

Do attitudes towards immigrants matter?

Gisela Waisman* and Birthe Larsen^{† ‡}

February 2, 2010

Abstract

We exploit the regional variation in negative attitudes towards immigrants to Sweden in order to analyse what are the consequences of such attitudes on immigrants' welfare. We find that attitudes towards immigrants are of importance: they both affect their labour market outcomes and their quality of life. We interpret the negative effect on wages as evidence of labour market discrimination. We estimate the welfare effect of negative attitudes, through their wage and local amenities, for immigrants with different levels of skills and origin.

1 Introduction

Immigration to Sweden is a relatively recent phenomenon. In 1950, the share of foreign-born in the population was less than 1%, compared to 7% in the US. In 2008, the share of foreign-born had increased to 13.8% in Sweden (21.9% including descendents), surpassing the same share in the US (12.5%). About half of these came from non developed countries.

*Stockholm University and Stockholm University Linnaeus Center for Integration Studies (SULCIS). E-mail address: gisela.waisman@ne.su.se

[†]CEBR, Copenhagen Business School, and Insead, Europe Campus, Boulevard de Constance, FR-77305 Fontainebleau, E-mail address: birthe.LARSEN@insead.edu

[‡]We are grateful to Torsten Persson for his advice, to Anders Björklund, Ethan Kaplan, Märten Palme, David Strömberg and seminar participants at the 1st Nordic Summer Symposium in Macroeconomics, SULCIS, SOFI, EALE, Integrationskonferensen, LACEA, the Department of Economics at Stockholm University, Copenhagen Business School, IFAU, WWZ, IMT Lucca and EEA-ESEM Barcelona 2009 for helpful comments and to Christina Lönnblad for editorial assistance. All errors are our own.

Immigration to Sweden was insignificant until World War II. During the first post-war decades, there was a sharp increase in demand for labour and workers were recruited from other European countries. There are no reliable opinion polls dealing with people's views on immigration from that time, but the early labour immigrants adapted fairly well and gradually became accepted in the cities where they settled. Since the 1970s, when the need for labour shrank substantially, immigration to Sweden has become increasingly restricted to political refugees and their families. After this change, many studies have detected the existence of negative attitudes towards immigrants.¹

Still, studies making a comparison across European countries find that Sweden is one of the countries with the most generous attitudes towards immigrants. Using the European Social Survey, Card et. al. (2005) show that there is a substantial variation in the strength of anti-immigrant opinion across European countries, and that attitudes toward immigration also vary systematically with characteristics such as age, education and urban/rural location. In their study, the proportion of respondents favouring a tight immigration policy ranges from a low figure of 17.9% in Sweden to a high figure of 87.0% in Hungary.

In this paper, we want to analyse the consequences of negative attitudes for immigrants' welfare in one of the European countries with the least strong anti-immigrant opinion. We suspect that any existing consequences would be larger in countries with more negative attitudes towards immigration. Even though we recognize that not every native with negative attitudes may discriminate, we

¹Some examples are the Intolerance Report (Intolerans 2004) and Westin (2000).

conjecture negative attitudes to be systematically related to discrimination.

The purpose of this paper is to exploit the regional variation in negative attitudes towards immigrants in order to analyse whether the labour market outcomes and the mobility decisions of immigrants are systematically related to such attitudes.

We formulate a simple model where negative attitudes affect immigrants' welfare through two channels: wages and quality of life or amenities in a certain geographical location. Immigrants maximize their welfare by making a location choice where local attitudes play a major role.

The immigrants' geographical sorting is usually based on both observable and unobservable factors, which makes it difficult to study the effect of negative attitudes on their labour market outcomes and location decisions. To avoid (part of) that problem, we concentrate on a group of immigrants for which there is an exogenous source of variation in their first location in Sweden, given by a refugee settlement policy pursued by the government. There were no restrictions on mobility after this first placement, however.

We take into account the fact that natives' attitudes towards immigrants can differ by considering two kinds of heterogeneity, by origin and by level of education. We define three groups of origin. Refugees belong to group B if they come from Africa and non developed countries in Asia and to group G if they come from South America or Eastern Europe. A third group, W, consisting of immigrants from developed countries, is also defined. When it comes to education, we call those immigrants who have attained a level higher than high

school "well educated". The placement of refugees in a region may exacerbate negative attitudes towards them. This problem is addressed by considering the data on attitudes measured prior to the refugee settlement policy.

In a nutshell, we find that attitudes towards immigrants are of importance for all immigrants from non developed countries, especially for immigrants from Africa and Asia. But they have no effect on the wages or quality of life of immigrants from developed countries.

All immigrants from non-developed countries prefer to live in municipalities where the attitudes towards them are less negative, as indicated by their moving decisions. If attitudes were to become less negative and change from their median level to the most positive level, this would increase the quality of life or the amenities of immigrants from Africa and Asia living in the median municipality² by an equivalent of 27% of their wages. The effect of such a change in attitudes on the amenities of immigrants from South America and Eastern Europe is equivalent to an increase of almost one tenth of their wages.

Well-educated immigrants from Africa and non developed countries in Asia receive lower wages when they live in a municipality with more negative attitudes. If attitudes changed from their median level to the most positive level, this would increase these immigrants' wages by 16.5%. The effect of such a change in attitudes on the wages of well-educated immigrants from South America and Eastern Europe would be a much smaller increase, just 1.6%.

²The median share of immigrants from non developed countries in our sample is 7.1%. The median value of the negative attitudes towards immigrants is 0.5.

For well-educated immigrants from South America and Eastern Europe, the negative effect on their wages disappears when the share of immigrants from non developed countries reaches 8%. This is the case in only 23 municipalities at the beginning of our sample period and in 36 municipalities at its end. Our interpretation is that these immigrants may be performing jobs below their skill levels if they live in a municipality with very negative attitudes.

The wage of well-educated group G immigrants decreases with the share of immigrants from non developed countries in the municipality. But the positive coefficient for the interaction between attitudes and share of immigrants suggests that some kind of network effects may surge as a reaction to negative attitudes. Well-educated group G immigrants may be capable of helping each other and counteract the effect of negative attitudes once immigrants reach a sufficiently high share of the population. The interaction term is also positive for group B immigrants, but it is not significantly different from zero.

Related Research

Our paper relates to research on the discrimination of immigrants in the labour market and, in particular, empirical research about Sweden.

The relationship between wages and discrimination in our simple model is justified by the results of a companion paper, Larsen and Waisman (2008), which introduces labour market discrimination in a search model (following Borjas and Bronars (1989)).

The model in our paper relates both to research on individuals' migration de-

cisions (Sjaastad (1962)) and self-selection (Roy (1951)). Nakosteen and Zimmer (1980) and Borjas et. al. (1992) apply Roy's self-selection framework to internal migration. Our paper considers self selection in the migration decision in the spirit of a Roy model.

Other studies analyse the internal migration decision in Scandinavia. Åslund (2001) finds that immigrants to Sweden are attracted to regions with many immigrants from their own country of birth and, in general, better labour market opportunities and many welfare recipients. Damm and Rosholm (2005) find that the hazard rate into the first job of refugee immigrants to Denmark is decreasing in the local population size and the local share of immigrants and that geographical mobility had large positive effects on the hazard rate into first job thus suggesting that restrictions on placed refugees' subsequent out-migration would hamper the labour market integration of refugees. None of these studies considers the effect of different attitudes directly towards immigrants on their migration decision.

Henry (2008) shows that the probability of African American migrants choosing a city in the US is significantly reduced by the level of race-based crimes against them and by racially intolerant attitudes held by whites and the poor evolution of the feelings of whites about racial diversity. In her analysis, she cannot rely on any exogenous source of variation in migrants' location and she does not study how attitudes affect labour market outcomes.

Knabe et al (2009) analyse the effects of right-wing extremism on the well-being of immigrants in Germany. They find that the higher vote shares for the

extreme right are associated with a lower subjective well-being of immigrants. Moreover, educated immigrants are more strongly affected by right-wing attitudes of the host population than low-skilled immigrants. As compared to our paper, this study uses a better approximation of right-wing attitudes in the native population (we cannot use vote shares for the extreme right because those parties were too small in Sweden before the 1980s), but they use a subjective measure of life satisfaction as they cannot infer quality of life from migration decisions.

Several empirical studies (for example Bevelander and Skyt Nielsen (1999) and Arai et. al. (1999)) have found lower income and employment rates for immigrants than for comparable natives in Sweden. These studies cannot tell us if the differences are caused by ethnic discrimination or differences in unobserved characteristics of the two populations. By analysing the difference in labour market outcomes in regions with different attitudes towards immigrants, we intend to test discrimination in a more direct way.

There are other studies performing different types of more direct tests of discrimination in Sweden. Rooth (2001) analyzed the labour market performance of adoptees with dissimilar looks to natives and concluded that discrimination against skin colour may exist in the Swedish labour market. Åslund and Rooth (2005) found no sign of increased discrimination against certain immigrants to Sweden after the temporary change of attitudes caused by the terrorist attacks on September 11, 2001. Compared to these studies, ours is more general as it is not restricted to certain groups of immigrants.

