Växjö University
School of Management and Economics

Return Migration from Sweden to Bosnia and Herzegovina

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A Study of the Refugees Who Arrived to Sweden in 1993 and 1994

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Abstract

This study analyzes the determinants of return migration from Sweden to Bosnia and Herzegovina, and outmigration to third country during the time period 1994-2003. The study is limited to the refugees who arrived to Sweden 1993-1994. One important aim is also to find out to what extent the propensity of return migration is affected by integration and participation in the Swedish labor market.

There is a larger fraction of the refugees from Bosnia and Herzegovina who return than migrate to a third country. The results show that a higher education is affecting the return migration decision positively, but not the migration to another country. Since the social security net in Bosnia and Herzegovina is partially undeveloped, only those with a well paid job or wealthy relatives can afford any mishaps. Highly educated individuals are expected to have these economical prerequisites. Being employed in Sweden or receiving social benefits there, give negative marginal effects on the probability of emigration. Therefore, the position on the Swedish labor market has importance for an emigration decision. Being married or having children decreases the probability of emigration. However, the family status effects are stronger for outmigration to a third country. Further, it is more likely for a family to return than emigrate to a third country. It is also more likely for women to return, while there is a larger fraction of men that migrate to a third country. Summarizing the most important findings, the probability of outmigration is strongly reduced by the level of integration.

This is not only an analysis of individual micro data. The political and economic differences between home country and source country are also compared. Pull-factors seem to dominate return migration since Sweden has a more stabilized economic and political situation. However, the refugees must have strong economic prerequisites or wealthy relatives to support them, in order to realize a return migration decision. A large fraction of the refugees who wish to return do not have the possibilities to realize their return intentions. They consider themselves as temporary migrants, but have involuntary become permanent migrants in Sweden.

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Acknowledgements

“Go as far as you can see, and when you get there you will see farther” / John Wooden

The meaning of this quotation has certainly been true when I wrote this thesis. But it is fore sure that I had not been able to see farther without the people who have helped me along the way.

First of all, I would like to thank my advisors, Maria Nilsson and Mikael Ohlson. Maria has given me all kinds of valuable suggestions, from the problem formulation to the construction of variables in the statistical model. Mikael has been helpful with the data material and given me valuable advices concerning the model specification. Thanks to Dominique Anxo for introducing me to the statistical software. You have all been very supporting and kept me from loosing my courage when everything seemed to fall apart in my eyes.

A special thanks to Andres Parts at the Swedish Migration Board for your friendly helpfulness and tons of useful information. You have given me a deeper understanding for the reality of the people from Bosnia and Herzegovina.

I hope that this thesis can shed some light on the situation of return migrants from Sweden to Bosnia and Herzegovina. Highly educated people are needed in Bosnia and Herzegovina, and it is my wish that the political and economic situation will improve in order to make it easier for those who wish to return in the future. Finally, I apologize if I have drawn any erroneous conclusions during this short time of investigation.

Växjö, June 2007
Daniel Olovsson

1. Introduction

1.1 Why is Return Migration of interest?

Vilhelm Moberg wrote the four novel suite; "The Emigrants" about a family who migrated from Sweden to America in the middle of the 19th century. The main characters; Karl-Oskar and Kristina, were just two migrants out of over one million people who left Sweden from the second half of the 19th century until the beginning of the 20th century. Since the day of emigration, Kristina always missed her home country constantly, but her dreams of returning to Sweden were in vain. Although international mobility has increased rapidly the latest decades, there is always a large fraction of migrants who dream of returning to their home country some day in the future.

The reason of migration, for most emigrants from Sweden, was the dream of wealth in the host country during a long period of poverty in the home country. Geographical differences in the supply of and demand for labor is the most common explanation of migration in the neo-classical theory (Massey et al. 1993, p. 433). Large parts of the literatures on migration try to explain why people migrate and how this decision affects the home country, the host country and the migrant himself. However, the issue of return migration has not been studied to the same extent. Studies show that a large fraction of international migrants returns to their home countries after a short time in the host country. This is a good motive for laying more effort on research about return migration behavior.

Of course, one important reason for migration is political instability and fear of harassments in the home country. No monetary theory can be used to explain the reality for refugees. One theory suggests that return migration is planned as a part of an optimal life-cycle, built on expectations about incomes in the host- and source country (Borjas and Bratsberg, 1996; Dustmann, 1996). But if return migration to the home country never become an alternative during the life time, possible return intentions will not become realizations. However, if the economic conditions in the host country deteriorate, emigration to a third country may be an option worth considering. The fraction of non-

European refugees, who emigrate to a third country, is larger than the fraction that returns to the home country during the years 1995-1999. The levels of return migration from Sweden are particularly low among Iraqi and Ethiopian migrants, 0.2 % and 0.3 % respectively. For all source countries, the share of return migrants was 3 %, where Greece has the highest proportion, almost 12 percent of the immigrants returned. The share of emigrants to third country was 1.8 % for all countries, the share of outmigration to third country ranging from 2.3 % - 4.7 % among the non-European refugee countries (Hammarstedt, 2004). The share of return migrants among the refugees in the present study is 2.5 % while 1.5 % of the refugees migrate to a third country.

1.2 Earlier studies

Klinthäll (2003) studies return migration from Sweden in the period 1968-1996 to the source countries; Chile, Germany, Greece, Iran, Poland, Turkey, the United States and Yugoslavia.[1] One central question in that study is whether return migration is selective in a systematic way due to human capital characteristics and economic integration. Individual micro data was studied, but also determinants on macro level in order to capture economic and political situations in both source country and host country. Further, an important question is whether return migration is a result of success or failure on the labor market.

Hammarstedt (2004) focuses on return migration from Sweden in the period 1995-1999 and includes the source countries; Finland, Norway, Denmark, Germany, Greece, Poland, Hungary, Turkey, Chile, Lebanon, Ethiopia, Iran, Iraq and the United States. The characteristics of different immigrant groups have importance for the return migration behavior and the selection. Labor force migrants choose to return to the source country during times of unemployment, while refugees tend to migrate to a third country. Further, in relatively well integrated immigrant groups, individuals with the worst labor market situation have higher propensity to emigrate. Conversely, in the least integrated

[1] Note: The Yugoslavian individuals included immigrated between 1968 and 1975 and were followed until 1989, in order to avoid the effects of the civil war in Yugoslavia.

immigrant groups, individuals with the worst labor market situation choose to a larger extent to stay in Sweden. Immigrants who are dependent of social benefits have a higher probability to stay in Sweden.

Rooth and Saarela (2007) have investigated the largest foreign born group in Sweden, the migrants from Finland. Since this group has the characteristics of labor force migration, the return migration selection model by Borjas and Bratsberg (1996)[2] suits this sample of individuals perfectly. This theory is a suitable tool when an obvious reason for migration is the level of skills of the individual together with differences in returns to skill between two countries. The results are clear, immigrants are found to be negatively selected while return migrants are positively selected on observable skills.

