of improved labor market conditions following naturalizations studied in this paper.

One indication of the value of citizenship is the high share of migrants that naturalizes. In this light, one line of argument could be that changing the requirements for naturalizations could be an effective tool for a faster integration of the foreign-born population. For example, the introduction of a language requirement could be a way of stimulating a type of human capital investment that is awarded on the labor market. The potential benefits should, of course, be weighed against the potential costs of tougher requirements. Apart from the formal status that citizenship gives, acquiring citizenship is also likely to affect the subjective identity – how you are – and social relations in society. Thus, making it harder to qualify for citizenship is likely to change the potential pool of applicants. This can cause negative sentiments among groups that know that it is hard or even impossible to fulfill the requirements. For example, it could have negative effects on the sense of closeness to the majority society.

The analysis demonstrates that it is difficult to establish whether citizenship acquisition in Sweden has a causal effect on labor market outcomes. This makes policy recommendations less straightforward. Nevertheless, we observe that the acquisition of Swedish citizenship is followed by improved labor market outcomes for some country groups. On average, the chance of finding a job and annual earnings from labor becomes higher. In general, these findings are in line with the results in studies from Germany, the US and France (Bratsberg et al. 2002, Steinhardt 2012, Fougère and Safi 2009).

However, the evidence presented in this paper demonstrates that the labor market outcomes start to improve already prior to naturalizations, which is consistent with previous findings from Sweden (Ohlsson 2008) and to some extent Norway (Bratsberg and Raaum 2011). One difference between my findings and the findings in Bratsberg and Raaum is that there is at most weak evidence of a positive correlation between

naturalizations and the economic performance of immigrants in Norway. At first this might seem strange, given the institutional similarities between the two countries. On the other hand differences do exist, for example, the waiting time before it is possible to apply for citizenship is longer in Norway. The discussion necessarily becomes speculative but illustrates that e.g. institutional differences could be of importance. Other factors that potentially matters is the selection of immigrants to the respective countries that, to some extent, differs in terms of country of origin and or differences in the way the labor market is organized.

The Swedish Citizenship legislation follows the ius sanguinis tradition. Accordingly, as children of citizens automatically become citizens, I hypothesized that this might create incentives to postpone childbearing decisions until after naturalizations. Similarly, marriages with citizens shorten the waiting period before one can become a citizen. This potentially affects the timing of marriages. No clear evidence is found in support of these hypotheses although the marriage propensity rises for some groups the years surrounding naturalizations. This might not be surprising as it is possible for parents and children to naturalize at a later point in time and because the waiting time before it is possible to apply for citizenship in the Swedish context is relatively short.

All in all, the findings of this study indicates that naturalizations potentially are associated with several different outcomes. Thus, a focus on labor market outcomes alone will only tell part of the story. Lastly, the paper clearly illustrates that modeling assumptions are of great importance. Models that are not flexible enough could lead to false claims regarding causality.

References

Avitabile, C, I Clots-Figueras and P Masella (2010). “The Effect of Birthright Citizenship on Parental Integration Outcomes”, CSEF, Working Paper no. 246.

Avitabile, C, I Clots-Figueras and P Masella (2012). “Citizenship, Fertility and Parental Investment”, CSEF, Working Paper no. 305.

Bevelander, P and J Veenman. (2006). “Naturalizations and Socioeconomic Integration: the Case of the Netherlands”, IZA Discussion Paper No. 2153, IZA, Bonn.

Bevelander, P och J Helgertz (2012). ”Är det lönsamt att bli medborgare? Finns det en positiv effekt av att bli medborgare på inkomster, och när faller den ut?” Report to the Ministry of Employment.

Björk, K, and H Sandesjö (2005). Nya medborgarskapslagen: med kommentarer, Norstedts juridik, Stockholm.

Bratsberg, B and O Raaum (2011). “The Labor Market Outcomes of Naturalized Citizens in Norway”, Chapter 7, pp. 184-205 in Naturalisation: A Passport For The Better Integration Of Immigrants? OECD Publishing.

Bratsberg, B, J F Raganes and Z M Nasir (2002). “The Effect of Naturalisation on Wage Growth: A Panel Study of Young Male Immigrants”, Journal of Labour Economics, vol. 20, No. 3, pp. 568-597.

Borjas, G (1999). The Economic Analysis of Immigration. Handbook of Labor Economics 3, pp. 1697-1760.

Chiswick, B and P Miller (2009). ”Citizenship in the United States: The Role of Immigrant Characteristics and Country of Origin”, Ethnicity and Labor Market Outcomes, vol. 29, 91-130.

Chiswick, B. (1978). “The Effect of Americanization on the Earnings of Foreign-born Men”, The Journal of Political Economy, Vol. 86 No. 5, pp. 897-921.

Devoretz, D J and S Pivnenko (2005). “The Economic Causes and Consequences of Canadian Citizenship”, Journal of International Migration and Integration, vol. 6, Numbers 3-4, 435-468.

Ds A (1984). Om utlänningars rättsliga ställning delbetänkande av diskrimineringsutredningen, Arbetsmarknadsdepartementet (Ds A 1984:6, Swedish Goverment Official Reports), Stockholm.

Eriksson, S (2011). ”Utrikes födda på den svenska arbetsmarknaden”, Bilaga 4 till Långtidsutredningen 2011, i Vägen till arbete - Arbetsmarknadspolitik, utbildning och arbetsmarknadsintegration, SOU 2010:88.

Fougère, D and M Safi (2009). “Naturalization and Employment of Migrants in France (1968-1999)”, International Journal of Manpower, 30 (1/2): 83-96.

Guimezanes, N (2011). “The Current Status of the Citizenship Law”, Chapter 2, pp. 66-81 in Naturalisation: A Passport for the Better Integration of Immigrants? OECD Publishing.

Kesler, C and N Demireva (2011). “Social Cohesion and Host Country Nationality among Immigrants in Western Europe”, Chapter 8, pp.209-236 in Naturalisation: A Passport for the Better Integration of Immigrants? OECD Publishing.

Lemaître, G (2007). “The Integration of Immigrants into the Labour Market: The Case of Sweden”, OECD Social, Employment and Migration Working Paper No. 48, OECD Publishing, Paris.

Liebig T and F Von Haaren (2011). “An overview across European Union and OECD countries”, Chapter 1, pp.23-64 in Naturalisation: A Passport for the Better Integration of Immigrants? OECD Publishing.

Lokrantz Bernitz H and H Bernitz (2006). “Acquisition and Loss of Nationality”, Chapter 14 in R. Rauböck et al. (eds.), Country Analyses. Policies and Trends in 15 European Countries, vol. 2, Amsterdam University Press, Amsterdam.

Lokrantz, B H (2009). “Country Report: Sweden”, European University Institute, Robert Shuman Center for Advanced Studies, EUDO Citizenship Observatory, Florence.

Mazzolari, F (2009). “Dual Citizenship Rights: Do They Make More and Richer Citizens?” Demography, vol. 46 – Number 1, February 2009: 169-191.

Meltzer, A and S Richard (1981). “A Rational Theory of the Size of Government”, Journal of Political Economy, 89, October 1981, pp. 914-27.

OECD (2011). “Naturalisation and the Labour Market Integration of Immigrants”, International Migration Outlook 2010, OECD Publishing, Paris.