In the next section, we will present a simple model that can help us understand how negative attitudes affect immigrants and, in the following sections, we present the empirical analysis.

2 Some Simple Theory

Consider an immigrant who derives utility from the consumption of goods afforded by her wage and amenities, that is, different features increasing quality of life. In the same spirit as a Roy model, different geographical areas are modelled as having different earnings and different amenity benefits for different immigrants. These local amenities affect quality of life because people have preferences for certain types of areas; they may prefer to live in temperate climates more than in severe ones, for instance.³

Each geographical location is characterized by a level of negative attitudes towards immigrants, determined by the share of the population that dislikes immigrants. Negative attitudes towards immigrants potentially affect both components of the utility function. When we model how negative attitudes affect immigrants, we think in terms of discrimination. In a companion paper, Larsen and Waisman (2008), we study the effects of discrimination of immigrants on the labour market within a search and wage-bargaining setting. In such a setting, discrimination implies that the wages received by immigrants are lower than the wages received by natives, even when they face a non-discriminatory

³Graves (1979), Mueser and Graves (1995) and Huffman and Feridhanusetyawan (2007) show evidence of amenities affecting people's migration decisions and welfare.

employer. Amenities or quality of life may be affected by negative attitudes in many different ways. For example, negative attitudes can induce discrimination in the housing market, at schools or in hospitals.

We represent the utility for individual i in region j by the following equation

$$U_i^j(d^j) = w_i^j(d^j) + A_i^j(d^j), \quad (1)$$

where w_i^j denotes wage, A_i^j the amenities and d^j the level of negative attitudes in region j .

Every immigrant maximizes utility by making a location choice. When deciding where to live, she considers the level of wages and the quality of life she expects to receive in different geographical locations and moves to region k if

$$U_i^k(d^k) > U_i^j(d^j) + C_i, \quad (2)$$

where C_i reflects the immigrant's individual costs of moving. According to this simple location model, we expect more immigrants to move into or remain in regions with less negative attitudes. The effect of negative attitudes on wages and the location decision will be studied in the empirical section.

3 Empirical Background, Data and Method

Immigrants' sorting is based on both observable and unobservable factors which makes it generally difficult to study the effect of negative attitudes on labour market outcomes and location decisions. Therefore, we will study a group of immigrants for which there is an exogenous source of variation in their first loca-

tion in Sweden given by a refugee settlement policy pursued by the government from 1985 to 1994.

The refugee settlement policy placed newly arrived refugees in different local municipalities according to certain well-defined criteria. The idea of the programme was to get a more even distribution of immigrants and facilitate integration. There was no interaction between municipal officers and refugees, so the selection was, by definition, purely made on basis of observed characteristics, such as language and family size. The assignment of municipality was not the immigrants' choice and was independent of unobserved individual characteristics giving a quasi-experimental character to the data, as described by Edin, Fredriksson and Åslund (2003). These authors argue that the housing market was booming, thus making it difficult to find vacant housing in attractive areas. Formally, the assignment policy was in place from 1985 to 1994, but it was most strictly applied between 1987 and 1991. During this period, almost 90% of the refugees were assigned an initial municipality of residence by the Immigration Board. There were no restrictions on ex post mobility, except that the refugees lost some activities granted in an introduction programme of about 18 months.

We exploit this natural experiment to analyse whether the mobility decisions of immigrants and their labour market outcomes are systematically related to attitudes in the different regions. We mainly use an unbalanced panel of data from 1996 to 2003, only including those immigrants who arrived in the period 1987 to 1991.⁴

⁴In section 5, we repeat the same analysis in a larger sample, consisting of all immigrants that arrived in the period 1985 to 1994, that is, the whole official period of application of the

Immigrants are not a homogeneous group and we believe not all of them to be equally affected by negative attitudes. We will divide the immigrants into three groups by origin. Group B consists of immigrants from Africa and non developed countries of Asia. Group G consists of immigrants from South America and Eastern Europe. The third group called W consists of immigrants from developed countries. These immigrants are not refugees, they were never placed and we expect them to be much less affected by negative attitudes. They are included as a placebo group.

We also differentiate immigrants by their level of education. We call those immigrants who have attained a level higher than high school "well educated".

We recognize that the placement of immigrants in a region may exacerbate negative attitudes towards them. This problem is addressed by considering the data on attitudes measured prior to the refugee settlement policy. For this reason, we assume attitudes to be constant in the short run. Note that almost 60% of the immigrants living in Sweden in 2003 arrived after February 1985, the last period of our attitude data. We will use a measure of negative attitudes that is not directly caused by these last large waves of immigration.

3.1 Data

Data on the labour market performance of immigrants is available in the Longitudinal Individual Data Base (LINDA) stored at Statistics Sweden. Income registers and population census data constitute the core of the data set.⁵ It

refugee settlement policy as a robustness test.

⁵See Edin and Fredriksson (2000) for a presentation of this data set.

contains information on 300 000 individuals annually plus a non-overlapping sample of 20% of all immigrants. From this database, we obtain information about the immigrant's monthly wage,⁶ country of origin, year of immigration, the municipality where she lived upon arrival and where she lives now, her level of education, age, civil status, etc.

We cannot observe which immigrants in LINDA are refugees, so we concentrate our analysis on those from non developed countries, i.e. those that are more likely to have been placed by the government. In our groups of interest, B and G, we include immigrants from countries outside Western Europe that were not members of the OECD in 1985 and Turkey. Immigrants from developed countries constitute the group of "white" immigrants, W.

We obtain our measure of attitudes towards immigrants from five cross-sectional surveys on Swedish Opinion collected from 1979 to February 1985 by Stiftelsen för Opinionsanalyser (SSD 0099, Göteborg University). The data was collected through a mail survey sent to around 2 000 individuals aged 17-80. We add the answers of all surveys to get more observations per municipality, all in all 11 539 answers.

We are interested in the question: How important do you think less immigration is? The possible answers (frequency in parenthesis) are: (1) very important (25.75%), (2) quite important (23.45%), (3) not very important (11.35%), (4) not important at all (fine now) (17.69%), (5) better with more immigrants

⁶Until 1998, the data on full-time equivalent monthly wage rates was not available for all private sector employees, while it covered all public employees incorporated in this sample.

(3.13%), (6) hesitant (13.83%) and (7) no answer (4.80%).

We construct a measure of negative attitudes by adding the number of individuals answering (1) or (2) and deducting those answering (5). This variable is normalized to vary between 0 and 1. A map of Sweden in Figure 1 shows how attitudes are distributed throughout the country.

Table I includes descriptive statistics of the variables of interest in our study. These include individual characteristics of the immigrants and municipal characteristics of their location.⁷ Tables II and III have a richer description of the variables where immigrants are separated into stayers and movers. Stayers are immigrants who still live in the municipality where they were placed. Most immigrants moved relatively soon after they arrived and very few moved during the period 1996 to 2003. Stayers constitute 45% of group B and 60% of group G immigrants. As is evident from the table, stayers were placed in municipalities with less negative attitudes towards immigrants, a higher share of immigrants from non developed countries, better labour market conditions, lower municipal taxes and milder geographic conditions than movers. Movers chose more positive attitudes, a higher share of immigrants, better labour market conditions, lower municipal taxes and milder geographic conditions. Immigrants from Africa and Asia moved to a higher extent than immigrants from South America and Eastern Europe. Movers appear to earn higher wages than stayers.

Table IV characterizes the initial and final location of immigrants who came from developed countries in the same period. "White" immigrants were never

⁷Data source: Statistics Sweden.

placed, they chose themselves where to live already upon arrival and 54% stayed in that first location. They seem to be more influenced by geographic conditions in their choice of location than other considerations.

The location choices of immigrants suggested by these means are consistent with our theory. Both the average group B mover and the average group G mover chose to move towards more positive attitudes. Those who decided to stay had been placed in municipalities with more positive attitudes. But this is just a comparison of means; we need a deeper analysis of the data to measure the effect of negative attitudes.

3.2 Empirical Strategy

We want to estimate the effect of negative attitudes on the wages and location decision of immigrants represented in equation (2). Larsen and Waisman (2008) show that the effect of discrimination on wages depends on the share of immigrants in the economy. The effect on amenities may also vary in a similar way. We take this into account and incorporate a term allowing for an interaction between negative attitudes and the share of immigrants in our wage and amenities equations. We assume the wage and amenity functions in equation (1) above to

take the form

$$\begin{aligned}
w_{it}^j(d^j) &= d^{j'}\alpha_1 + (d^j * M_t^j)' \alpha_2 + X_t^{j'}\alpha_3 + Y_{it}'\alpha_4 + \varepsilon_{it}^j \\
&= E(w_{it}^j(d^j)) + \varepsilon_{it}^j, \quad \varepsilon_{it}^j \sim N(0, \sigma^2) \quad \text{for } j = p, m \quad (3) \\
A_{it}^j(d^j) &= d^{j'}\beta_1 + (d^j * M_t^j)' \beta_2 + Z_t^{j'}\beta_3, \quad \text{for } j = p, m \\
C_i &= Y_{it}'\gamma. \quad (4)
\end{aligned}$$

In the wage equation, d^j denotes the level of negative attitudes in municipality j , M_t^j is the share of immigrants from non developed countries living in j in period t , X_t^j are municipal characteristics that affect wages, Y_{it} are individual characteristics and ε_{it}^j is a residual term or shock to individual i 's wage. In the amenities equation, Z_t^j are municipal characteristics that affect amenities. We will call p the municipality of placement and m the municipality to which an immigrant is considering to move. The cost of moving is assumed to depend on individual characteristics only.