Some interesting remarks can be made about the integration of people from Bosnia and Herzegovina in Sweden. On average, the integration is low in Sweden, but there are regional differences showing high integration in the Gnosjö-Gislaved area, Värnamo and Vaggeryd. In Vaggeryd, 85 % of the Bosnian men were on the labor market in 1997. In the Gnosjö-Gislaved area, 70 % of the Bosnian men were on the labor market in 1997.[3] These excellent results can be directly compared to areas where the corresponding fraction was 10-15 %, for example Malmö (Ekberg and Ohlson, 2000a, p. 254).

1.3 Purpose

The purpose of this study is to analyze the determinants of return migration from Sweden to Bosnia and Herzegovina, and outmigration to third country during the time period 1994-2003 among the refugees who arrived to Sweden 1993-1994.

One important aim is also to find out to what extent the propensity of return migration is affected by integration and participation in the Swedish labor market.

[2] The return migration selection model by Borjas and Bratsberg (1996) is presented in the theoretical framework.
[3] Throughout this study, the definition of Bosnians is; people from Bosnia and Herzegovina regardless of ethnicity or religion. Bosnians in this meaning can therefore be Serbs, Bosniaks or Croats who live in or come from Bosnia and Herzegovina.

2. Background

2.1 The Swedish experience

After the Second World War, Sweden has turned from an emigration- into an immigration country and has experienced two major migrant inflows *(see Appendix 1, Figure A1.1)*. During the 1950s and 1960s the labor demand was high, which attracted labor force migrants mainly from the Nordic countries, and South- and Central European countries. The second large inflow after the mid 1970s was characterized by migration of tied movers and refugee migration. Mobility has increased rapidly during the latest decades, mostly concerning immigrant inflows but also in the emigration outflows from Sweden.[4] In 2006, the number of foreign born people in Sweden was 1 175 200. The largest foreign born group in Sweden today is Finland with 181 000 individuals (Statistics Sweden). This number equals 15.4 % of the total foreign born population or approximately 2 % of the total population in Sweden. The foreign born group from the former Yugoslavia, with 147 000 individuals, is the second largest group of foreign born people in Sweden *(see Appendix 1, Figure A1.2)*.

2.2 Two different cohorts from Bosnia and Herzegovina

The immigrants from Bosnia and Herzegovina mainly arrived in two different waves, the first due to labor force migration during the 1960s and around 1970. The second wave arrived in the beginning of the 1990s, mainly as a consequence of conflicts and ethnic cleansing in the former Yugoslavia. This study focuses on the second wave *(see Appendix 1, Figure A1.3)*. The war in Bosnia and Herzegovina took place between March 1992 and December 1995. The number of casualties varies in distribution between ethnicity depending on source, but they agree on a total number of approximately 100 000 victims. Tabeau and Bijak (2005) begin by fixing a minimum number of war-related deaths at

[4] To be registered as an immigrant, the migrant must have intentions to stay in Sweden for at least a year. Non-Nordic citizens must also have a residence permit. To be registered as an emigrant the migrant intends to live abroad for at least a year. (Statistics Sweden)

67 530, which is finally adjusted with an estimation of the remaining number of victims.[5] Of the directly observable deaths, 68.1 % were Muslims, 18.7 % Serbs, 8.3 % Croats and 4.9 % others. Together with the estimation of the remaining number of victims the total number of war-related victims is 102,622. Deaths due to harsh living conditions are not included (Tabeau and Bijak, 2005, pp. 204-206).

In 2006, the number of individuals born in Bosnia and Herzegovina in Sweden was 55465 (Statistics Sweden). This number equals 4.7 % of the total foreign born population or 0.6 % of the total population in Sweden.[6] Some migrants from Bosnia and Herzegovina return every year. The return migration rate increased rapidly when the war ended in 1995, peaked in 1997 and then decreased to a lower rate. Of the refugees who arrived in 1993 and 1994, there are 862 return migrants between 1994 and 2003. Another 534 individuals have emigrated to other countries[7] *(LOUISE database, Statistics Sweden, see Appendix 1, Figure A1.4).*

2.3 Bosnia and Herzegovina after the war

The war was brought to an end in December 1995, when the Dayton Peace Agreement was signed. Bosnia and Herzegovina was divided into two new entities; the Bosniak and Croatian *Federation of Bosnia and Herzegovina* and the Serbian *Republika Srpska* (Republic of Serbia). There is a strong correlation between ethnicity and religion. Most of the Bosniaks are Muslims; most of the Croats are Roman Catholics, while most of the Serbs are Serb Orthodox.[8] Over one million people became refugees outside the country during the war and a large fraction of these refugees has not returned. The number of return migrants 1996-2003, with the characteristic of refugee migration, was approximately 427 000 *(see Appendix 1, Figure A1.5).*

[5] The authors provide a critique against previous estimates of war-related deaths. Although they argue that their estimate is much better founded than any other estimate ever obtained, they admit that it is still incomplete and should be seen as work in progress.
[6] It is important to know that Bosnia-Herzegovina declared their independence in March, 1992. Therefore, many Bosnians may be registered as citizens of former Yugoslavia at the arrival to Sweden.
[7] Note: These figures exclude migrants who have emigrated more than one time. A more detailed description of the return migration behavior is presented in chapter 4, Data and method.
[8] Note: This is a general description, Bosnia and Herzegovina is like many other countries partially secularized. Many of the young citizens do not consider themselves as religious in this meaning.

The official unemployment rate in Bosnia and Herzegovina is very high, 44.6 % (2005).[9] The wages are low, and the quality of the social protection system differs between cantons. On the other hand, many Bosnians receive remittances from wealthier family members, not at least among those in other countries. There is a housing shortage in the country, and it is dependent on ethnic belonging whether or not you can find a place of residence (Åkerberg, Wassdahl Köhl, 2003, p. 16).

The post-war situation in Bosnia and Herzegovina has been evaluated by the Swedish Migration Board. The strategy of the Bosnian government, is to change the public administration into a more effective, transparent and democratic administration. Bosnian authorities will take over the responsibility to raise the employment rate while reintegrating return migrants. Organizations, associations and societies have begun cooperating with the authorities and the municipalities. Centers for cooperation have been established and they function as meeting places for problem solving, creativity and removal of bureaucratic obstacles. There has been a noticeable increase of locally produced goods. The infrastructure is well developed and more producers and suppliers are desirable. People are thinking about development of the economic in the long run perspective, they take the environment into account and generally believe in the future (Andres Parts, 2006).