Ohlson, M (2008). “The Impact of Becoming a Swedish Citizen on Labour Earnings and Employment”, Mimeo, Växjö University.

Ortega, F (2010). “Immigration, Citizenship, and the Size of the Government”, The B.E. Journal of Economic Analysis & Policy, vol. 10, iss. 1 (Contributions), Article 26.

Scott, K (2008). “The Economics of Citizenship: Is There a Naturalisation Effect?” in P. Beveleander and D.J. DeVoretz (eds.), The Economics of Citizenship, University of Malmö, pp. 107-126.

SOU (1999). Slutbetänkande av 1997 års medborgarskapskommitté, SOU 1999:34, Swedish Government Official Reports.

SOU (2000). Medborgarskapskrav i svensk lagstiftning – Betänkande av Kommittén om medborgarskapskrav, SOU 2000:106, Swedish Goverment Official Reports.

Steinhardt, M (2012). “Does Citizenship Matter? The Economic Impact of Citizenship in Germany”, Labour Economics, 19 (2012) 813–823.

Steinhardt, M, J Wedemeier (2011). “The Labor Market Performance of Naturalized Immigrants in Switzerland - New Evidence from the Swiss Labor Force Survey”, Journal of International Migration and Integration, (published online 29 July 2011).

Szabó, M (1997). Vägen mot medborgarskap: studier i medborgarskapsbyte och integration. Bokförlaget Arena, Stockholm.

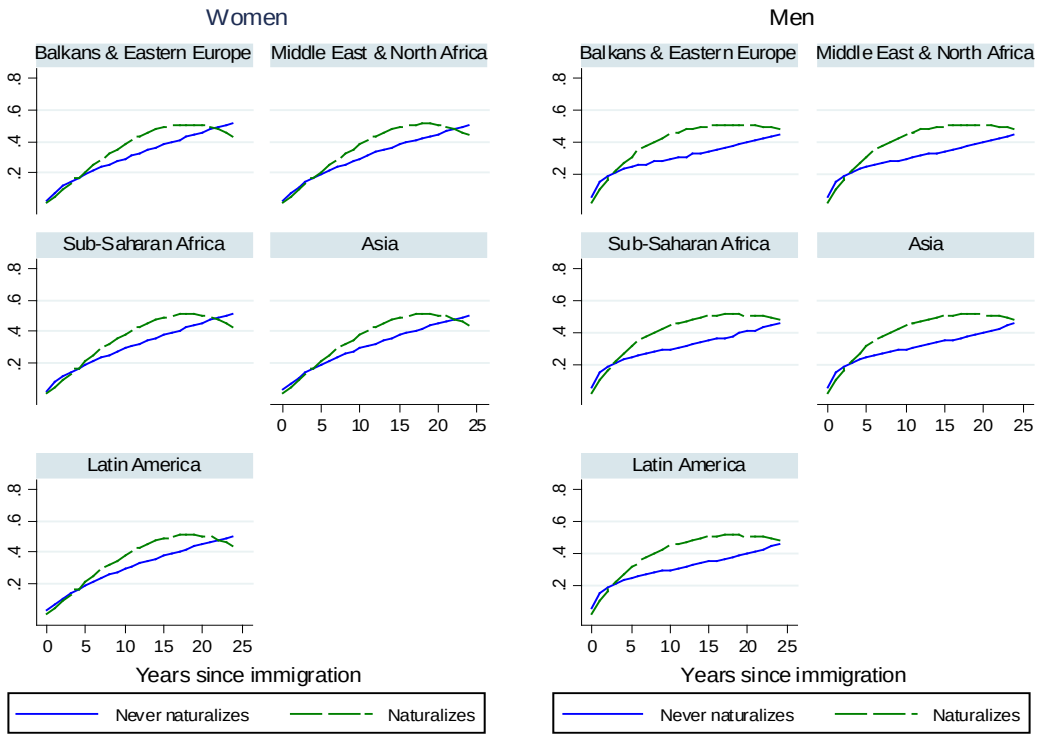
Appendix A. Country groups

Table A 1. Country groups

Variable	Definition
Balkans and Eastern Europe	Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, former Soviet Union, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Republic of Macedonia, Romania, Russia, Serbia, Montenegro, Slovenia, Tadzhikistan, Turkmenistan, Ukraine and Uzbekistan.
Middle East and North Africa	Algeria, Bahrain, Cyprus, Egypt, Gaza, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Palestine, Qatar, Saudi Arabia, Syria, Tunisia, Turkey, United Arab Emirates and Yemen.
Sub-Saharan Africa	Angola, Benin, Botswana, Burkina Faso, Burundi, Cameron, Cap Verde, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauretania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Republic of the Congo, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zanzibar and Zimbabwe.
Asia	Afghanistan, Bangladesh, Bhutan, Brunei, Burma, Cambodia, India, Indonesia, Laos, Malaysia, Maldives, Mongolia, Nepal, Oman, Pakistan, Philippines, Singapore, Sri Lanka, Thailand and Vietnam.
Latin America	Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guayana, Haiti, Honduras, Jamica, Mexico, Nicaragua, Panama, S:t Lucia, Paraguay, Peru, S:T Kitt and Nevis and Anguil, S:T Vincent, Surinam, Trinidad and Tobago, Uruguay and Venezuela.