When we estimate equation (2) above for the movers, we observe the wage that the immigrant received in municipality m , $w_{it}^m(d^m)$, but we need to estimate the wage she would have received if she had stayed in the municipality of placement. The expected wage upon placement is denoted $E(w^p(d^p))$. An immigrant is then a mover if

$$\begin{aligned}
w_{it}^m(d^m) + A_{it}^m(d^m) &> w_{it}^p(d^p) + A_{it}^p(d^p) + C_i, \\
w_{it}^m(d^m) - E(w^p(d^p)) + [A_{it}^m(d^m) - A_{it}^p(d^p)] - C_i &> \varepsilon_{it}^p. \quad (5)
\end{aligned}$$

For a stayer, we observe the wage she receives in the municipality of placement, but we need to estimate what she would counterfactually receive in a

target municipality. We cannot observe to which municipality an immigrant considered moving, if she decided to stay. The target municipality of stayers is defined as the average municipality where all immigrants have chosen to live in our sample. In this way, we use the immigrants' own revealed preferences when we determine what the potential target would have been⁸. The alternative destinations are therefore collapsed into a single alternative, a target municipality with the expected wage $E(w_{it}^m(d^m))$. An immigrant is a stayer if

$$w_{it}^m(d^m) + A_{it}^m(d^m) \leq w_{it}^p(d^p) + A_{it}^p(d^p) + C_i,$$

$$w_{it}^p(d^p) - E(w_{it}^m(d^m)) + [A_{it}^p(d^p) - A_{it}^m(d^m)] + C_i > \varepsilon_{it}^m, \quad (6)$$

where $w_{it}^j(d^j)$ and $A_{it}^j(d^j)$ are the wages and amenities equations defined in (3) and (4) for $j = m, p$.

We initially assume that the residuals in the wage equations for movers and stayers, ε_{it}^p and ε_{it}^m , are independent of each other. This assumption may not be realistic. High ability immigrants that have positive residuals upon placement are likely to also have positive residuals after moving. We can actually test if this is the case by looking at the small group of immigrants that moved from the municipality where they had been placed upon arrival (1987-1991) during the period 1996-2003 and for which we can observe wages in both the municipality of placement and the municipality of their final location.⁹ For this particular

⁸As a robustness check, we have performed the estimation using other potential targets, for example, an average of the ten most preferred municipalities (as revealed by immigrants' choices). There was no substantial change in the results.

⁹This group only includes about 100 individuals. Most of the refugees who moved until 2003 had already moved by 1996.

group of immigrants, we can calculate an average wage throughout the period both upon placement and where they chose to move and estimate the correlation between these average wages. The correlation turns out to be positive and high. For this reason, we will present results where we incorporate a high positive correlation among residuals.¹⁰

We include several covariates and controls, so that the differences in the wages and amenities are not determined by differences in the labour market opportunities or the geographical characteristics of the regions themselves. We characterize the labour market in the municipality by average wages, average days of unemployment, the share of income originating in the private sector (market support), the share of firms with less than 50 employees (share of small firms) and the share of high-school educated living in the municipality. Municipal tax rates are also related to the economic conditions in the municipality and affect labour and location decisions, so that they are also included as controls.

We consider as movers all immigrants who chose to move from their first location in the country, even if this happened before the period in our analysis. Controlling by fixed effects at the individual level is of no help because we have very few individuals that moved during the period in our sample and for which we can observe wages both before and after moving. We cannot control for fixed effects at the municipal level since attitudes are assumed to be constant

¹⁰The estimated correlation is 0.76 for group G immigrants and 0.54 for group B immigrants. We present regression results with alternative correlations in tables VIII to X and choose a correlation of 0.75 for table IV. Note that the effects we show would be even stronger if the chosen correlation was 0.50 instead of 0.75.

over time. Therefore, we will control for fixed effects at the labour market area level. Sweden is divided into 290 municipalities that constitute 70 labour market areas. We control for time trends by including year effects.

Identification rests on the assumption that the effect of negative attitudes on the wages and location decisions of group B and G immigrants is independent of the residual terms in (5) and (6), ε . Identification fails if some other factor determines both the level of attitudes and the differences in wages and amenities in the region, through its effect on the residual terms. It could be imagined, for example, that a generally bad labour market causes poor outcomes for recent immigrants as well as negative attitudes among natives. The attitudes we capture in our measure were displayed more than ten years before the period of analysis, but a bad labour market may be persistent over time. To check whether some other factor determines both the level of attitudes and the differences in wages and amenities in the region, we include a third group in our analysis, immigrants from developed countries, that we expect not to be affected by attitudes. The idea is that if our estimation of the effect of attitudes on wages and amenities is the result of some other factor that produces lower wages, we should estimate the same effect on this placebo group.

There is no considerable difference among the three groups of immigrants with respect to individual characteristics. They have a similar average age (37.6 for group W, 35.6 for G and 34.6 for B), a similar gender composition (50% of W, 56% of G and 50% of B are women) and a similar civil status (56% of W, 52% of G and 54% of B are married or cohabitants). Most importantly, their

educational level is not that different. We can compare the educational levels of immigrants with a measure that scales from 0 (no education at all) to 6 (Ph.D. level). A value of 3 corresponds to high-school education, so that the variable "well educated" in our study refers to values 4 to 6. The average level of education of white immigrants is 3.4 (with a standard deviation of 1.47), while it is 3.2 (with a standard deviation of 1.4) for immigrants from South America and Eastern Europe and 2.9 (with a standard deviation of 1.4) for immigrants from Africa and non developed countries in Asia.

3.3 Estimation Method

By maximum likelihood, we estimate the probability that an immigrant stays in the municipality of placement. This probability was defined in equation (5) for movers and in equation (6) for stayers and is a function of the wages and amenities or the quality of life immigrants obtain in each municipality defined in equations (3) and (4). The estimation allows us to understand how negative attitudes towards immigration affect the location decision of immigrants via their effect on wages and amenities.

In our estimation, we have assumed that the coefficients are identical for stayers and movers. This specification facilitates the presentation and analysis of the results. We have tried an alternative specification, separating the effect of the variables of interest on the wages of stayers and movers. In some of the regressions, we are not able to compute this alternative specification including the full set of controls because of lack of convergence. But in those cases where

we could obtain results, the coefficients do not differ to any great extent for movers and stayers.

We run separate regressions for each group of immigrants because we want to allow for heterogeneity across immigrants with different origins. Recall that group B consists of immigrants from Africa and non developed countries in Asia, group G consists of immigrants from Eastern Europe and South America and group W consists of immigrants from developed countries. We study the heterogeneity in educational level by interacting each variable of interest with a dummy that is equal to one for "well-educated" individuals, that is, those who have attained at least the high-school level.

In most regressions (except tables VIII to X), we introduce a high and positive correlation in wage residuals as explained in section 3.2.

4 Results

Table V presents our estimation of the coefficients of equations (3) and (4). In all regressions, the standard errors are clustered at the municipal level. All regressions in table V assume a positive and high correlation in the residuals of the wage equations for the placement and the target municipality.

All regressions include the variables of interest (negative attitudes towards immigrants, share of immigrants from non developed countries and their interaction), individual controls (age, age squared, gender, civil status, education and years in Sweden), municipal covariates, fixed effects at the labour mar-

ket area level and year effects. The municipal covariates include labour market conditions (average wages, average days of unemployment, share of income originating in the private sector or market support, the share of firms with less than 50 employed and the share of high school educated in the municipality), municipal tax rates and geographic characteristics (latitude and average minimum temperature in winter). We also control for the number of refugees from the same country during the period 1987 - 1991 since a large wave of immigration from a single country could particularly affect the location choice and the labour market opportunities of those arriving from that country.

For each group of immigrants, we present the results in two columns, corresponding to the coefficients of the wages and amenities functions. When estimating the coefficients of the amenities functions, we use as explanatory variables the difference in values of the municipal variables (variables of interest and the municipal covariates) at the placement versus the target municipality. For example, "negative attitudes" denote the difference between negative attitudes upon placement and at the final or prospective location, that is, $(d^p - d^m)$. If the municipality of placement has a higher value of negative attitudes towards immigrants than the target municipality, $(d^p - d^m) > 0$, then a negative coefficient would mean that negative attitudes reduce the probability of the immigrant remaining where she has been placed because she has a lower quality of life than she would if the municipality had less negative attitudes. The amenities equations include additional geographic controls, such as the latitude (that influences how dark it becomes in winter) and the ten-year average minimum

temperature in the winter (January to March). In the literature on amenities, it is common to hypothesize that people prefer moderate climates.