2.4 Return Migration Policy and voluntary repatriation support

In 1993 and 1994, the refugees from the former Yugoslavia needed somewhere to reside. Among the Nordic countries, Sweden was the only country that decided to give the immigrants permanent residence permission. It was the opinion that this decision should be combined with the considerations of some form of repatriation program. This was motivated by some main arguments. One motive was the assumption that many migrants wanted to return to Bosnia and Herzegovina. Another argument was that Sweden should not contribute to a completion of the ethnic cleansing in Bosnia and Herzegovina. An

[9] This figure overestimates true unemployment. According to International Labour Organization (ILO) definitions, unemployment was estimated at 31% in April 2006. Taking informal employment into account, the rate is estimated to 20% *Source:* The European Commission

economic motive was that the current prerequisites on the Swedish labour market were not good at that time.

Many elderly immigrants who arrived in the beginning of the1990s do not have an economic possibility to return, since they had too little time to accumulate pensions. The Swedish public pension includes income pension, supplementary pension, premium pension and guarantee pension. The guarantee pension is a security for individuals with a low or no income during the lifetime. In order to receive the guarantee pension you have to live in Sweden. A survey from April 2006 shows that a large fraction of the Bosnian pensioners in Sweden would give notice to end their rental agreements and migrate to Bosnia and Herzegovina, if they were allowed to bring their pensions (Centers for Local Development, 2006).

In 1994, it was settled that cooperation with voluntary organizations was to be established. The general directions are that return migration shall always be voluntary. Repatriation shall be prepared to the largest extent in Sweden and the refugees in Sweden shall be considered as a resource in the rebuilding of Bosnia and Herzegovina. The Swedish Migration Board, in cooperation with several help organizations, runs projects to support migrants who consider the realizing of voluntary return intentions.[10] In April, 2007, four out of nine running projects are oriented towards Bosnia and Herzegovina. Out of the several projects which have been carried through since 1995, I will summarize one of them. In 1996, Caritas Sverige established a center in the Sarajevo Canton in order to monitor the situation of return migrants from other countries. They have restored 1 700 residences, 120 of them were for Swedish return migrants. Further, Caritas has helped the return migrants with legal counseling, education in human rights and education which will increase the probability of getting a job. Caritas investigates the opportunities of becoming a resource for people who want to start a new company.

[10] UNHCR, the Swedish Red Cross, Göteborgs-Initiativet, Caritas Sverige, IBF 2003, and BH Net – Bosnian Business Service are examples of organizations engaged in voluntary repatriation projects.

The Migration Board offers financial support to refugees who want to return. A migrant can apply for financial support during the first period in the home country and a reasonable compensation for travel expenses. An adult can receive up to 10 000 SEK, while the amount for children below 18 years is 5000 SEK. An amount of maximum 40 000 SEK can be paid out to a whole family.[11] Statistics on the migrants who have received financial aid and returned is presented in the appendix *(see Appendix 1, Figure A1.6).*

[11] Förordning (1984:890) om bidrag till utlänningars resor från Sverige för bosättning i annat land. Senaste ändring SFS 1997:1225

3. Theoretical framework

3.1 Causes of migration

Basic neoclassical theory points out wage differentials between two countries as the cause of migration. A country with a large surplus of labor supply relative to capital has low equilibrium market wages; while a large capital surplus relative to labor generates high market wages. These geographic differences in labor supply and labor demand give the workers incentives to move from the low-wage country to the high-wage country (Massey et al, 1993, pp. 432-433).

The difference between the source country and the host as regards the returns to skills has important implications on the selection of immigrants. Migrants are positively selected if the return to skills is higher in the host country than in the source country. This implies that those with above average level of education will migrate. Conversely, migrants are negatively selected if the rate of return to skills is lower in the host country than in the source country. This gives low educated individuals incentives to migrate (Borjas and Bratsberg, 1996, pp. 165-168).

When a higher wage in the receiving country or a higher rate of return to skills is the central issue for a migration decision, this attracting cause of migration is defined as pull-migration. On the other hand, if the conditions in the home country are the main reason for migrating, migration is considered as push-migration (Zimmermann, 1994, pp. 314-315).

The simplest form of neoclassical theory explains push-migration with low wages in the home country, but extending this definition push factors can also be socio-economic factors. Many migrants are refugees due to political instability like civil wars, political persecution and ethnic cleansing.

3.2 Causes of return migration

One common theory is that return migration is part of an optimal life-cycle plan. One option is to migrate permanently and therefore only consider the political or economic situation in the host country. Alternatively, the migrant may decide to live in a country with higher wages for a few years, to accumulate enough savings before returning to the home country where it is cheaper to live. Perhaps the migrant simply prefers consumption in the home country, or that human capital achieved in the host country is more valuable in the home country. Further, during a downswing in the business cycle, migrants may feel social and psychological pressure to emigrate (Borjas and Bratsberg, 1996, pp. 165-166; Dustmann, 1996, pp. 224-227; Galor and Stark, 1990, pp. 463-464). Applying the optimal life cycle theory on the Bosnian refugees, they escaped to Sweden where there is economic and political stability and they wait in the host country until the situation has improved enough in Bosnia and Herzegovina. Then a return can be realized because of nostalgia, because that it is cheaper to live there or any other reason. Alternatively, they have no return intentions and consider themselves as permanent migrants.

By definition, a migrant is *permanent* if he remains in the host country until retirement and is considered as *temporary* if he emigrates before then. It is important to distinguish between these intended or expected behaviors, because they have a major impact on the actual outcome of future migration decisions. A permanent migrant only considers the future economic situation in the host country. A temporary migrant combines expectations about the host country and his home country, which affect his actual behavior (Borjas and Bratsberg, 1996, pp. 165-166; Dustmann, 1996, pp. 224-227).
However, intentions are not always equal to realization, as will be discussed in the next section.

A large fraction of the elderly Bosnian immigrants in Sweden would like to return to Bosnia and Herzegovina if they were allowed to bring their guarantee pensions (Centers for Local Development, 2006). It is therefore my assumption that many of these individuals consider themselves as temporary migrants. Push-factors in Sweden may lead to return migration or outmigration to a third country. Pull-factors in Bosnia and

Herzegovina can contribute to a decision to return to the home country. The pull-factors dominate the push-factors if return migration is to be realized for refugees. Psychological factors when you are missing your home country, family members and friends, together with improvements in the economic of the home country can contribute to return migration. However, if push-factors like a downturn in the economy in Sweden dominate, it is empirically supported[12] that refugees are more likely to outmigrate to a third country instead of returning back home, holding constant for the conditions in the home country.