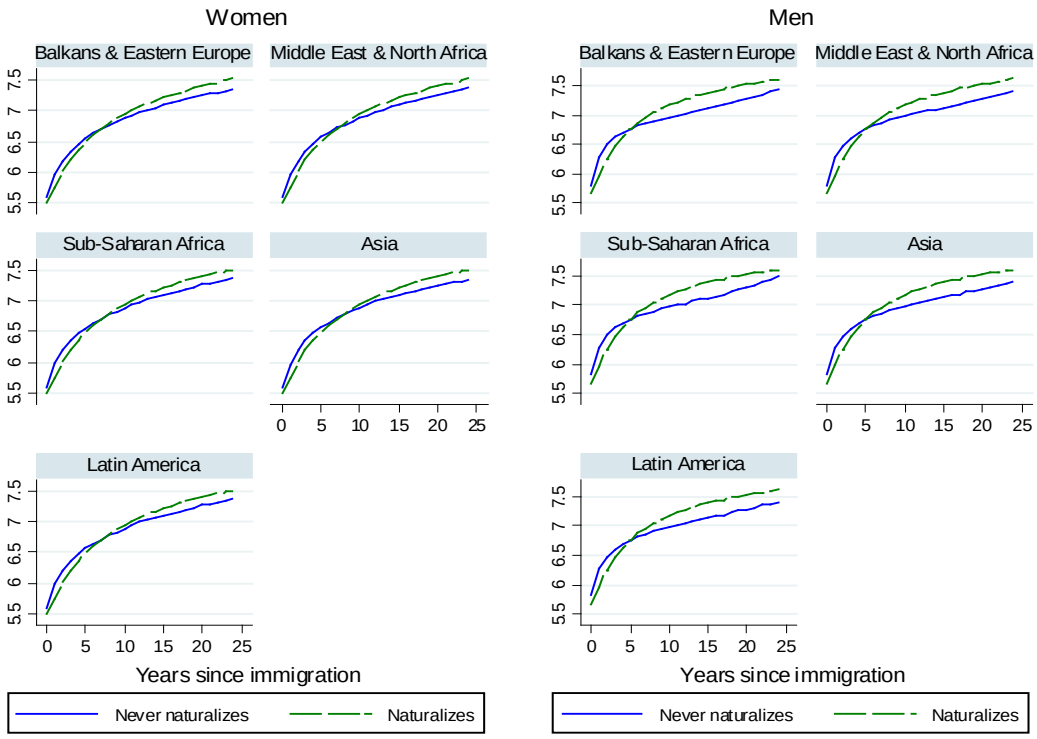
Appendix B. Figures

Figure B 1. Share of immigrants employed by time since immigration



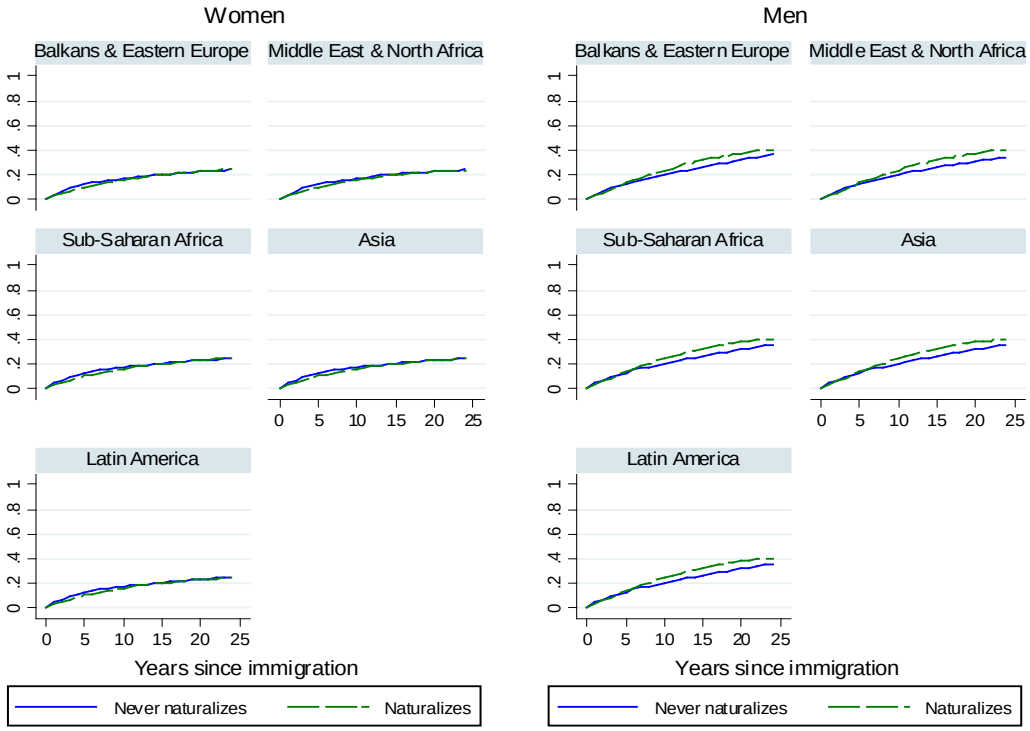
Notes: The figure is predicted from a regression of a dummy indicating whether the individual were employed on a quartic function of years since immigration. For sample restrictions see Table 1.

Figure B 2. Annual earnings



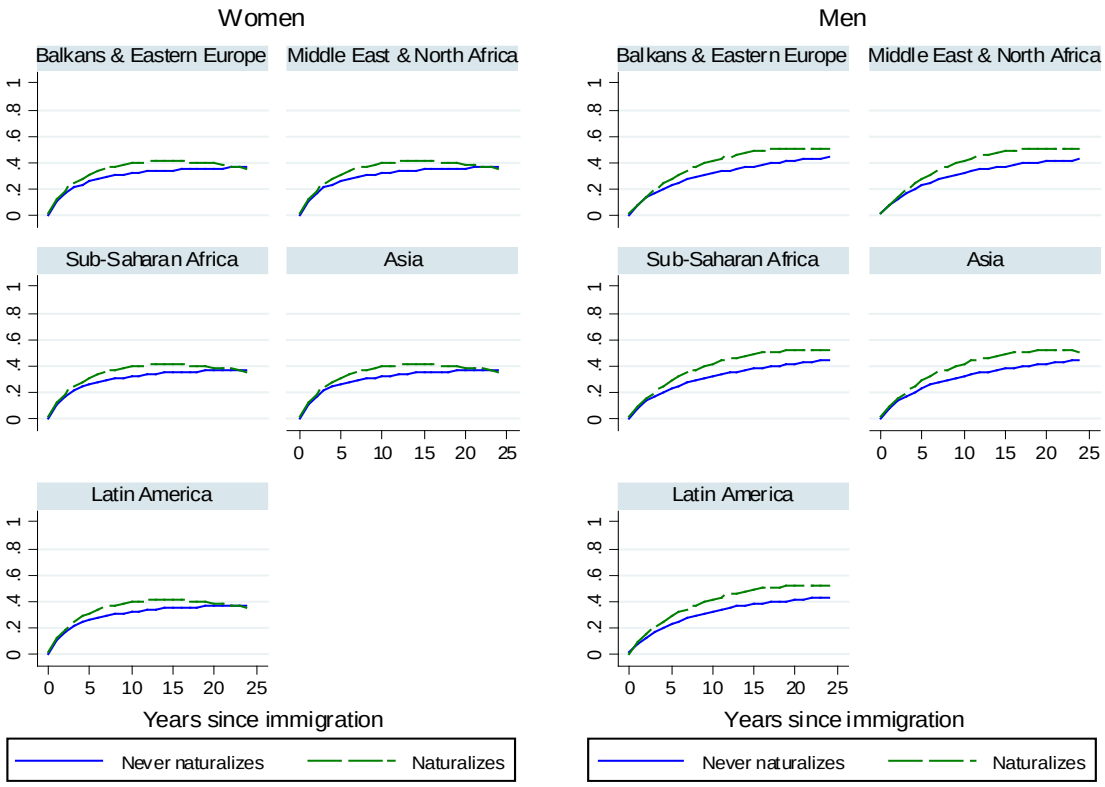
Notes: The figure is predicted from a regression of the log of annual earnings on a quartic function of years since immigration. For sample restrictions see Table 1.