Table IV shows the results for the three groups of immigrants with the full set of controls. Tables V to VII show how the coefficients vary when we include additional sets of controls. Each table corresponds to a different group of immigrants. In the first set of results, we only control for the individual characteristics of the immigrants. In the second set, we control for individual characteristics, fixed effects at the labour market area level, year effects and the number of refugees from the same country during the period 1987 - 1991. For the last set of results, we also control for the municipal covariates, so that we have the full set of controls and the coefficients coincide with those presented in table IV.

Tables VIII to X show how the coefficients vary if we introduce a different residual correlation than the one we have chosen for our main results. Once more, each table corresponds to a different group of immigrants. The first set of equations assumes independent residuals and the assumed residual correlation increases in each set of results to 0.5 and 0.75. The last set of results in each table coincides with those in table IV.

4.1 Results for immigrants from Africa and Asia

Negative attitudes towards immigrants reduce the quality of life of all immigrants from Africa and non developed countries in Asia. The effect is stronger, the larger is the share of immigrants from non developed countries in the munic-

ipality. The coefficient for negative attitudes and the coefficient corresponding to the interaction between attitudes and the share of immigrants are both negative and differ significantly from zero in all specifications. In our regressions, quality of life is measured in the same units as wages, so we can estimate how costly negative attitudes are for immigrants in terms of money.

In our preferred specification, presented in table V, we observe that if attitudes became less negative and changed from their median level (0.5) to the most positive level (0), this would increase the quality of life or the amenities of immigrants from Africa and Asia living in the median municipality by an equivalent of 26% of their wages.¹¹ The effect is stronger if less controls are included in the regression and also stronger if we assume a lower correlation of the residuals.

The quality of life of group B immigrants increases with the share of immigrants from non developed countries in all specifications. In some specifications, this effect is smaller for the well-educated group B immigrants. An increase in the share of immigrants from zero to the median level (0.071) increases the amenities by 6% and 4% for the low and well-educated group B immigrants, respectively, in our most preferred specification.

Negative attitudes reduce the wages of well-educated group B immigrants in all specifications in tables VI and IX. The negative coefficient showing the effect of the interaction of negative attitudes towards immigrants with a dummy for

¹¹This is the result of the following calculation $(-0.26 - (3.80 * 0.071)) * (-0.5) = 0.26$ where 0.5 is the median value of negative attitudes and 0.071 is the median value of the share of immigrants.

well-educated immigrants differs significantly from zero in all sets of results.

In our preferred specification in table V, we can observe that if attitudes changed from their median level to the most positive level, this would increase these immigrants' wages by 16.5%. The effect is somehow stronger when less controls are included in the regression and hardly varies when a different correlation of residuals is assumed.

When we only control for the individual characteristics of the immigrants, the share of immigrants from non developed countries has a positive effect on group B's immigrants wages. The effect is still positive but not significantly different from zero when we add other controls.

4.2 Results for immigrants from South America and Eastern Europe

Negative attitudes towards immigrants also reduce the quality of life of all immigrants from South America and Eastern Europe. The coefficient for negative attitudes is negative and significantly different from zero in all specifications. Our preferred specification in table V shows that if attitudes changed from their median level to the most positive level, this would increase the quality of life of group G immigrants by an equivalent of 9% of their wages. The effect is somewhat stronger with less controls and if we assume a lower correlation of residuals.

The share of immigrants from non developed countries seems to increase the quality of life of group G immigrants in the first two sets of regressions in table

VI, but the effect does not differ significantly from zero once we incorporate municipal covariates as controls.

The direct effect of negative attitudes on the wages of well-educated immigrants from South America and Eastern Europe is negative and significantly different from zero in all specifications, but the interaction between attitudes and the share of immigrants has a positive coefficient, which is once more significantly different from zero in all specifications. If we compute the effect of a change in attitudes from the median level to zero for a well-educated group G immigrant living in the median municipality, it turns out to be a reduction in wages of just 4% in our preferred specification. The effect is stronger with less controls, but it hardly changes when we assume the residual correlation to be lower. The negative effect of attitudes on wages of well-educated group G immigrants disappears when the share of immigrants from non developed countries reaches 8%. This is only the case in 23 municipalities at the beginning of our sample period (1996) and in 36 municipalities by its end (2003).

An increase in the share of immigrants from non developed countries decreases the wages of well-educated group G immigrants in most specifications. The effect is quite strong in our preferred specification, but weaker with less controls and a lower residual correlation.

4.3 Results for immigrants from Developed Countries

Negative attitudes have no effect at all on the wages of immigrants from developed countries, our placebo group W in our preferred specification in table

IV. Nor do they have any effects if we reduce the residual correlation in table X. In table VII, we seem to find that more negative attitudes actually increase the wages of well-educated group W immigrants, but the coefficient is only significantly different from zero when municipal covariates are not included in the controls.

4.4 Interpretation of the results

We see these results as evidence of discrimination in the labour market for well educated immigrants from less developed countries, especially against immigrants from Africa and non-developed countries in Asia. The average wages of well educated group W immigrants in our sample are 20% higher than the average wages of well-educated group B immigrants. A large part of this difference could thus be explained by discrimination.¹²

Our interpretation of these results is that immigrants from non-developed countries may be performing jobs below their skill levels if they live in a municipality with very negative attitudes.

The positive effect of the interaction between attitudes and the share of immigrants on the wages of the well-educated immigrants from South America and Eastern Europe suggests that some kind of network effects may surge as a reaction to negative attitudes. But it does not seem to be just pure network effects since the direct effect of a higher share of immigrants from non developed

¹²Note that the comparison is made with similar immigrants who have been in the country for an equally long period.

countries is negative for this group.

The effects of the controls on immigrants' wages and amenities are relatively similar across groups. Wages are higher for immigrants living in municipalities with better labour markets and for immigrants that are older, male, married or cohabitants and who have been in Sweden for a longer period of time. The value of amenities increases with better labour market conditions and a more moderate climate (lighter and warmer winters).

Our analysis allows us to estimate the total effect of negative attitudes on the well-being of immigrants from non developed countries. If attitudes were to become less negative and change from their median level to the most positive level, this would increase the welfare of low educated immigrants from Africa and Africa by an equivalent of one fourth of their wages. For well-educated group B immigrants, the effect is even higher, 42%, because they are affected both through quality of life and through their wages. Immigrants from South America and Eastern Europe are less affected by negative attitudes. The same change in attitudes would increase their welfare by 9% if they are low educated and 13% if they are well educated.

The wages and the quality of life of immigrants from developed countries, our placebo group, are not affected (or are affected in the opposite way in some specifications) by negative attitudes. This is an indication that we are not capturing the effect of omitted variables that have a positive effect on negative attitudes and a negative effect on wages or amenities for all workers in a region.

5 Robustness Tests

5.1 Alternative Specification

An alternative way of analysing the effect of negative attitudes is to concentrate on the wages of those immigrants that still live where they were placed by the government according to the refugee settlement policy. If the analysis is done in this way, we need to correct for the selection bias created by the fact that these individuals chose themselves to stay in their placement municipality. We estimate the effect of negative attitudes on the wages of stayers using a Heckman-style selection bias correction.

The results of the estimation are presented in table XII. For each group of immigrants, the first column shows the effect of the variables of interest on the stayers' wages. The second column shows the effect of the "differences" in the variables of interest, the variables upon placement minus the variables in the target municipality, on the location decision, that is, the selection into being a stayer.

In this case, we have not been able to include fixed effects at the labour market area level, due to lack of convergence. Instead, we have included fixed effects at the county level. Sweden's 290 municipalities are grouped into 25 counties, so we are controlling for fixed effects at a more general level. We expect our main estimation to do a better job at isolating the effect of attitudes from other factors, but we think it is still interesting to see the results of a Heckman selection model even if it has inferior controls.

With respect to the location decision (the selection equation), all immigrants from non developed countries are less likely to stay in a municipality with more negative attitudes. The effect is stronger for immigrants from Africa and Asia, both directly (a more negative coefficient) and indirectly, through the interaction term. Well-educated immigrants from developed countries prefer to stay in a municipality with more negative attitudes.

We find that negative attitudes reduce the wages of well educated stayers from non developed countries only when they live in municipalities with relatively few immigrants from non developed countries (less than 7% for group B and less than 6% for group G well educated stayers). This means that negative attitudes reduce the wages of only 27% of the stayers from Africa and Asia and one third of the stayers from South America and Eastern Europe. The other stayers seem to be able to counteract the effect of negative attitudes, maybe by building networks in response to them. But, exactly as in the main specification, these are not pure network effects because the wages of well educated group B and G immigrants decrease with the share of immigrants from non-developed countries.