Borjas and Bratsberg (1996) differ between two reasons for return migration in their model. Differences in returns to skills lead to self-selection due to individual awareness of the own skills. Alternatively, the migration model includes an error term, which includes the risk that a migrant has based the migration decision on incomplete information. This difference between expectations and reality is not revealed until the migrant has arrived in the host country. Therefore return migration may be a correction of an initial mistake. Focus is however laid on the selection theory, concerning returns to skills. The characteristic of the type of selection of migrants in the host country will accentuate due to return migration. In a positively selected group of immigrants the worst of the best or the "marginal migrants" will return to the home country. Among negatively selected immigrants, the best of the worst migrants will return. An explanation of this behavior is that the marginal migrants are more likely to be affected by improvements of the economy in the home country (Borjas and Bratsberg, 1996, pp. 165-168). Hammarstedt (2004) applies this self selection theory for analyzing the extent of integration in the host country. Likewise return to skills is a factor affecting self-selection among migrants, the position on the labor market in Sweden can determine causes of self-selection among return migrants.

[12]As mentioned in the background, Hammarstedt shows for countries like Iraq, Ethiopia, Lebanon and Iran that this is true. It is part of my purpose with this study to investigate if these empirical results can be applied on refugees from Bosnia and Herzegovina in Sweden.

3.3 Return intentions and realizations

Although a migrant intends to return to his home country when he leaves, it is not for sure that he realizes his plan in the future. The difference between intentions and realizations is depicted in *Table 3.1*. In 1984, immigrants in Germany were asked about their return intentions. Of the interviewed, 66.1 % had intentions to return. In 1993, only 17.3 % of those who intended to return had actually returned[13] (Dustmann, 1996, p. 233-234). Although many refugees from Bosnia and Herzegovina intend to return, they do not have the ability to do so, of different reasons. One important factor is of course the fear of new negative experiences due to political instability. Another explanation may be that elderly migrants had too little time to accumulate enough pensions to afford a return. Refugees with high incomes have better financial possibilities to return than those with low wages. Many of the elders had returned a long time ago if they only had accumulated enough savings in form of Swedish pension funds. Further, the situation in Bosnia and Herzegovina does not favor all ethnicities, and the social protection system is undeveloped (Åkerberg and Wassdahl Köhl, 2003, p. 16). Therefore, it is important to have a large pile of money under the mattress as an insurance against unforeseen mishaps.

Table 3.1 Return Intentions and Realizations

	Frequency	Percentage
Return intended, realized	140	11.5
Return intended, not realized	667	54.6
Return not intended, returned	41	3.4
Return not intended, did not return	372	30.5
Totals	1220	100

Note: Western Germany. Return intention is measured in 1984. An intention is realized if the individual is returned until 1993. German Socio-economic Panel, 1984-93. *Source:* Dustmann (1996) p. 234

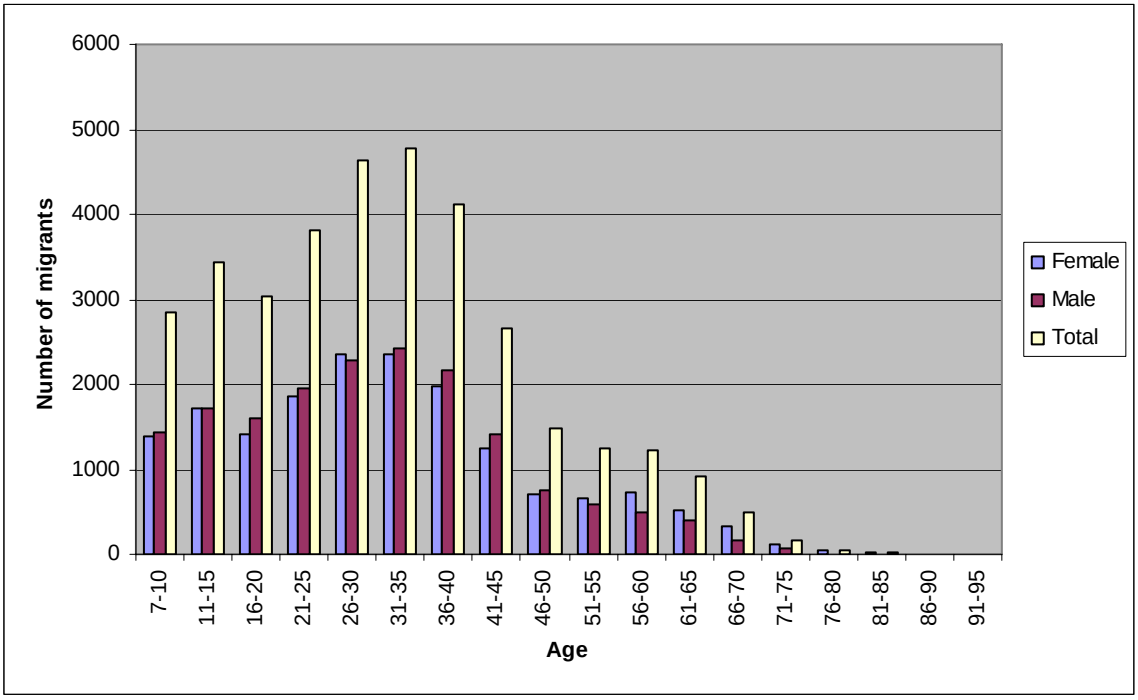
[13] (140+667)/1220 = 0,661; 140/(140+667) = 0,174

4. Data and method

4.1 Data sample

Longitudinal micro data on immigrants from Bosnia and Herzegovina was used to investigate the outmigration behavior of these individuals. The data was collected from LOUISE, a longitudinal database provided by Statistics Sweden (SCB).[14] The dataset identifies all individuals who were registered as refugees from Bosnia and Herzegovina during the years 1993 and 1994. From the database, it is possible to see if a refugee has emigrated from Sweden, when he emigrated and to which country.

Figure 4.1 Distribution of age at entry



Source: LOUISE database

The immigrants included in the sample used for this longitudinal study are 34 922 refugees with Bosnia and Herzegovina as country of origin or citizenship, who migrated to Sweden in 1993 and 1994.[15] The average age at entry is 31.1 years, 31.8 for women