Figure B 3. Share that gets married after immigration



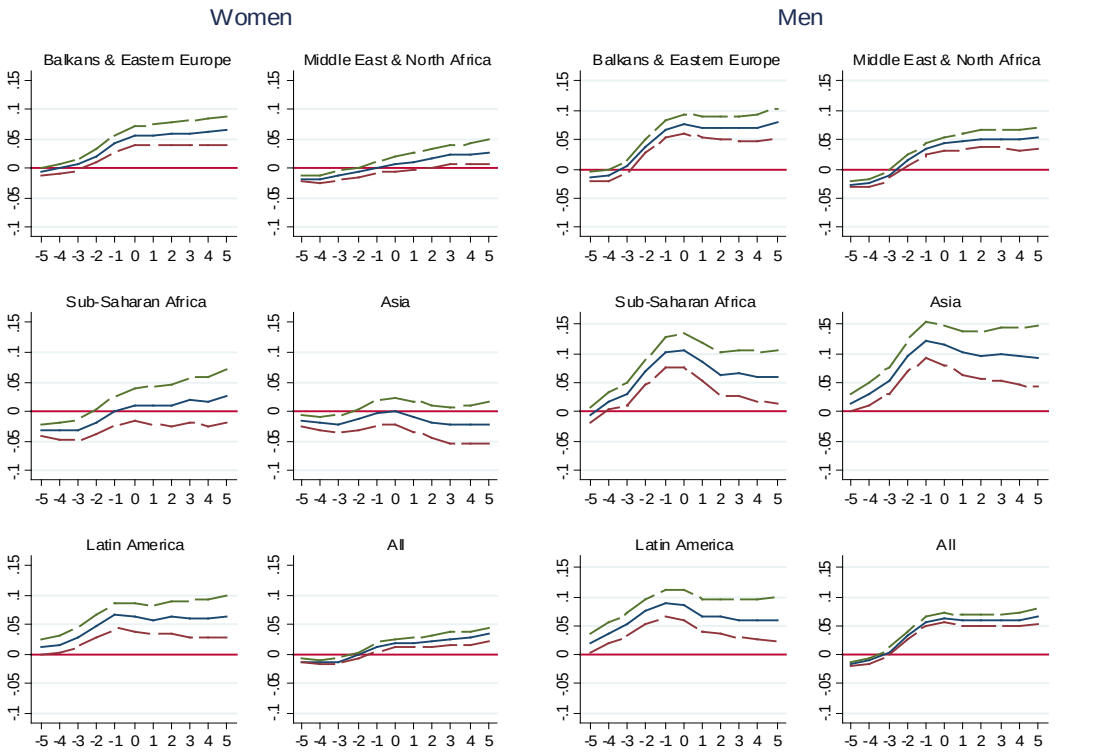
Notes: The figure is predicted from a regression of a dummy indicating whether the individual got married on a quartic function of years since immigration. For sample restrictions see Table 1.

Figure B 4. Share that have a child after immigration



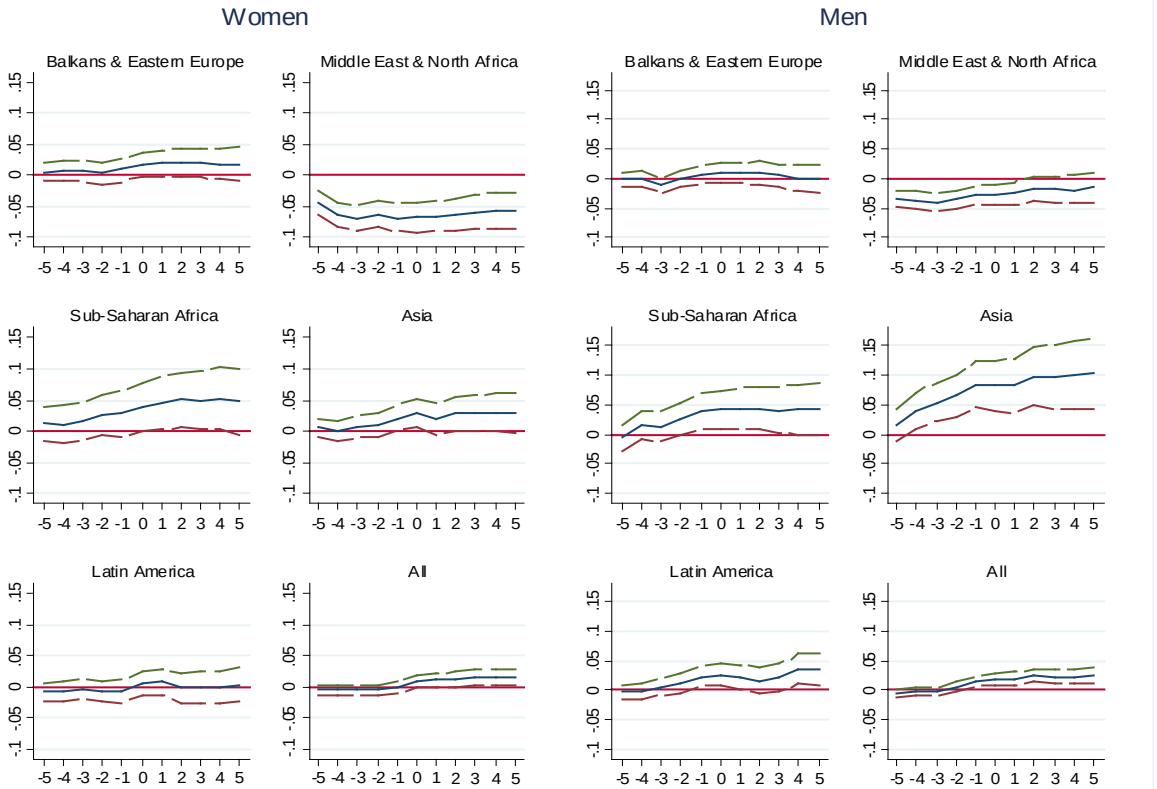
Notes: The figure is predicted from a regression of a dummy indicating whether the individual have a child on a quartic function of years since immigration. For sample restrictions see Table 1.

Figure B 5. Effect of naturalizations on employment by country groups



Notes: Parameter estimates from separate OLS regressions of the effect of naturalizations on the likelihood of being employed. The x-axis illustrates the period surrounding naturalization; the naturalization year is defined as year zero. The y-axis expresses the size of the estimated effects. The upper and lower dashed lines are the bounds for the 95 percent confidence interval. The regression results are found in the Appendix C, Table C 2.

Figure B 6. Effect of naturalizations on annual earnings conditional on employment



Notes: Parameter estimates from separate OLS regressions of the effect of naturalizations on the likelihood of getting married. The x-axis illustrates the period surrounding naturalization; the naturalization year is defined as year zero. The y-axis expresses the size of the estimated effects. The upper and lower dashed lines are the bounds for the 95 percent confidence interval. The regression results are found in the Appendix C, Table C 4.