We find a positive effect of negative attitudes on the wages of low educated immigrants from South America and Eastern Europe. We also find a positive effect of negative attitudes on the wages of well educated immigrants from developed countries through the interaction term. We have no good explanation for these positive coefficients, but the fact that group W selection and wages increase with the negative attitudes probably shows that we are not capturing

the effect of a third factor that has a negative effect on attitudes and wages and a positive effect on selection for all workers. This could be a consequence of the less satisfactory choice of fixed effects that we had been forced to make due to lack of convergence.

Note that the number of observations is higher than in the other tables. This is the case because we can include those immigrants for whom we have no information on wages in the selection equation.

5.2 Alternative Sample

We now repeat the same analysis in a larger sample, consisting of all immigrants who arrived in the period 1985 to 1994, that is, the whole official period of application of the refugee settlement policy. In the additional years, however, the placement of immigrants was less strict, meaning that more refugees were allowed to choose their first location themselves. The exogenous source of variation in the immigrants' first location in Sweden is thus potentially a worse assumption for this larger sample.

Table XIII reports the results arising from repeating the same analysis as in table V in the larger sample.

If negative attitudes were reduced from the median level to zero, the wages of well-educated immigrants from Africa and Asia living in a municipality with a median share of immigrants would increase by 7%.¹³ The same change in attitudes would increase the value of amenities for all group B immigrants living

¹³This is the result of the following calculation: $(-0.45 + (4.35 * 0.071)) * (-0.5)$.

in a municipality with a median share of immigrants by 24%.

An increase in the share of immigrants from non-developed countries living in the municipality increases the quality of life of all group B immigrants, while it has the opposite effect on their wages depending on their level of education. An increase in the share of immigrants from non developed countries living in the municipality from zero to the median level increases the quality of life of all group B immigrants by 6% and increases (decreases) the wages of low (high) educated immigrants from Africa and Asia by 5% (13%).

Immigrants from South America and Eastern Europe are once more less affected by negative attitudes than group B immigrants. Their wages are, in fact, not at all affected by attitudes or by the share of immigrants from non developed countries living in the municipality. If negative attitudes were reduced from the median level to zero, the quality of life of all group G immigrants would increase by 7%. An increase in the share of immigrants from non developed countries living in the municipality from zero to the median level decreases the quality of life of all group G immigrants by 2%.

Out of all immigrants in this group, most came to Sweden between 1992 and 1994 and more than 80% of the late arrivals came from former Yugoslavia. It may be the case that these immigrants were more similar to Swedes than those coming from the rest of Eastern Europe and South America. Alternatively, the proximity to this war region may have inspired Swedes to help this group more than other immigrants. This would explain why their wages were not affected by negative attitudes. Negative attitudes still influence their amenities, but less

than they did for group G immigrants in the benchmark sample. Immigrants from Africa and Asia are more affected than immigrants from South America and Eastern Europe. Immigrants from developed countries actually benefit from negative attitudes which, once more, shows that we are not capturing the effect of a third factor that has a negative effect on attitudes and a positive effect on wages for all workers.

6 Conclusions

We find that attitudes towards immigrants are of importance: they both affect their labour market outcomes and their quality of life. Well-educated immigrants from Africa and non developed countries in Asia receive lower wages when they live in a municipality with more negative attitudes towards immigration. This is also true for most well-educated immigrants from South America and Eastern Europe. If attitudes were to change from their median level to the most positive level, this would increase group B immigrants' wages by 16.5%. The same change in attitudes would increase the wages of group G immigrants living in the median municipality by 4%.

All immigrants from non developed countries prefer to live in municipalities where the attitudes towards them are less negative, independently of their level of education. Our model implies that immigrants from Africa and Asia living in the median municipality are willing to sacrifice as much as 26% of their wages to enjoy living in a municipality with zero negative attitudes, instead of

the average level. Immigrants from South America and Eastern Europe would accept a reduction of 9% of their wages for such a change.

The fact that the wages and the quality of life of immigrants from developed countries, our placebo group, are not affected (or are affected in the opposite way in some specifications) by negative attitudes indicates that we are not capturing the effect of omitted variables that have a positive effect on negative attitudes and a negative effect on wages or amenities for all workers in a region.

A reduction in negative attitudes from the average level to zero would increase the total welfare of immigrants from Africa and Asia, consisting of their wage and quality of life, by an equivalent of the utility provided by 42% of their wage if they are well educated and 26% if they are low educated. The same amount for immigrants from South America and Eastern Europe is 13% if they are well educated and 9% if they have a low education. These effects are really strong, particularly for group B immigrants. If the attitudes towards immigrants became more positive, it would make a large difference for these individuals.

We end with two examples that may give a better concrete illustration of to what extent attitudes are of importance.

The first example is Lund, a municipality with much less negative attitudes than the average. Placed immigrants tend to stay and many immigrants placed in other municipalities choose to move to Lund. Lund is a municipality in Skåne, southern Sweden. The city of Lund has more than 76 000 inhabitants and is believed to have been founded around the year 990, when the Scanian lands

belonged to Denmark. It soon became the Christian centre of Northern Europe with an archbishop and the towering Lund Cathedral. Lund University, established in 1666, is Sweden's largest university. Lund is an island of immigrants' acceptance ($A = 0.302$) in a county where attitudes are very negative. In our sample, 66 immigrants from Africa and non developed countries of Asia were placed in Lund during the period 1987 to 1991. As many as 59 immigrants with the same continents of origin who were placed in other municipalities chose to move to Lund. Out of the 54 immigrants placed in Lund who decided to stay, our model estimates that almost 90% would not have stayed had the attitudes not been so much more negative in the target municipality.

The second example is Orust, a municipality where attitudes are more negative than the average. Most placed immigrants have chosen to move away from Orust. Orust is an island and municipality in Bohuslän on the West Coast, Sweden's third-largest island with an area of 346 km². The island has just over 15 000 residents, but this figure increases in the summer. Most of the municipality consists of countryside, with a number of small population centres. Eight immigrants from Africa and non developed countries in Asia were placed in Orust, where our measure of attitudes is higher than the average ($A = 0.545$). One of them stayed, one moved to a municipality with even more negative attitudes, while the remaining six moved to municipalities with more positive attitudes. According to our estimation, about half of these immigrants would not have moved had the attitudes to them in Orust not been negative.

7 References

Arai M, H Regnér and L Schröder (1999) Är arbetsmarknaden öppen för alla?, Bilaga 6 till Långtidsutredningen 1999 (SOU 2000:7), Fritzes, Stockholm.

Bevelander P. and H. Skyt Nielsen (1999), "Declining Employment Assimilation of Immigrants in Sweden: Observed or Unobserved Characteristics?", CEPR Discussion Paper No. 2132.

Borjas, G., S. Bronars and S. Trejo (1992), "Self-Selection and Internal Migration in the United States", NBER Working Papers 4002.

Borjas G. and S. Bronars (1989), "Consumer Discrimination and Self-employment", Journal of Political Economy, 97(3), pp. 581-605.

Card, D., C. Dustmann and I. Preston (2005), "Understanding Attitudes to Immigration: The Migration and Minority Module of the First European Social Survey", Centre for Research and Analysis of Migration (CReAM) Discussion Paper Series 0503, Department of Economics, University College London.

Damm, A.P. and M. Rosholm (2004), "Employment Effects of Dispersal Policies on Refugee Immigrants: Empirical Evidence", IZA Disc Papers N 925.

Edin, P.-A. and P. Fredriksson (2000), "LINDA - Longitudinal INdividual DATA for Sweden", WP 2000:19, Dep. of Economics, Uppsala University.

Edin, P.-A., P. Fredriksson and O. Åslund (2003), "Ethnic Enclaves and the Economic Success of Immigrants - Evidence from a Natural Experiment", Quarterly Journal of Economics, 118(1), pp. 329-357.

Graves, P.E. (1979), "A Life-Cycle Empirical Analysis of Migration and Climate, by Race", Journal of Urban Economics, VI, pp. 135-147.

Huffman W. and T. Feridhanusetyawan (2007), "Migration, Fixed Costs, and Location-Specific Amenities: A Hazard Analysis for a Panel of Males", *American Journal of Agricultural Economics*, 89(2), pp. 368-382.

Intolerans – Antisemitiska, homofobiska, islamofobiska och invandrarfientliga tendenser bland unga, 2004, Forum för Levande Historia och Brottsförebyggande Rådet, Stockholm.

Knabe, A, S Raetzl and S Thomsen (2009), "Right-Wing Extremism and the Well-Being of Immigrants", CESifo Working Paper Series No. 2841.

Larsen, B. and G. Waisman (2008), "Who is Hurt by Discrimination?", SULCIS working paper 2008:4.

Mueser P. and P. Graves (1995), "Examining the Role of Economic Opportunity and Amenities in Explaining Population Redistribution," *Journal of Urban Economics*, Elsevier, vol. 37(2), pages 176-200.

Nakosteen, R. and M. Zimmer (1980), "Migration and Income: The Question of Self- Selection", *Southern Economic Journal*, 46, pp. 840-851.