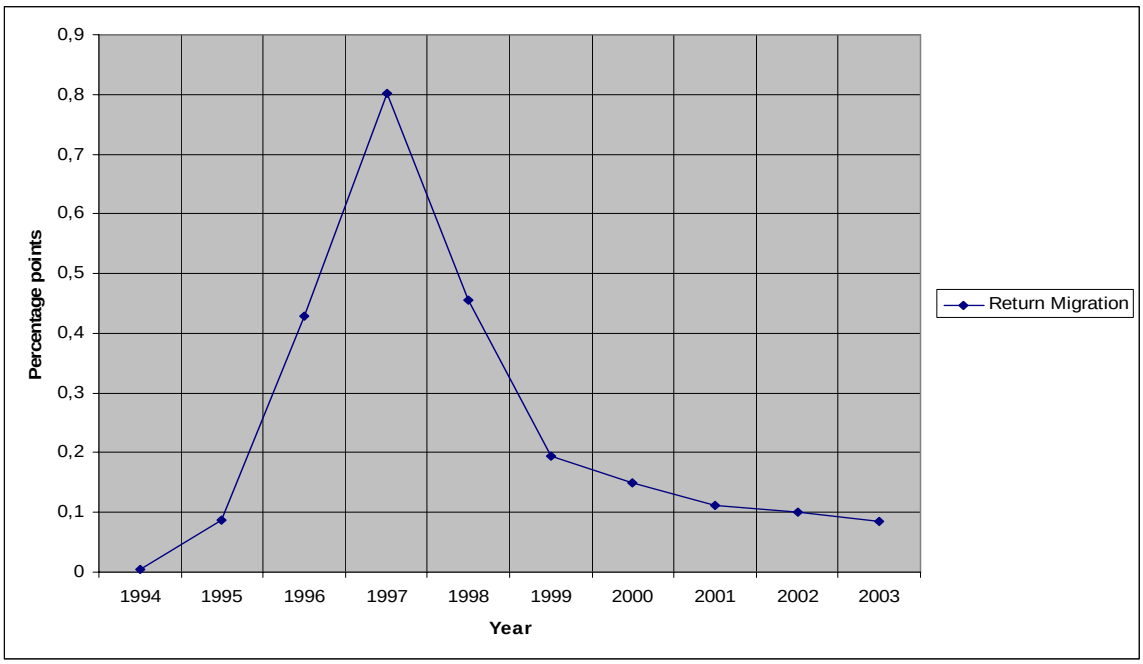
[14] See http://www.scb.se/templates/Standard____22868.asp for a presentation of LOUISE

[15] A few migrants, relative to the original sample, have been removed since they have migrated to and from Sweden more than once (about 200 individuals). Due to the small size of this group the omission of these observations is not expected to change the results of the estimations in any significant way. By removing these migrants, the risk of erroneous interpretation is reduced. In addition, 1061 migrants have been removed since they have died during the investigation period.

and 30.5 for men. The distribution of age at entry is shown in *Figure 4.1*. Of these migrants, 862 individuals (2.5 % of the refugees) have returned to Bosnia and Herzegovina sometime between 1994 and 2003. Another 534 individuals (1.5 % of the refugees) have emigrated to a third country during the same time period.

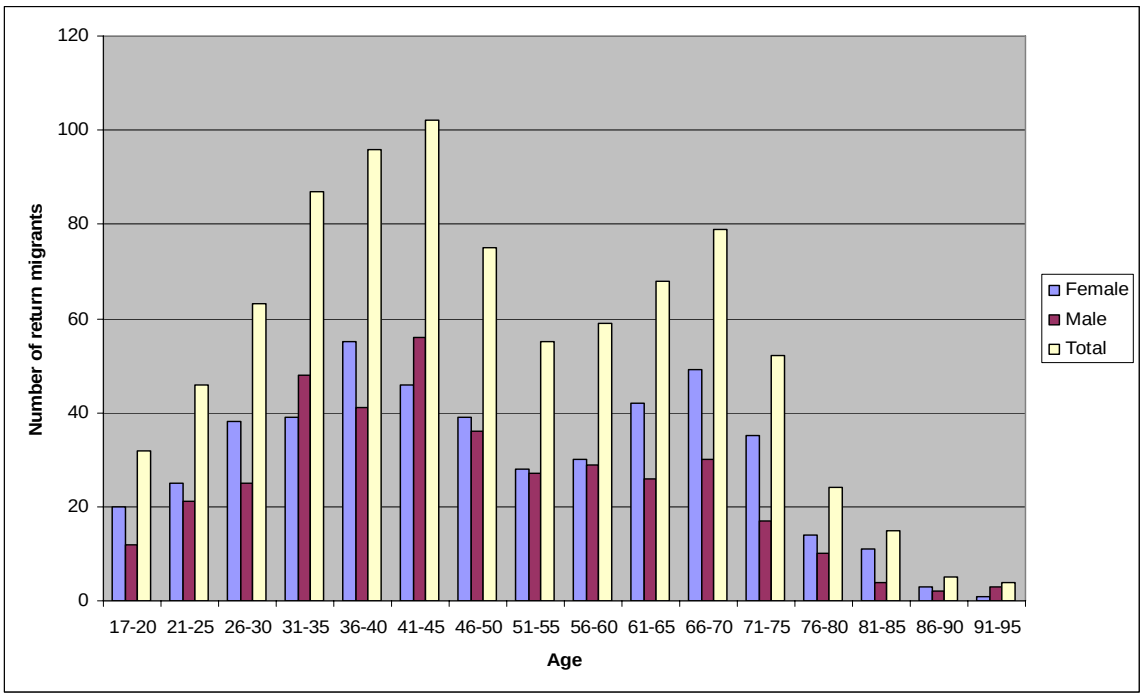
From *Figure 4.2*, some interesting interpretations can be made. First, the Dayton Peace Agreement was signed in the end of 1995, which should support an increase in return migration from 1996. Second, most theory states that outmigration takes place during the initial time period in the host country, if it takes place at all. As the figure shows, there was a large increase in the outmigration flow from 1996, but decreased rapidly again between 1997 and 1999. The return migration rate was then stabilized from 2000 and forward. Then factors of integration, like having children in the school age and employment on the Swedish labor market, are expected to take over.

Figure 4.2 Return migrants as a share of the total refugee cohort that arrived to Sweden in 1993-1994