Appendix C. Additional results

Table C 1. Effect of naturalizations on having any income from labor

Women	Balkans & Eastern Europe	Middle East & North Africa	Sub-Saharan Africa	Asia	Latin America	All
5 years before	-0.010**	-0.016***	-0.005	-0.004	0.034***	-0.009***
	(0.004)	(0.003)	(0.006)	(0.006)	(0.007)	(0.002)
4 years before	-0.001	-0.007	0.015	-0.002	0.033***	-0.003
	(0.004)	(0.004)	(0.008)	(0.007)	(0.008)	(0.002)
3 years before	0.015**	0.008	0.040***	0.013	0.064***	0.013***
	(0.005)	(0.005)	(0.010)	(0.008)	(0.009)	(0.003)
2 years before	0.033***	0.022***	0.069***	0.034***	0.078***	0.031***
	(0.006)	(0.006)	(0.011)	(0.009)	(0.010)	(0.003)
1 year before	0.044***	0.029***	0.099***	0.046***	0.088***	0.043***
	(0.007)	(0.006)	(0.013)	(0.011)	(0.011)	(0.004)
Naturalization year	0.047***	0.037***	0.105***	0.049***	0.086***	0.049***
	(0.008)	(0.007)	(0.015)	(0.012)	(0.012)	(0.004)
Year after	0.045***	0.044***	0.107***	0.046***	0.084***	0.053***
	(0.009)	(0.008)	(0.016)	(0.013)	(0.012)	(0.005)
2 years after	0.041***	0.043***	0.104***	0.042**	0.077***	0.052***
	(0.010)	(0.009)	(0.018)	(0.014)	(0.014)	(0.005)
3 years after	0.040***	0.050***	0.103***	0.048**	0.076***	0.057***
	(0.011)	(0.009)	(0.020)	(0.015)	(0.015)	(0.006)
4 years after	0.046***	0.050***	0.111***	0.049**	0.077***	0.062***
	(0.011)	(0.010)	(0.021)	(0.017)	(0.016)	(0.006)
5 years after	0.050***	0.048***	0.123***	0.053**	0.077***	0.065***
	(0.012)	(0.011)	(0.023)	(0.018)	(0.017)	(0.006)
6+ years after	0.062***	0.061***	0.134***	0.063**	0.074***	0.078***
	(0.013)	(0.012)	(0.024)	(0.020)	(0.019)	(0.007)
N	1762831	1857367	1285172	1395677	1286665	3373177
Men						
5 years before	-0.008*	-0.010**	0.047***	0.049***	0.023**	-0.002
	(0.004)	(0.003)	(0.008)	(0.009)	(0.007)	(0.002)
4 years before	0.003	0.009*	0.085***	0.060***	0.033***	0.014***
	(0.005)	(0.004)	(0.009)	(0.010)	(0.008)	(0.003)
3 years before	0.038***	0.040***	0.115***	0.089***	0.055***	0.046***
	(0.006)	(0.005)	(0.010)	(0.012)	(0.009)	(0.003)
2 years before	0.069***	0.065***	0.156***	0.125***	0.068***	0.075***
	(0.007)	(0.005)	(0.011)	(0.014)	(0.009)	(0.003)
1 year before	0.087***	0.083***	0.167***	0.143***	0.076***	0.091***
	(0.007)	(0.006)	(0.013)	(0.015)	(0.010)	(0.004)
Naturalization year	0.085***	0.080***	0.167***	0.127***	0.072***	0.088***
	(0.008)	(0.007)	(0.015)	(0.017)	(0.011)	(0.004)
Year after	0.081***	0.079***	0.136***	0.111***	0.057***	0.082***
	(0.009)	(0.007)	(0.016)	(0.019)	(0.012)	(0.005)
2 years after	0.079***	0.078***	0.114***	0.096***	0.051***	0.079***
	(0.010)	(0.008)	(0.017)	(0.021)	(0.013)	(0.005)
3 years after	0.080***	0.073***	0.104***	0.087***	0.044**	0.076***
	(0.011)	(0.008)	(0.019)	(0.022)	(0.014)	(0.005)
4 years after	0.087***	0.075***	0.100***	0.077**	0.044**	0.080***
	(0.011)	(0.009)	(0.020)	(0.024)	(0.015)	(0.006)
5 years after	0.093***	0.076***	0.094***	0.073**	0.043**	0.084***
	(0.012)	(0.010)	(0.022)	(0.026)	(0.016)	(0.006)
6+ years after	0.101***	0.093***	0.103***	0.067*	0.045*	0.097***
	(0.014)	(0.010)	(0.024)	(0.028)	(0.018)	(0.007)
N	1951784	2342476	1566105	1512387	1525724	3613660

Notes: The results are estimated by OLS. Standard errors clustered within individuals in parentheses. Each cell represents a separate regression. In all models controls for years since immigration, age, the interaction between age and whether the individual was born in Sweden or not, and the observation year, are included (all controls are introduced as dummies). The female sample includes a ten percent sample of Swedish born women without a high school diploma which correspond to 1 076 494 observations and for men 1 336 944. * p<0.05, ** p<0.01, *** p<0.001

Table C 2. Effect of naturalizations on employment

Women	**Balkans & Eastern Europe**	**Middle East & North Africa**	**Sub-Saharan Africa**	**Asia**	**Latin America**	**All**
5 years before	-0.005	-0.017***	-0.031***	-0.015**	0.013*	-0.011***
	(0.003)	(0.002)	(0.005)	(0.005)	(0.006)	(0.002)
4 years before	-0.000	-0.017***	-0.033***	-0.020**	0.016*	-0.014***
	(0.004)	(0.003)	(0.007)	(0.006)	(0.007)	(0.002)
3 years before	0.007	-0.013**	-0.031***	-0.022**	0.030***	-0.011***
	(0.005)	(0.004)	(0.009)	(0.008)	(0.008)	(0.003)
2 years before	0.021***	-0.007	-0.017	-0.013	0.047***	-0.002
	(0.006)	(0.005)	(0.010)	(0.009)	(0.010)	(0.003)
1 year before	0.042***	0.002	0.001	-0.004	0.065***	0.012***
	(0.007)	(0.005)	(0.012)	(0.010)	(0.011)	(0.004)
Naturalization year	0.056***	0.007	0.011	0.000	0.063***	0.019***
	(0.008)	(0.006)	(0.014)	(0.012)	(0.012)	(0.004)
Year after	0.057***	0.012	0.010	-0.008	0.058***	0.020***
	(0.009)	(0.007)	(0.016)	(0.013)	(0.013)	(0.004)
2 years after	0.059***	0.017*	0.011	-0.017	0.062***	0.023***
	(0.010)	(0.008)	(0.018)	(0.014)	(0.014)	(0.005)
3 years after	0.059***	0.022**	0.019	-0.023	0.060***	0.026***
	(0.011)	(0.008)	(0.019)	(0.016)	(0.015)	(0.005)
4 years after	0.062***	0.024**	0.016	-0.023	0.060***	0.028***
	(0.011)	(0.009)	(0.021)	(0.017)	(0.017)	(0.006)
5 years after	0.063***	0.028**	0.027	-0.021	0.065***	0.033***
	(0.012)	(0.010)	(0.023)	(0.018)	(0.018)	(0.006)
6+ years after	0.070***	0.044***	0.060*	-0.015	0.069***	0.044***
	(0.013)	(0.011)	(0.025)	(0.020)	(0.019)	(0.007)
N	1762831	1857367	1285172	1395677	1286665	3373177
Men						
5 years before	-0.013***	-0.027***	-0.005	0.015	0.021**	-0.014***
	(0.004)	(0.003)	(0.007)	(0.008)	(0.008)	(0.002)
4 years before	-0.011*	-0.024***	0.019*	0.032**	0.037***	-0.010***
	(0.004)	(0.003)	(0.008)	(0.010)	(0.009)	(0.002)
3 years before	0.004	-0.010*	0.030**	0.055***	0.053***	0.005
	(0.005)	(0.004)	(0.010)	(0.012)	(0.010)	(0.003)
2 years before	0.039***	0.014**	0.069***	0.096***	0.075***	0.034***
	(0.006)	(0.005)	(0.012)	(0.014)	(0.011)	(0.003)
1 year before	0.067***	0.034***	0.102***	0.122***	0.088***	0.057***
	(0.007)	(0.005)	(0.013)	(0.016)	(0.012)	(0.004)
Naturalization year	0.078***	0.043***	0.105***	0.114***	0.086***	0.063***
	(0.008)	(0.006)	(0.015)	(0.017)	(0.013)	(0.004)
Year after	0.072***	0.047***	0.086***	0.101***	0.067***	0.059***
	(0.009)	(0.007)	(0.017)	(0.019)	(0.014)	(0.005)
2 years after	0.070***	0.052***	0.065***	0.098***	0.066***	0.059***
	(0.010)	(0.007)	(0.018)	(0.021)	(0.015)	(0.005)
3 years after	0.070***	0.052***	0.067***	0.099***	0.061***	0.060***
	(0.011)	(0.008)	(0.020)	(0.023)	(0.016)	(0.005)
4 years after	0.071***	0.050***	0.061**	0.095***	0.060***	0.061***
	(0.012)	(0.009)	(0.022)	(0.025)	(0.018)	(0.006)
5 years after	0.078***	0.053***	0.060**	0.094***	0.061**	0.065***
	(0.012)	(0.009)	(0.023)	(0.027)	(0.019)	(0.006)
6+ years after	0.091***	0.073***	0.090***	0.095**	0.074***	0.082***
	(0.014)	(0.010)	(0.025)	(0.029)	(0.020)	(0.007)
N	1951784	2342476	1566105	1512387	1525724	3613660