Rooth D.-O. (2001), "Adopted Children in the Labour Market – Discrimination or Unobserved Characteristics?", mimeo, Högskolan i Kalmar.

Roy, A. (1951), "Some Thoughts on the Distribution of Earnings", *Oxford Economic Papers*, 3, pp. 135-146.

Sjaastad, L. (1962), "The Costs and Returns of Human Migration", *Journal of Political Economics* (Supplement), 70, pp. 80-93.

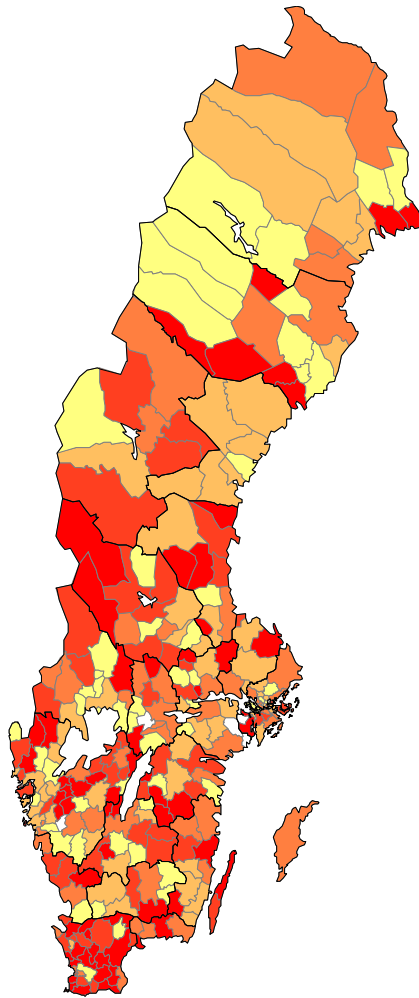
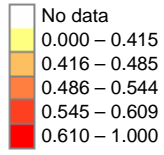
Westin, C. (2000), "Settlement and Integration Policies towards Immigrants and their Descendants in Sweden". *International Migration Papers* 34. ILO,

Geneva, 2000.

Åslund, O. (2001), "Now and Forever? Initial and Subsequent Location Choices of Immigrants", Working Paper 2001:11, Institute for Labour Market Policy Evaluation, Uppsala.

Åslund, O. and D.-O. Rooth (2005), "Shifts in Attitudes and Labor Market Discrimination: Swedish Experiences after 9-11", *Journal of Population Economics*, 18, pp. 603-629.

Figure 1
Attitudes 1979-85



**Table I : Immigrants who arrived from Non-Developed Countries 1987 – 1991
Panel Data 1996 - 2003**

Variable	Obs.	Mean	Std Dev.	Min.	Max.
Individual characteristics					
Log of wages	15746	9.74	0.26	7.60	12.33
Well Educated	15746	0.33	0.47	0.00	1.00
Age	15746	38.20	9.23	18.00	64.00
Women	15746	0.56	0.50	0.00	1.00
Married / Cohabitant	15746	0.64	0.48	0.00	1.00
Years in Sweden	15746	11.40	2.51	5.00	16.00
Characteristics of the municipality where they live					
Negative Attitudes	15725	0.50	0.08	0.17	1.00
Share of Immigrants from ND countries	15734	0.10	0.05	0.01	0.25
Average log of wages	15732	9.88	0.10	9.61	10.38
Average days unemployment	15732	6.27	2.87	1.16	21.04
Market support (share of income originated in the private sector)	15740	53.21	6.94	23.40	69.00
Share of small firms in the economy	15740	27.78	4.65	5.30	43.80
Share of high school educated	15746	21.87	7.52	7.00	42.90
Municipal tax rates	15740	30.66	1.38	26.50	34.28
Latitude	15734	58.56	1.69	55.37	67.85
Average minimum temperature in winter	15734	-4.57	2.28	-20.00	-1.30

**Table II : Group B – Immigrants from Africa and non developed countries in Asia
Means for 1996 to 2003**

	Stayers			Movers		
	Placement		Last location	Placement		Last location
	All	Well educated		All	Well educated	
Observations	4451	1185	5032	1915		
Average of individual wages	16270	18073	17222	19894		
Age	37.20	40.45	37.92	40.10		
Share of women	0.58	0.54	0.49	0.46		
Share of married / cohabitants	0.66	0.72	0.61	0.67		
Years in Sweden	11.42	11.43	11.56	11.64		
Negative Attitudes	0.504	0.503	0.513	0.515		
% immigrants ND countries	0.099	0.094	0.056	0.055		
Av. wages in the municipality	19484	19549	18910	18980		
Av. days unemployment (m)	6.27	6.19	6.62	6.69		
Market support	52.97	51.89	48.40	48.29		
% small firms in the economy	27.98	27.77	24.39	24.37		
Share of high school educated	22.07	22.97	16.13	16.54		
Municipal tax rates	30.72	30.84	31.55	31.59		
Latitude	58.79	58.80	59.65	59.78		
Av. Min. Temp. in winter	-4.79	-4.65	-6.66	-6.78		

**Table III : Group G – Immigrants from South America and Eastern Europe
Means for 1996 to 2003**

	Stayers			Movers		
	Placement		Well educated	Placement		Well educated
	All	All		All	All	
Observations	3734	1125	1043	2524	1043	1043
Average of individual wages	16963	19343	20737	17869	20737	20737
Age	39.28	41.37	40.40	38.96	40.40	40.40
Share of women	0.62	0.69	0.62	0.57	0.62	0.62
Share of married / cohabitants	0.65	0.66	0.70	0.64	0.70	0.70
Years in Sweden	11.19	11.02	11.17	11.29	11.17	11.17
Negative Attitudes	0.509	0.506	0.506	0.523	0.516	0.506
% immigrants ND countries	0.091	0.096	0.071	0.068	0.071	0.090
Av. wages in the municipality	19172	19295	19055	18956	19055	19406
Av. days unemployment (m)	6.67	6.67	6.27	6.39	6.27	6.31
Market support	52.24	52.26	50.47	50.57	50.47	52.57
% small firms in the economy	27.37	27.97	24.79	24.88	24.79	27.00
Share of high school educated	20.89	22.39	18.01	16.78	18.01	21.97
Municipal tax rates	30.73	30.63	31.04	31.04	30.94	30.59
Latitude	58.30	58.26	58.61	58.58	58.61	58.38
Av. Min. Temp. in winter	-4.41	-4.33	-5.16	-5.16	-5.21	-4.61

**Table IV : Immigrants from Developed Countries (OECD countries in 1985 except Turkey)
Means for 1996 to 2003**

	Stayers			Movers		
	Placement			Last location		
	All	Well educated	All	All	Well educated	All
Observations	1489	1068		1254		1019
Average of individual wages	20324	21556		18504		18563
Age	38.97	38.40		39.34		39.76
Share of women	0.82	0.93		0.88		0.94
Share of married / cohabitants	0.71	0.77		0.73		0.77
Years in Sweden	11.17	11.32		12.02		12.27
Negative Attitudes	0.598	0.629	0.471	0.579	0.458	0.595
% immigrants ND countries	0.077	0.074	0.078	0.080	0.074	0.078
Av. wages in the municipality	18601	18551	19946	18633	20135	18517
Av. days unemployment (m)	6.81	6.89	5.55	6.24	5.31	6.30
Market support	50.52	49.74	51.78	52.38	51.06	51.79
% small firms in the economy	23.82	22.72	27.22	22.77	27.05	22.06
Share of high school educated	14.87	13.87	24.53	16.10	25.63	15.44
Municipal tax rates	29.99	29.70	30.43	30.02	30.47	29.89
Latitude	56.71	56.11	58.56	56.95	58.51	56.51
Av. Min. Temp. in winter	-2.87	-2.20	-4.79	-4.74	-4.74	-2.92

Table V : Effect of Attitudes on Wages and Amenities

Effects on:	Africa and Asia		S. America and E. Europe		Developed countries	
	Wages	Amenities	Wages	Amenities	Wages	Amenities
Negative Attitudes	-0.03	* -0.26	0.19	** -0.18	-0.15	0.19
Negative Attitudes * well educated	0.10	0.14	0.12	0.08	0.30	0.23
% immigrants from non developed countries	-0.33	0.13	** -0.71	0.10	0.69	0.12
% immigrants NDC * well educated	0.20	0.12	0.33	0.13	0.80	0.35
Negative Attitudes * % immigrants NDC	0.17	* 0.91	0.43	0.10	-1.27	-0.58
Negative Attitudes * % immigrants * well educated	0.64	0.49	0.89	0.17	2.67	0.77
Individual controls	-1.77	* -0.41	** -4.91	-0.42	1.02	-0.56
Regional and year fixed effects	1.26	0.22	2.27	0.29	5.85	0.62
Municipal covariates	0.06	*** -3.80	-1.18	-0.02	1.87	3.29
Observations	1.11	1.37	1.51	1.15	4.29	3.01
	3.24	1.46	** 8.92	-0.93	-0.83	-9.11
	2.16	1.25	3.83	1.63	9.94	6.51
		yes		yes		yes
		yes		yes		yes
		yes		yes		yes
		9452		6252		2739

For amenities, the explanatory variables are defined as the differences in values between placement and target municipality. We assume in this table that the residual of the wage equations at placement and target municipalities are positively correlated (0.75). Standard errors clustered at the municipal level displayed under the coefficients. Individual controls are age, age squared, education, gender, civil state and years in Sweden. Regional fixed effects at the Labour market area level. Municipal covariates are the average wage level, average days of unemployment, market support (% of income originated in the private sector), % small firms, % high school educated, municipal tax rates, latitude, average minimum temperature in winter and the number of immigrants that came from the same ND country during 87 - 91. * significant at 10%; ** significant at 5% and *** significant at the 1% level.