Source: LOUISE database

Figure 4.3 Age distribution among return migrants, 1994-2003

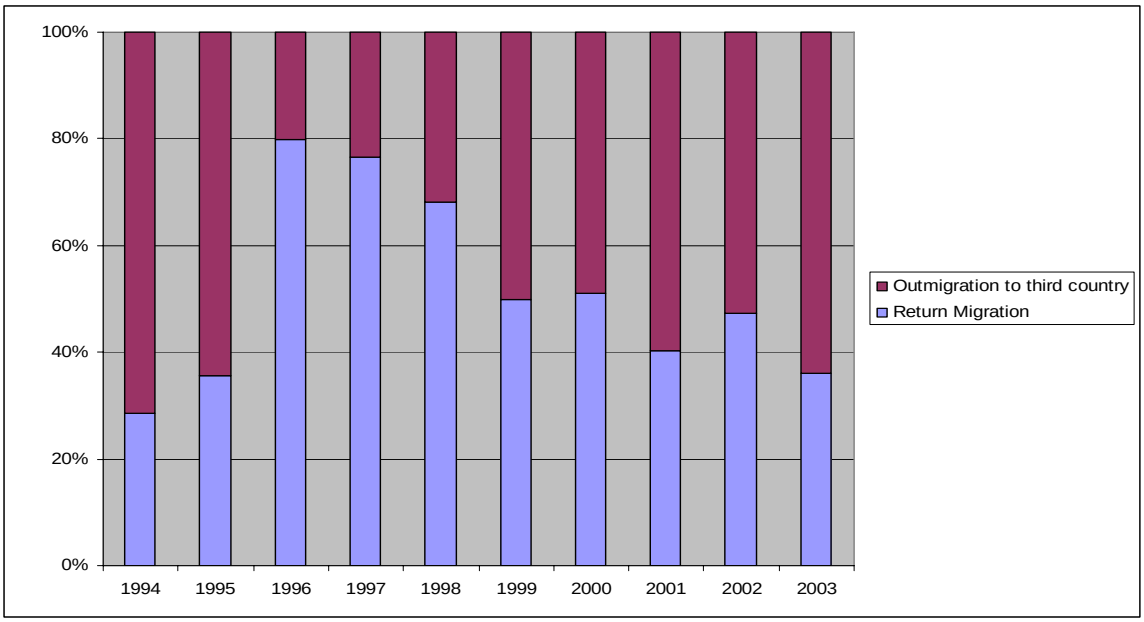


Source: LOUISE database Note: The age distribution refers to the age at return migration.

The average age of return migration is 47.1 years for men, and 49.2 years for women. 55.1 % of the emigrants who has returned to Bosnia and Herzegovina are women. Since those who have died during the investigation period were removed from the dataset, a higher fraction of deceased men since the beginning of the 1990s cannot explain the high return migration rate among women. When it comes to outmigration to third country on the other hand, 53.4 % of the emigrants are men. In the age distribution, as depicted in *Figure 4.2*, return migration is most commonly occurring at ages 35-45 years. Return migration decrease for a few years and then peaks again at a lower level, around ages 65-70. What we see here may be a retirement effect, as discussed in Klinthäll (2006). Less detailed age distributions of return migration and outmigration to third country are found in the appendix *(see Appendix 1, Figure A1.7a & Figure A1.7b).*

In *Figure 4.3*, return migration and outmigration to third country are presented as fractions of total outmigration. Return migration is very high in the initial phase after the war, but outmigration to a third country takes over in the end of the 1990s. One explanation may be looser bounds to the home country after a settling period in the host country.

Figure 4.4 Distribution between return migration and outmigration to third country among emigrants



Source: LOUISE database Note: This figure shows the fractions of return migration and outmigration to third country out of the total emigration among Bosnian immigrants from the 1993-1994 cohort of immigration.

4.2 Variable specification

4.2.1 Dependent variables

Multinomial dependent variable

My polychotomous dependent variable will take multiple outcomes into account and makes it possible to combine the three choices a migrant considers in the same regression; stay in Sweden, return migration or outmigration to third country. I have given these outcomes a number from 1-3; staying in Sweden is set to 1, return migration equals 2 and outmigration to third country is given the value 3. From this variable, two new variables are created, one for the time period 1996-1999 and the other for 2000-2003. For the first time period, 1.92 % of the total sample returned while 0.78 % emigrated to a third country. The percentages for the second period are 0.45 % return migrants and 0.58 % who migrated to a third country.

Binary dependent variables

Alternative dependent variables for my analysis are dummy variables for *return migration* and *outmigration to third country*. The first dummy variable equals 1 if return migration has taken place between 1994 and 2003 and 0 if the migrant has stayed in Sweden. I have created two variables out of this one, the first concerns 1996-1999 and the second variable measures return migration 2000-2003. This is the dependent variable in a second regression. Here, focus is laid on Bosnians who have migrated to a third country. It equals 1 if emigration has taken place between 1994 and 2003 to any other country than Bosnia and Herzegovina and 0 if the migrant has stayed in Sweden. Likewise the variable of return migration, I have created two variables out of this one, the first for 1996-1999 and the second one for the years 2000-2003.

4.2.2 Independent variables

Explanatory variables are; *age at entry* in linear and quadratic form, *gender*, whether or not the migrants are *married* or have *children, level of education* and whether or not the migrant has received *social benefits*. Mean values or fractions of individual characteristics are presented in *Table 4.1* in the end of section 4.2.

Age at entry

This variable refers to the age 1993 or 1994, when migration to Sweden took place. The average age at entry is 31.1 years, 31.8 for women and 30.5 for men.[16] Older migrants have had time to become tied stronger to their home country than younger migrants, therefore they have more difficulties and perhaps less incentive to invest I specific human and social capital of the host country. Younger migrants are also more likely to gather country specific human capital, since the ability to achieve human capital decrease over the life-time. The larger the fraction of country specific skills of an individual, the higher will the return costs be. (Dustmann, 1996, p. 230) I expect this variable to have a negative effect on emigration behavior.

[16] Note: The average age at entry of the entire cohort, including those who have died during the investigation period, was 32 years, 32.6 for women and 31.3 for men. Since they are removed, the average age at entry of the remaining individual is used.

Age at entry^2

This variable will catch the non-linearity in the decreasing propensity to migrate, as people get older.

Gender

The fraction of women in the 1993 and 1994 immigration cohorts was 49.8 %, this is in line with the fact that refugees came as families to Sweden. Adjusting for those who have died during the investigated period, the female fraction of the individuals is 49.96 %. Normally, in migration studies, men tend to be more willing to migrate than women. However, the data material shows that 55.1 % of the emigrants who has returned to Bosnia and Herzegovina are women. This can be compared with outmigration to third country, where the fraction of female emigrants is 46.6 %. Being a woman will have a positive effect on return migration and a negative effect on outmigration to third country.

Marital status

If you are married, you may not be willing to migrate on your own, unless the spouse is living in another country. I have no possibility to locate where the spouse of an emigrant lives, but since the Bosnians arrived as families it should generally be the case that a married couple is living in the same country. I expect marriage to have a negative effect on emigration. There is a larger fraction of unmarried men among those who migrate to a third country. Since there is an overweight of married people among the return migrants, this should work in the opposite direction of my expectations about a negative effect *(see also Appendix 1, Fig A7a & Figure A7b).*

Children

Parental concerns about their children lead to an increase or to a decrease in the tendency of return migration (Dustmann, 2003, pp. 815-829). If you have children in the school-age, they are faster integrated because they have friends in school and it is probably best for them to finish their studies at the same location. This reasoning should contribute to a negative effect on emigration, especially among the emigrants to a third country. But

once again, since there are a lot of families among the return migrants, this effect should be weaker there.