Notes: The results are estimated by OLS. Standard errors clustered within individuals in parentheses. Each cell represents a separate regression. In all models controls for years since immigration, age, the interaction between age and whether the individual was born in Sweden or not, and the observation year, are included (all controls are introduced as dummies). The female sample includes a ten percent sample of Swedish born women without a high school diploma which correspond to 1 076 494 observations and for men 1 336 944. * p<0.05, ** p<0.01, *** p<0.001

Table C 3. Effect of naturalizations on the log of annual earnings

Women	**Balkans & Eastern Europe**	**Middle East & North Africa**	**Sub-Saharan Africa**	**Asia**	**Latin America**	**All**
5 years before	-0.014	-0.145***	0.054	-0.025	0.039	-0.032**
	(0.023)	(0.026)	(0.043)	(0.027)	(0.027)	(0.012)
4 years before	0.020	-0.157***	0.098*	-0.027	0.070*	-0.021
	(0.024)	(0.026)	(0.045)	(0.029)	(0.028)	(0.013)
3 years before	0.056*	-0.109***	0.111*	-0.007	0.074*	0.009
	(0.025)	(0.027)	(0.048)	(0.031)	(0.030)	(0.013)
2 years before	0.074**	-0.114***	0.146**	0.009	0.086**	0.022
	(0.028)	(0.029)	(0.052)	(0.033)	(0.032)	(0.014)
1 year before	0.142***	-0.091**	0.235***	0.044	0.128***	0.074***
	(0.030)	(0.031)	(0.057)	(0.037)	(0.035)	(0.015)
Naturalization year	0.151***	-0.061	0.246***	0.072	0.148***	0.097***
	(0.032)	(0.033)	(0.063)	(0.040)	(0.038)	(0.017)
Year after	0.152***	-0.084*	0.184**	0.058	0.119**	0.087***
	(0.035)	(0.036)	(0.069)	(0.044)	(0.041)	(0.018)
2 years after	0.147***	-0.068	0.204**	0.041	0.132**	0.098***
	(0.038)	(0.038)	(0.074)	(0.048)	(0.044)	(0.019)
3 years after	0.139***	-0.080*	0.195*	0.040	0.121*	0.094***
	(0.041)	(0.041)	(0.080)	(0.051)	(0.047)	(0.021)
4 years after	0.153***	-0.081	0.184*	0.062	0.132**	0.106***
	(0.044)	(0.044)	(0.085)	(0.055)	(0.051)	(0.022)
5 years after	0.149**	-0.068	0.190*	0.068	0.136*	0.114***
	(0.047)	(0.046)	(0.090)	(0.059)	(0.054)	(0.024)
6+ years after	0.147**	-0.034	0.239*	0.093	0.185**	0.140***
	(0.051)	(0.050)	(0.098)	(0.065)	(0.059)	(0.026)
N	1084815	998731	810414	884048	846684	1816076
Men						
5 years before	-0.022	-0.108***	0.044	0.092*	0.031	-0.028*
	(0.020)	(0.019)	(0.035)	(0.039)	(0.025)	(0.011)
4 years before	-0.005	-0.083***	0.144***	0.140**	0.080**	0.005
	(0.021)	(0.019)	(0.037)	(0.043)	(0.026)	(0.011)
3 years before	0.039	-0.023	0.196***	0.298***	0.121***	0.063***
	(0.022)	(0.020)	(0.040)	(0.045)	(0.027)	(0.012)
2 years before	0.104***	0.055**	0.276***	0.399***	0.182***	0.136***
	(0.024)	(0.021)	(0.044)	(0.048)	(0.029)	(0.013)
1 year before	0.152***	0.101***	0.339***	0.444***	0.235***	0.186***
	(0.026)	(0.023)	(0.049)	(0.053)	(0.031)	(0.014)
Naturalization year	0.166***	0.111***	0.362***	0.423***	0.229***	0.197***
	(0.028)	(0.025)	(0.054)	(0.058)	(0.033)	(0.015)
Year after	0.155***	0.108***	0.305***	0.373***	0.196***	0.183***
	(0.030)	(0.027)	(0.059)	(0.064)	(0.036)	(0.016)
2 years after	0.146***	0.124***	0.261***	0.372***	0.199***	0.185***
	(0.033)	(0.029)	(0.064)	(0.069)	(0.039)	(0.017)
3 years after	0.146***	0.123***	0.264***	0.397***	0.233***	0.192***
	(0.035)	(0.031)	(0.068)	(0.074)	(0.041)	(0.019)
4 years after	0.143***	0.112***	0.285***	0.403***	0.252***	0.196***
	(0.038)	(0.034)	(0.073)	(0.080)	(0.044)	(0.020)
5 years after	0.163***	0.127***	0.286***	0.382***	0.265***	0.210***
	(0.040)	(0.036)	(0.078)	(0.086)	(0.047)	(0.021)
6+ years after	0.188***	0.189***	0.364***	0.422***	0.320***	0.259***
	(0.044)	(0.039)	(0.084)	(0.095)	(0.051)	(0.024)
N	1299071	1401753	1048833	1014918	1055145	2182082

Notes: The results are estimated by OLS. Standard errors clustered within individuals in parentheses. Each cell represents a separate regression. In all models controls for years since immigration, age, the interaction between age and whether the individual was born in Sweden or not, and the observation year, are included (all controls are introduced as dummies). The female sample includes a ten percent sample of Swedish born women without a high school diploma which correspond to 712 738 observations and for men 917 057. * p<0.05, ** p<0.01, *** p<0.001

Table C 4. Effect of naturalizations on annual earnings conditional on employment