Table VI : Immigrants from Africa and Asia - Different controls

Effects on:	Only individual controls		Individual controls and fixed effects		Individual controls, fixed effects and covariates	
	Wages	Amenities	Wages	Amenities	Wages	Amenities
Negative Attitudes	0.04	** -0.41	-0.03	** -0.42	-0.03	* -0.26
Negative Attitudes * well educated	0.11	0.19	0.09	0.18	0.10	0.14
% immigrants from non developed countries	** -0.44	-0.04	** -0.51	-0.04	* -0.33	0.13
% immigrants NDC * well educated	0.20	0.12	0.20	0.12	0.20	0.12
Negative Attitudes * % immigrants NDC	** 1.51	*** 1.57	0.58	*** 1.43	0.17	* 0.91
Negative Attitudes * % immigrants * well educated	0.69	0.41	0.65	0.39	0.64	0.49
Individual controls	-0.82	-0.11	-1.43	-0.16	-1.77	* -0.41
Regional and Year fixed effects	1.23	0.20	1.28	0.19	1.26	0.22
Municipal Covariates	-2.06	* -4.16	-0.47	** -4.81	0.06	*** -3.80
Observations	1.28	2.14	1.07	1.95	1.11	1.37
	1.77	0.42	2.79	0.65	3.24	1.46
	2.16	1.43	2.27	1.51	2.16	1.25
Individual controls	yes	yes	yes	yes	yes	yes
Regional and Year fixed effects	no	no	yes	yes	yes	yes
Municipal Covariates	no	no	no	no	yes	yes
Observations	9461	9461	9461	9461	9452	9452

For amenities, the explanatory variables are defined as the differences in values between placement and target municipality. We assume in this table that the residual of the wage equations at placement and target municipalities are positively correlated (0.75). Standard errors clustered at the municipal level displayed under the coefficients. Individual controls are age, age squared, education, gender, civil state and years in Sweden. Regional fixed effects at the Labour market area level. Municipal covariates are the average wage level, average days of unemployment, market support (% of income originated in the private sector), % small firms, % high school educated, municipal tax rates, latitude, average minimum temperature in winter and the number of immigrants that came from the same NID country during 87 - 91. * significant at 10%; ** significant at 5% and *** significant at the 1% level.

Table VII : Immigrants from South America and Eastern Europe Asia - Different controls

Effects on:	Only individual controls		Individual controls and fixed effects		Individual controls, fixed effects and covariates	
	Wages	Amenities	Wages	Amenities	Wages	Amenities
Negative Attitudes	0.08	*** -0.22	0.18	*** -0.21	0.19	** -0.18
Negative Attitudes * well educated	0.09	0.08	0.11	0.07	0.12	0.08
% immigrants from non developed countries	*** -0.87	-0.07	** -0.79	-0.05	** -0.71	0.10
% immigrants NDC * well educated	0.33	0.12	0.32	0.12	0.33	0.13
Negative Attitudes * % immigrants NDC	0.25	*** 0.85	0.57	*** 0.76	0.43	0.10
Negative Attitudes * % immigrants * well educated	0.61	0.13	0.80	0.13	0.89	0.17
Negative Attitudes * % immigrants * well educated	-3.18	0.00	* -3.33	-0.06	** -4.91	-0.42
Individual controls	2.03	0.23	1.95	0.22	2.27	0.29
Regional and year fixed effects	-0.68	-1.24	-1.48	-1.38	-1.18	-0.02
Municipal Covariates	1.07	1.09	1.40	1.07	1.51	1.15
Observations	* 6.38	-1.61	* 6.34	-1.13	** 8.92	-0.93
	3.60	1.72	3.49	1.67	3.83	1.63
Individual controls	yes	yes	yes	yes	yes	yes
Regional and year fixed effects	no	no	yes	yes	yes	yes
Municipal Covariates	no	no	yes	yes	yes	yes
Observations	6255	6255	6255	6255	6255	6252

For amenities, the explanatory variables are defined as the differences in values between placement and target municipality. We assume in this table that the residual of the wage equations at placement and target municipalities are positively correlated (0.75). Standard errors clustered at the municipal level displayed under the coefficients. Individual controls are age, age squared, education, gender, civil state and years in Sweden. Regional fixed effects at the labour market area level. Municipal covariates are the average wage level, average days of unemployment, market support (% of income originated in the private sector), % small firms, % high school educated, municipal tax rates, latitude, average minimum temperature in winter and the number of immigrants that came from the same ND country during 87 - 91. * significant at 10%; ** significant at 5% and *** significant at the 1% level.

Table VIII : Immigrants from Developed Countries Asia – Different controls

Effects on:	Only individual controls		Individual controls and fixed effects		Individual controls, fixed effects and covariates	
	Wages	Amenities	Wages	Amenities	Wages	Amenities
Negative Attitudes	0.15	0.11	0.41	0.11	-0.15	0.19
Negative Attitudes * well educated	0.17	0.23	0.34	0.20	0.30	0.23
% immigrants from non developed countries	-0.01	***	1.21	***	0.69	0.12
% immigrants NDC * well educated	0.86	0.27	0.87	0.23	0.80	0.35
Negative Attitudes * % immigrants NDC	2.36	-0.75	1.67	-0.67	-1.27	-0.58
Negative Attitudes * % immigrants * well educated	2.25	0.69	2.68	0.61	2.67	0.77
Negative Attitudes * % immigrants NDC	-1.07	-1.01	0.37	-0.91	1.02	-0.56
Negative Attitudes * % immigrants * well educated	5.29	0.75	4.74	0.57	5.85	0.62
Negative Attitudes * % immigrants NDC	-4.78	-2.64	-3.64	-1.59	1.87	3.29
Negative Attitudes * % immigrants * well educated	3.99	2.84	4.46	2.53	4.29	3.01
Individual controls	1.89	-9.10	-0.84	-8.76	-0.83	-9.11
Regional and year fixed effects	10.23	7.11	8.90	6.05	9.94	6.51
Year effects	yes	yes	yes	yes	yes	yes
Municipal Covariates	no	no	no	no	no	no
Observations	2740	2740	2740	2740	2739	2739

For amenities, the explanatory variables are defined as the differences in values between placement and target municipality. We assume in this table that the residual of the wage equations at placement and target municipalities are positively correlated (0.75). Standard errors clustered at the municipal level displayed under the coefficients. Individual controls are age, age squared, education, gender, civil state and years in Sweden. Regional fixed effects at the labour market area level. Municipal covariates are the average wage level, average days of unemployment, market support (% of income originated in the private sector), % small firms, % high school educated, municipal tax rates, latitude and average minimum temperature in winter * significant at 10%; ** significant at 5% and *** significant at the 1% level.

Table IX : Immigrants from Africa and Asia – Different residual correlation

Effects on:	Independent errors		Correlation: 0.50		Correlation: 0.75	
	Wages	Amenities	Wages	Amenities	Wages	Amenities
Negative Attitudes	-0.05	* -0.49	-0.04	* -0.36	-0.03	* -0.26
	0.11	0.27	0.10	0.20	0.10	0.14
Negative Attitudes * well educated	* -0.36	0.09	* -0.34	0.14	* -0.33	0.13
	0.21	0.23	0.20	0.17	0.20	0.12
% immigrants from non developed countries	0.69	** 1.85	0.35	* 1.30	0.17	* 0.91
	0.76	0.91	0.68	0.68	0.64	0.49
% immigrants NDC * well educated	-1.89	-0.56	-1.85	* -0.52	-1.77	* -0.41
	1.27	0.48	1.27	0.32	1.26	0.22
Negative Attitudes * % immigrants NDC	-0.52	*** -7.16	-0.14	*** -5.29	0.06	*** -3.80
	1.21	2.53	1.14	1.90	1.11	1.37
Negative Attitudes * % immigrants * well educated	3.40	1.28	3.34	1.59	3.24	1.46
	2.21	2.35	2.18	1.74	2.16	1.25
Individual controls		yes		yes		yes
Regional and Year fixed effects		yes		yes		yes
Municipal Covariates		yes		yes		yes
Observations		9452		9452		9452

We assume different levels of correlation for the residual of the wage equations at the placement and target municipalities. For amenities, the explanatory variables are defined as the differences in values between placement and target municipality. Standard errors clustered at the municipal level displayed under the coefficients. Individual controls are age, age squared, education, gender, civil state and years in Sweden. Regional fixed effects at the labour market area level. Municipal covariates are the average wage level, average days of unemployment, market support (% of income originated in the private sector), % small firms, % high school educated, municipal tax rates, latitude average minimum temperature in winter and the number of immigrants that came from the same ND country during 87 - 91. * significant at 10%; ** significant at 5% and *** significant at the 1% level.