Education

Highly educated people are desirable in Bosnia and Herzegovina; they are needed in order to improve the conditions in the country. The economic situation demands that you can manage on your own in order to support your family. A partially undeveloped social protection system does not grant security. A higher education should therefore contribute to the possibility to return. I have created two variables, one where *secondary school* is the highest level of education, and another if the migrants have a *higher education*. The education variables are used with Borjas selection theory, regarding return to skills, in mind. However, we must always remember that the Bosnians in this sample are refugees. The theory is easier to apply on labour force migrants. I expect a lower grade of explanation than in the results for labor migrants in the study of Rooth and Saarela (2007).

Employment & social benefits

The variables of employment and social benefits reflect the position on the labor market. If a migrant has a strong labor market position in Sweden, this should decrease the economical incentive to emigrate. Hammarstedt (2004) finds that among immigrants in relatively well integrated immigrant groups in Sweden, the individuals with the least favorable position on the labor market choose to emigrate. Further, social benefit receiving immigrants in exposed immigrant groups have a higher probability to stay in Sweden. I expect that these variables of integration have a negative effect on the probability of return migration and outmigration to a third country. It is worth to mention the huge differences in employment rates between 1995 and 1999. As the employment rates have increased rapidly, it is my expectation that the outmigration propensity will decrease over time due to these variables. Employment rates are found in the appendix *(see Appendix 1, Figure A1.8a & Figure A1.8b).*

Table 4.1 Mean values or fractions of individual characteristics

	Men Mean	Std.Dev.	***Women*** Mean	Std.Dev.
Age at entry	30.48	14.469	31.76	15.717
Age at entry^2	1138.06	1014.91	1256.16	1171.76
Gender	50.04 %		49.96	
Married95	.6406	.4799	.7381	.4397
Married99	.6038	.4891	.6630	.4727
Children95	.5635	.4960	.6235	.4845
Children99	.5189	.4997	.5713	.4949
Compulsory or less 95	23.45 %		39.24 %	
Secondary95	50.69 %		42.35 %	
Highereducation95	25.85 %		18.40 %	
Compulsory or less 99	24.95 %		38.66 %	
Secondary99	50.81 %		43.17 %	
Highereducation99	24.24 %		18.17 %	
Employed95	.0975	.2967	.0451	.2075
Employed99	.4993	.5000	.3740	.4839
Socialbenefits95	.9613	.1929	.9568	.2033
Socialbenefits99	.5499	.4975	.6070	.4884

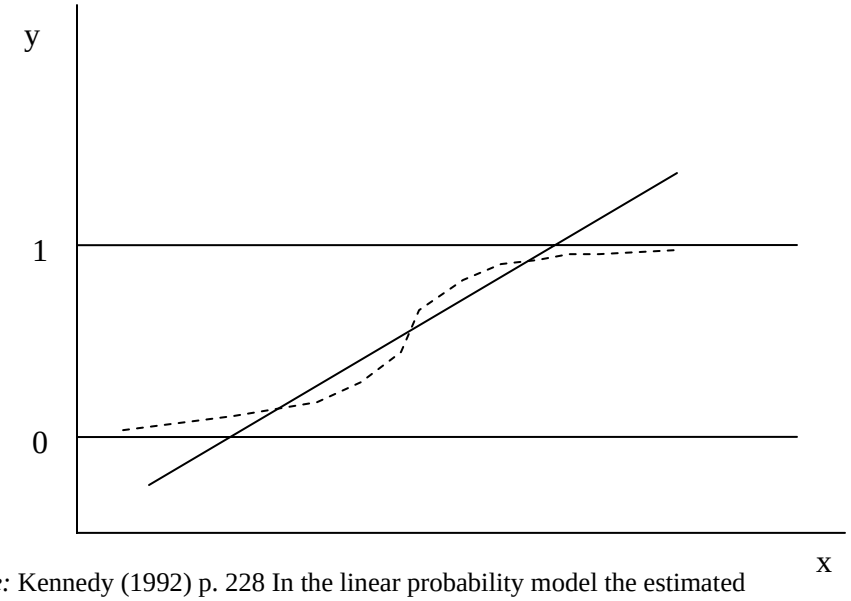
4.3 Econometric model

A *logistic regression* with dichotomous, or binary, dependent variables can be used when migration has two alternative outcomes. (In this study, the choice for the migrant is whether to stay in Sweden or return to Bosnia and Herzegovina) When the migrant has three or more choices, which is the case with categorical or polychotomous dependent variables, a *multinomial logit model* can be used. In this study, immigrants in Sweden are compared with respect to three alternative outcomes; stay in Sweden, return to Bosnia and Herzegovina or emigrate to another country. Maximum-likelihood estimations are made in order to present the likelihood of a non-zero outcome.

Derivation of the logistic regression

The dependent variables include two alternatives, either stay or emigrate. Therefore, the variables will be represented by 0-1 dummy variables. The dependent variable is set equal to 1 for those who emigrate and equal to 0 for those who decide to stay in Sweden. The predicted value of the dependent variable is expected to mainly fall within the interval between 0 and 1. Therefore, this value can be interpreted as the probability that the immigrant will emigrate, given the characteristics of the individual. But there may be some estimated probabilities outside the 0-1 interval. In the *linear probability model*, this problem is solved by converting the outside lying probabilities to 0 or 1. However, a more accurate estimation is to use a *logistic function*, $f(\theta) = e^{\theta}/(1+e^{\theta})$ in order to squeeze the outside estimates into the 0-1 interval. It varies from 0 to 1 as θ varies from $-\infty$ to ∞. An illustration of the logistic function is found on the following page.

Figure 4.5 The logistic function illustrated



Source: Kennedy (1992) p. 228 In the linear probability model the estimated probabilities that lie outside the 0-1 interval are converted to either 0 or 1. The dashed line shows how the estimated probabilities are squeezed into the 0-1 interval using a logistic function.

The logistic model specifies two alternative outcomes, for example:

$$prob(outmigration) = \frac{e^{x\beta}}{1+e^{x\beta}}$$

$$prob(no\ outmigration) = 1 - prob(outmigration) = \frac{1}{1+e^{x\beta}}$$

where $x\beta$ represents individual characteristics of potential return migrants.

The likelihood function is written:

$$L = \prod_i \frac{e^{x_i\beta}}{1+e^{x_i\beta}} \prod_j \frac{1}{1+e^{x_j\beta}}$$

where i refers to those who emigrated, and j to those who stayed in Sweden or emigrated to a third country.