Women	**Balkans & Eastern Europe**	**Middle East & North Africa**	**Sub-Saharan Africa**	**Asia**	**Latin America**	**All**
5 years before	0.005	-0.044***	0.012	0.005	-0.008	-0.004
	(0.007)	(0.010)	(0.014)	(0.008)	(0.008)	(0.004)
4 years before	0.007	-0.063***	0.010	0.000	-0.008	-0.005
	(0.008)	(0.010)	(0.015)	(0.008)	(0.008)	(0.004)
3 years before	0.007	-0.068***	0.016	0.008	-0.004	-0.004
	(0.008)	(0.011)	(0.016)	(0.009)	(0.008)	(0.004)
2 years before	0.003	-0.063***	0.026	0.010	-0.007	-0.004
	(0.009)	(0.011)	(0.017)	(0.010)	(0.009)	(0.004)
1 year before	0.009	-0.068***	0.028	0.020	-0.007	-0.001
	(0.009)	(0.011)	(0.018)	(0.011)	(0.009)	(0.005)
Naturalization year	0.016	-0.068***	0.039*	0.030**	0.005	0.008
	(0.010)	(0.012)	(0.020)	(0.011)	(0.010)	(0.005)
Year after	0.019	-0.065***	0.044*	0.020	0.009	0.011*
	(0.011)	(0.013)	(0.021)	(0.012)	(0.011)	(0.005)
2 years after	0.020	-0.064***	0.051*	0.028*	-0.001	0.013*
	(0.011)	(0.013)	(0.022)	(0.013)	(0.012)	(0.006)
3 years after	0.021	-0.059***	0.050*	0.029*	-0.001	0.015*
	(0.012)	(0.014)	(0.024)	(0.014)	(0.012)	(0.006)
4 years after	0.019	-0.055***	0.052*	0.030	0.000	0.016*
	(0.013)	(0.015)	(0.025)	(0.015)	(0.013)	(0.007)
5 years after	0.018	-0.057***	0.048	0.030	0.005	0.017*
	(0.013)	(0.015)	(0.027)	(0.017)	(0.014)	(0.007)
6+ years after	0.018	-0.056***	0.053	0.035	0.007	0.020**
	(0.014)	(0.016)	(0.029)	(0.018)	(0.015)	(0.008)
N	623197	537407	451372	488473	474887	979708
Men						
5 years before	-0.002	-0.035***	-0.006	0.017	-0.003	-0.006
	(0.006)	(0.007)	(0.011)	(0.014)	(0.007)	(0.003)
4 years before	-0.001	-0.035***	0.015	0.041**	-0.002	-0.001
	(0.006)	(0.007)	(0.012)	(0.015)	(0.007)	(0.004)
3 years before	-0.011	-0.041***	0.014	0.054**	0.007	-0.003
	(0.007)	(0.007)	(0.013)	(0.017)	(0.008)	(0.004)
2 years before	-0.001	-0.035***	0.026	0.067***	0.011	0.006
	(0.007)	(0.008)	(0.014)	(0.018)	(0.008)	(0.004)
1 year before	0.006	-0.029***	0.040**	0.085***	0.024**	0.015***
	(0.008)	(0.008)	(0.015)	(0.020)	(0.009)	(0.004)
Naturalization year	0.010	-0.027**	0.043**	0.082***	0.026**	0.019***
	(0.008)	(0.009)	(0.016)	(0.022)	(0.009)	(0.005)
Year after	0.010	-0.026*	0.043*	0.082***	0.023*	0.020***
	(0.009)	(0.010)	(0.018)	(0.024)	(0.010)	(0.005)
2 years after	0.009	-0.016	0.044*	0.099***	0.017	0.024***
	(0.010)	(0.011)	(0.019)	(0.026)	(0.011)	(0.006)
3 years after	0.005	-0.018	0.041*	0.097***	0.022	0.022***
	(0.010)	(0.011)	(0.020)	(0.028)	(0.012)	(0.006)
4 years after	0.001	-0.019	0.043*	0.102***	0.036**	0.023***
	(0.011)	(0.012)	(0.021)	(0.029)	(0.013)	(0.006)
5 years after	0.001	-0.015	0.043	0.103***	0.037**	0.025***
	(0.012)	(0.013)	(0.023)	(0.031)	(0.014)	(0.007)
6+ years after	0.002	-0.005	0.051*	0.107**	0.050***	0.031***
	(0.013)	(0.014)	(0.024)	(0.033)	(0.015)	(0.007)
N	966749	951615	773150	753963	789549	1452790

Notes: The results are estimated by OLS. Standard errors clustered within individuals in parentheses. Each cell represents a separate regression. In all models controls for years since immigration, age, the interaction between age and whether the individual was born in Sweden or not, and the observation year, are included (all controls are introduced as dummies). The female sample includes a ten percent sample of Swedish born women without a high school diploma which correspond to 1 076 494 observations and for men 1 336 944. * p<0.05, ** p<0.01, *** p<0.001

Table C 5. Effect of naturalization on the probability of getting married

Women	Balkans & Eastern Europe	Middle East & North Africa	Sub-Saharan Africa	Asia	Latin America	All
5 years before	0.005**	-0.001	0.004	-0.002	-0.016***	0.002
	(0.002)	(0.002)	(0.004)	(0.004)	(0.004)	(0.001)
4 years before	0.006*	-0.001	0.008	-0.008	-0.023***	0.001
	(0.002)	(0.002)	(0.006)	(0.005)	(0.005)	(0.001)
3 years before	0.010***	0.002	0.012	-0.002	-0.023***	0.004*
	(0.003)	(0.003)	(0.007)	(0.005)	(0.006)	(0.002)
2 years before	0.014***	0.004	0.019*	0.003	-0.024***	0.007**
	(0.004)	(0.003)	(0.009)	(0.006)	(0.007)	(0.002)
1 year before	0.018***	0.005	0.026**	0.007	-0.020**	0.010***
	(0.004)	(0.004)	(0.010)	(0.007)	(0.007)	(0.002)
Naturalization year	0.021***	0.004	0.033**	0.011	-0.020*	0.011***
	(0.005)	(0.004)	(0.012)	(0.008)	(0.008)	(0.003)
Year after	0.023***	0.003	0.041**	0.014	-0.020*	0.012***
	(0.005)	(0.005)	(0.013)	(0.009)	(0.009)	(0.003)
2 years after	0.024***	0.003	0.048***	0.014	-0.020*	0.012***
	(0.006)	(0.005)	(0.014)	(0.010)	(0.010)	(0.003)
3 years after	0.023***	0.002	0.051**	0.015	-0.022*	0.011**
	(0.006)	(0.006)	(0.016)	(0.011)	(0.010)	(0.004)
4 years after	0.023***	0.001	0.051**	0.016	-0.023*	0.009*
	(0.006)	(0.006)	(0.017)	(0.011)	(0.011)	(0.004)
5 years after	0.021**	0.000	0.052**	0.015	-0.025*	0.007
	(0.007)	(0.007)	(0.018)	(0.012)	(0.012)	(0.004)
6+ years after	0.020**	0.002	0.054**	0.015	-0.012	0.007
	(0.008)	(0.007)	(0.019)	(0.014)	(0.013)	(0.004)
N	1678524	1762460	1202881	1312140	1201449	3258649
Men						
5 years before	0.013***	0.004	-0.010	0.003	-0.001	0.005**
	(0.002)	(0.002)	(0.006)	(0.006)	(0.005)	(0.002)
4 years before	0.019***	0.005	-0.014*	0.010	0.005	0.008***
	(0.003)	(0.003)	(0.007)	(0.008)	(0.006)	(0.002)
3 years before	0.023***	0.005	-0.012	0.022*	0.010	0.011***
	(0.004)	(0.003)	(0.008)	(0.010)	(0.007)	(0.002)
2 years before	0.027***	0.003	-0.008	0.026*	0.009	0.012***
	(0.004)	(0.004)	(0.010)	(0.012)	(0.008)	(0.003)
1 year before	0.026***	-0.002	-0.004	0.028*	0.010	0.010***
	(0.005)	(0.005)	(0.011)	(0.013)	(0.008)	(0.003)
Naturalization year	0.026***	-0.010	-0.001	0.026	0.016	0.007*
	(0.006)	(0.005)	(0.013)	(0.015)	(0.009)	(0.003)
Year after	0.026***	-0.009	0.008	0.038*	0.023*	0.010**
	(0.006)	(0.006)	(0.014)	(0.016)	(0.010)	(0.004)
2 years after	0.027***	-0.010	0.017	0.051**	0.028*	0.012**
	(0.007)	(0.006)	(0.016)	(0.018)	(0.011)	(0.004)
3 years after	0.027***	-0.010	0.026	0.060**	0.029*	0.012**
	(0.007)	(0.006)	(0.017)	(0.019)	(0.012)	(0.004)
4 years after	0.027***	-0.012	0.033	0.068**	0.030*	0.011*
	(0.008)	(0.007)	(0.018)	(0.021)	(0.013)	(0.005)
5 years after	0.025**	-0.013	0.034	0.071**	0.032*	0.010*
	(0.009)	(0.007)	(0.020)	(0.022)	(0.014)	(0.005)
6+ years after	0.024**	-0.013	0.044*	0.083***	0.038*	0.010
	(0.009)	(0.008)	(0.021)	(0.024)	(0.015)	(0.005)
N	1858479	2229917	1473121	1421178	1431424	3481908