Table X: Immigrants from South America and Eastern Europe— Different residual correlation

Effects on:	Independent errors		Correlation: 0.50		Correlation: 0.75	
	Wages	Amenities	Wages	Amenities	Wages	Amenities
Negative Attitudes	0.09	** -0.35	0.15	** -0.25	0.19	** -0.18
Negative Attitudes * well educated	0.12	0.15	0.12	0.11	0.12	0.08
% immigrants from non developed countries	** -0.65	0.15	** -0.69	0.14	** -0.71	0.10
% immigrants NDC * well educated	0.30	0.26	0.32	0.19	0.33	0.13
Negative Attitudes * % immigrants NDC	0.16	0.21	0.32	0.15	0.43	0.10
Negative Attitudes * % immigrants * well educated	0.90	0.33	0.90	0.24	0.89	0.17
Individual controls	** -4.61	-0.57	** -4.87	-0.54	** -4.91	-0.42
Regional and Year fixed effects	2.05	0.58	2.21	0.41	2.27	0.29
Municipal Covariates	-0.69	-0.32	-0.95	-0.10	-1.18	-0.02
Observations	1.51	2.03	1.52	1.58	1.51	1.15
	8.28	-2.99	** 8.80	-1.62	** 8.92	-0.93
	3.44	2.91	3.73	2.24	3.83	1.63
Individual controls	yes	yes	yes	yes	yes	yes
Regional and Year fixed effects	yes	yes	yes	yes	yes	yes
Municipal Covariates	yes	yes	yes	yes	yes	yes
Observations	6252	6252	6252	6252	6252	6252

We assume different levels of correlation for the residual of the wage equations at the placement and target municipalities. For amenities, the explanatory variables are defined as the differences in values between placement and target municipality. Standard errors clustered at the municipal level displayed under the coefficients. Individual controls are age, age squared, education, gender, civil state and years in Sweden. Regional fixed effects at the labour market area level. Municipal covariates are the average wage level, average days of unemployment, market support (% of income originated in the private sector), % small firms, % high school educated, municipal tax rates, latitude average minimum temperature in winter and the number of immigrants that came from the same ND country during 87 - 91. * significant at 10%; ** significant at 5% and *** significant at the 1% level.

Table XI : Immigrants from Developed Countries - Different residual correlation

Effects on:	Independent errors		Correlation: 0.50		Correlation: 0.75	
	Wages	Amenities	Wages	Amenities	Wages	Amenities
Negative Attitudes	-0.10	0.38	-0.17	0.26	-0.15	0.19
Negative Attitudes * well educated	0.33	0.50	0.32	0.34	0.30	0.23
% immigrants from developed countries	-0.03	0.13	0.66	0.13	0.69	0.12
% immigrants from non developed countries	1.05	0.73	0.79	0.50	0.80	0.35
% immigrants NDC * well educated	-0.83	-0.92	-1.60	-0.79	-1.27	-0.58
Negative Attitudes * % immigrants NDC	2.73	1.59	2.70	1.12	2.67	0.77
Negative Attitudes * % immigrants * well educated	-4.16	-1.72	0.72	-0.96	1.02	-0.56
Individual controls	7.33	1.49	5.86	0.95	5.85	0.62
Regional and Year fixed effects	0.99	4.59	2.33	4.05	1.87	3.29
Municipal Covariates	4.59	5.56	4.39	4.15	4.29	3.01
Observations	7.46	-12.71	-0.42	-12.33	-0.83	-9.11
	12.72	13.63	9.98	9.36	9.94	6.51
	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes
	yes	yes	yes	yes	yes	yes
	2739	2739	2739	2739	2739	2739

We assume different levels of correlation for the residual of the wage equations at the placement and target municipalities. For amenities, the explanatory variables are defined as the differences in values between placement and target municipality. Standard errors clustered at the municipal level displayed under the coefficients. Individual controls are age, age squared, education, gender, civil state and years in Sweden. Regional fixed effects at the labour market area level. Municipal covariates are the average wage level, average days of unemployment, market support (% of income originated in the private sector), % small firms, % high school educated, municipal tax rates, latitude and average minimum temperature in winter * significant at 10%; ** significant at 5% and *** significant at the 1% level.

Table XII: Heckman selection model

Effects on:	Africa and Asia		S. America and E. Europe		Developed countries	
	Wages	Amenities	Wages	Amenities	Wages	Amenities
Negative Attitudes	0.08 **	-0.92	** 0.28 *	-0.49	-0.03	0.02
	0.10	0.42	0.12	0.26	0.42	0.81
Neg. Attitudes * well educated	* -0.45	0.46	*** -1.39	-0.01	-0.77 ***	3.62
% immigrants	0.28	0.44	0.48	0.50	1.01	1.33
	0.46	2.16	1.44	-0.25	-1.35	-1.88
% immigrants * well educated	0.70	1.48	1.20	0.51	3.26	1.78
	* -3.48	-0.13	*** -11.43	-0.05	-11.09	0.11
Neg. Attitudes * % immigrants	1.80	0.93	3.20	1.12	7.39	2.45
	-0.57 **	-10.78	-2.24	-3.97	0.95	-13.21
Neg. Att * % immigrig. * well educated	1.22	4.68	2.04	3.55	5.41	14.44
	** 6.56	-3.27	*** 19.88	-1.43 *	20.52	12.46
	3.07	4.25	6.45	6.04	12.24	26.38
Individual controls		yes		yes		yes
Regional and year fixed effects		yes		yes		yes
Municipal covariates		yes		yes		yes
Observations		53535		24274		14300

For amenities, the explanatory variables are defined as the differences in values between placement and target municipality. We assume in this table that the residual of the wage equations at placement and target municipalities are positively correlated (0.75). Standard errors clustered at the municipal level displayed under the coefficients. Individual controls are age, age squared, education, gender, civil state and years in Sweden. Regional fixed effects at the county level. Municipal covariates are the average wage level, average days of unemployment, market support (% of income originated in the private sector), % small firms, % high school educated, municipal tax rates, latitude, average minimum temperature in winter and the number of immigrants that came from the same ND country during 87 - 91. * significant at 10%; ** significant at 5%; *** significant at the 1% level.

**Table XIII: Effect of Attitudes on Wages and Amenities
Larger Sample: immigrants that arrived during the period 1985-1994**

Effects on:	Africa and Asia		S. America and E. Europe		Developed countries	
	Wages	Amenities	Wages	Amenities	Wages	Amenities
Negative Attitudes	0.02	-0.26 *	-0.06	*** -0.15	-0.06	0.18
Negative Attitudes * well educated	0.07	0.14	0.05	0.04	0.10	0.17
% immigrants from non developed countries	*** -0.45	0.09	-0.07	0.02	*	-0.15
% immigrants NDC * well educated	0.17	0.10	0.14	0.07	0.21	0.17
% immigrants NDC * well educated	* 0.70	0.81	0.08	*** -0.26	-0.18	** -2.02
Negative Attitudes * % immigrants NDC	0.42	0.49	0.45	0.10	0.92	0.93
Negative Attitudes * % immigrants NDC	** -2.59	-0.19	-1.87	-0.07	2.54	0.75
Negative Attitudes * % immigrants NDC	1.06	0.19	1.16	0.17	2.00	0.49
Negative Attitudes * % immigrants NDC	-0.79	** -3.06	0.01	-0.26	0.21	1.49
Negative Attitudes * % immigrants NDC	0.69	1.28	0.76	0.63	1.48	1.41
Negative Attitudes * % immigrants NDC	** 4.35	1.44	2.63	-0.88	-3.27	-0.54
Individual controls	1.73	1.10	1.88	0.95	3.59	2.13
Regional and year fixed effects		yes		yes		yes
Municipal covariates		yes		yes		yes
Observations		15393		17255		6441

For amenities, the explanatory variables are defined as the differences in values between placement and target municipality. We assume in this table that the residual of the wage equations at placement and target municipalities are positively correlated (0.75). Standard errors clustered at the municipal level displayed under the coefficients. Individual controls are age, age squared, education, gender, civil state and years in Sweden. Regional fixed effects at the labour market area level. Municipal covariates are the average wage level, average days of unemployment, market support (% of income originated in the private sector), % small firms, % high school educated, municipal tax rates, latitude, average minimum temperature in winter and the number of immigrants that came from the same ND country during 87 - 91. * significant at 10%; ** significant at 5% and *** significant at the 1% level.