Notes: The results are estimated by OLS. Standard errors clustered within individuals in parentheses. Each cell represents a separate regression. In all models controls for years since immigration, age, the interaction between age and whether the individual was born in Sweden or not, and the observation year, are included (all controls are introduced as dummies). The female sample includes a ten percent sample of Swedish born women without a high school diploma which correspond to 999 174 observations and for men 1 248 445. The outcome is defined in levels, i.e., a dummy is set to unity the year an individual gets married and all years thereafter. All observations from the first year of the observation period, i.e., 1990 are thus excluded. * p<0.05, ** p<0.01, *** p<0.001.

Table C 6. Effect of naturalization on the probability of having a child

Women	Balkans & Eastern Europe	Middle East & North Africa	Sub-Saharan Africa	Asia	Latin America	All
5 years before	0.002	0.007**	-0.005	-0.002	0.004	0.005***
	(0.002)	(0.003)	(0.005)	(0.004)	(0.004)	(0.001)
4 years before	-0.001	-0.006	-0.021**	-0.005	-0.007	-0.002
	(0.003)	(0.003)	(0.007)	(0.005)	(0.005)	(0.002)
3 years before	-0.002	-0.006	-0.030***	-0.004	-0.004	-0.002
	(0.003)	(0.003)	(0.008)	(0.006)	(0.006)	(0.002)
2 years before	-0.002	-0.002	-0.036***	-0.012	-0.011	-0.002
	(0.004)	(0.004)	(0.009)	(0.007)	(0.006)	(0.002)
1 year before	-0.002	-0.002	-0.043***	-0.016*	-0.008	-0.003
	(0.004)	(0.004)	(0.011)	(0.007)	(0.007)	(0.003)
Naturalization year	-0.002	-0.004	-0.050***	-0.021*	-0.010	-0.004
	(0.005)	(0.005)	(0.012)	(0.008)	(0.008)	(0.003)
Year after	-0.001	-0.004	-0.057***	-0.019*	-0.009	-0.005
	(0.005)	(0.005)	(0.013)	(0.009)	(0.008)	(0.003)
2 years after	-0.000	-0.006	-0.058***	-0.019*	-0.008	-0.006
	(0.006)	(0.006)	(0.014)	(0.010)	(0.009)	(0.003)
3 years after	-0.001	-0.008	-0.055***	-0.019	-0.007	-0.007*
	(0.006)	(0.006)	(0.015)	(0.011)	(0.010)	(0.004)
4 years after	-0.002	-0.008	-0.053**	-0.022	-0.008	-0.009*
	(0.007)	(0.006)	(0.017)	(0.011)	(0.010)	(0.004)
5 years after	-0.001	-0.009	-0.052**	-0.024	-0.009	-0.010*
	(0.007)	(0.007)	(0.018)	(0.012)	(0.011)	(0.004)
6+ years after	-0.001	-0.011	-0.055**	-0.022	-0.011	-0.012**
	(0.008)	(0.007)	(0.019)	(0.014)	(0.012)	(0.004)
N	1678524	1762460	1202881	1312140	1201449	3258649
Men						
5 years before	0.003	-0.007**	0.012*	0.004	0.004	-0.000
	(0.003)	(0.003)	(0.006)	(0.007)	(0.005)	(0.002)
4 years before	-0.001	-0.007*	0.010	0.005	-0.001	-0.002
	(0.003)	(0.003)	(0.007)	(0.009)	(0.006)	(0.002)
3 years before	-0.001	-0.005	0.009	0.003	-0.009	-0.001
	(0.004)	(0.004)	(0.009)	(0.010)	(0.007)	(0.002)
2 years before	0.002	-0.005	0.009	0.002	-0.014	-0.001
	(0.005)	(0.004)	(0.010)	(0.012)	(0.008)	(0.003)
1 year before	0.005	-0.009	0.009	-0.003	-0.010	-0.001
	(0.005)	(0.005)	(0.011)	(0.013)	(0.008)	(0.003)
Naturalization year	0.007	-0.014**	0.007	-0.006	-0.011	-0.003
	(0.006)	(0.005)	(0.013)	(0.015)	(0.009)	(0.003)
Year after	0.008	-0.016**	0.005	-0.012	-0.008	-0.004
	(0.007)	(0.006)	(0.014)	(0.017)	(0.010)	(0.004)
2 years after	0.012	-0.016**	0.013	-0.004	-0.009	-0.002
	(0.007)	(0.006)	(0.016)	(0.018)	(0.011)	(0.004)
3 years after	0.013	-0.013*	0.016	0.004	-0.008	-0.000
	(0.008)	(0.007)	(0.017)	(0.020)	(0.012)	(0.004)
4 years after	0.015	-0.014*	0.024	0.006	-0.009	-0.000
	(0.009)	(0.007)	(0.018)	(0.021)	(0.012)	(0.005)
5 years after	0.018	-0.014	0.028	0.008	-0.009	-0.000
	(0.009)	(0.007)	(0.019)	(0.022)	(0.013)	(0.005)
6+ years after	0.021*	-0.011	0.042*	0.018	-0.008	0.002
	(0.010)	(0.008)	(0.021)	(0.024)	(0.015)	(0.005)
N	1858479	2229917	1473121	1421178	1431424	3481908

Notes: The results are estimated by OLS. Standard errors clustered within individuals in parentheses. Each cell represents a separate regression. In all models controls for years since immigration, age, the interaction between age and whether the individual was born in Sweden or not, and the observation year, are included (all controls are introduced as dummies). The female sample includes a ten percent sample of Swedish born women without a high school diploma which correspond to 997 174 observations and for men 1 248 445. The outcome is defined in levels, i.e., a dummy is set to unity the year a new child is observed in the household and all years thereafter. All observations from the first year of the observation period, i.e., 1990 are thus excluded. * p<0.05, ** p<0.01, *** p<0.001

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