Derivation of the multinomial logit model

The migrant stands in front of three alternatives when he decides about country of residential. For simplicity the alternatives can be divided into A, B or C. Where A equals a return to the home country, B represents emigration to a third country while staying in the host country is denoted by C. The model is specified from the following relations:

$$\frac{prob(return)}{prob(no\ outmigration)} = e^{x\beta_A} \quad \text{and} \quad \frac{prob(outmigration\ to\ third\ country)}{prob(no\ outmigration)} = e^{x\beta_B}$$

Staying in Sweden is set as a standard alternative. Only two ratios are necessary since the third can be derived from the other two. After some algebraic rearrangements, three probabilities are revealed:

$$prob(return) = \frac{e^{x\beta_A}}{1 + e^{x\beta_A} + e^{x\beta_B}}$$

$$prob(outmigration\ to\ third\ country) = \frac{e^{x\beta_B}}{1 + e^{x\beta_A} + e^{x\beta_B}}$$

$$prob(no\ outmigration) = \frac{1}{1 + e^{x\beta_A} + e^{x\beta_B}}$$

The likelihood function is written:

$$L = \prod_i \frac{e^{x_i\beta_A}}{1 + e^{x_i\beta_A} + e^{x_i\beta_B}} \prod_j \frac{e^{x_j\beta_B}}{1 + e^{x_j\beta_A} + e^{x_j\beta_B}} \prod_k \frac{1}{1 + e^{x_k\beta_A} + e^{x_k\beta_B}}$$

Where i refers to return migration, j refers to outmigration to third country, and k refers to staying in Sweden (Kennedy, 1992, pp. 228-246; Klinthäll, 2003, pp. 92-93).

5. Analysis of outmigration behavior

I have divided the dependent variables into two time periods; 1996-1999 and 2000-2003 in order to catch the obvious trends *(see Figure 4.1)*. I will focus at these time periods and use the independent variables of the year before the first year of each time period. The characteristics of 1995 are more likely to tell the truth about 1996-1999, since it may take some time between the migration decision and the actual migration. Further, if you move out in January 1996, the characteristics of 1995 will surely describe the individual characteristics before migration took place. Four different logit estimations have been performed. These estimations are much the same as the following two multinomial estimations, but they ensure that the multinomial model is correctly specified. Model specifications and the logit estimations are found in the appendix *(see Appendix 3)*. The results of the multinomial estimations for 1996-1999 are presented in the end of the following section *(see Table 5.1)*.

5.1 Multinomial estimation, 1996-1999

Return migration, 1996-1999

Employment has a strong negative effect on return migration. If the migrant is working on the Swedish labor market he is less likely to emigrate from Sweden than if he had been unemployed. The marginal effect on return migration 1996-1999, of having an employment in 1995, tells us that those who had an employment have a one percentage point lower probability of return migration than those with no employment. Since only 2.5 % of the total number of Bosnian refugees returns *(see section 4.1, Data Sample)*, this is a relatively strong effect.

Having secondary school as highest level of education reduces the probability of return migration by 0.43 percentage points. On the other hand, having a higher education increases the probability of return migration by 0.70 percentage points. Few refugees have the economical prerequisites to return and individuals with high education are expected to a larger extent have this possibility. Family status does not significantly affect the return migration propensity in this time period.

Outmigration to third country, 1996-1999

Concerning outmigration to third country, the marginal effect of receiving social benefits is strong and significant. Those who received social benefits have 2.2 percentage points lower probability of outmigration to third country than those who did not. Having an employment reduces the likelihood of emigration to a third country by 0.44 percentage points. A higher level of participation on the labor market reduces the likelihood to outmigrate to a third country.

Having children reduces the propensity of outmigration to third country by 0.74 percentage points. Being married reduces the probability of migration to a third country by 0.38 percentage points.

Summarizing the effects of the multinomial model for the time period 1996-1999, the probability of outmigration is strongly reduced by a higher level of integration.

Table 5.1 Multinomial logistic regression – Probability of outmigration, 1996-1999

			Number of observations	= 29500
			Wald chi2	= 583.38
			Prob > chi2	= 0.0000
			Log pseudolikelihood	= -4939.8126
			Pseudo R2	= 0.0489
	Coefficient	Std.Err.	Marginal effect	Std.Err.
Return migration				
Constant	-3.994***	0.335		
Ageatentry	-0.004 n.s	0.015	-0.0000 n.s	0.0003
$Ageatentry^2$	0.000**	0.000	0.0000**	0.0000
Gender	-0.081 n.s	0.084	-0.0015 n.s	0.0015
Married95	0.050 n.s	0.114	-0.0010 n.s	0.0020
Children95	-0.192 n.s	0.105	-0.0033 n.s	0.0019
Secondary95	-0.244*	0.110	-0.0043*	0.0019
HigherEd95	0.360***	0.112	0.0070**	0.0024
Employed95	-0.786***	0.247	-0.0102***	0.0023
SocBid95	-0.353 n.s	0.196	-0.0068 n.s	0.0046
Outmigration to third country				
Constant	-2.332***	0.385		
Ageatentry	-0.017 n.s	0.024	-0.0002 n.s	0.0003
$Ageatentry^2$	0.000 n.s	0.000	0.0000 n.s	0.0000
Gender	0.122 n.s	0.106	0.0014 n.s	0.0012
Married95	-0.327*	0.153	-0.0038*	0.0019
Children95	-0.627***	0.125	-0.0074***	0.0016
Secondary95	0.003 n.s	0.131	0.0001 n.s	0.0014
HigherEd95	0.065 n.s	0.158	0.0006 n.s	0.0018
Employed95	-0.499*	0.227	-0.0044**	0.0017
SocBid95	-1.138***	0.162	-0.0216***	0.0049

*** = significant at 0.1 % level
** = significant at 1 % level
* = significant at 5 % level
n.s = not significant

5.2 Multinomial estimation, 2000-2003

For the second period, where the characteristics of 1999 are used, there are some observable changes since the previous period. The sizes of the effects differ, but the variables always keep their sign. The model specification is the same, expect for the time period. The multinomial estimation results for 2000-2003, are summarized in the end of this section *(see Table 5.2)*.

Return migration, 2000-2003

Being employed reduces the probability of return migration by 0.6 percentage points. Employment in Sweden is less important for the return migration decision than it was in the first period. Receiving social benefits decreases the probability of a return by 0.2 percentage points and has become strongly significant unlike the previous period. Those who received social benefits are more likely to stay in Sweden than those who did not.

The family status variables get small but significant marginal effects this period. Being married or having children decreases the probability of return migration by 0.1 percentage points each. This indicates that being married, or having children affect the return migration decision negatively after the additional four years in Sweden, which must logically be an effect of integration. Being married indicates that the family ties are important for the individual. Since the migrants arrived as families to a large extent and are less likely to emigrate during this time period, they are firstly expected to stay in Sweden. Secondly, they return to Bosnia and Herzegovina where they have relatives. Outmigration to third country is the least attractive alternative. Further, it is more likely that you stay in Sweden if you children are attending school there.

A higher education has a smaller effect than before; it reduces the probability of return migration by 0.2 percentage points. Generally, return migration propensity will decrease as the time goes by in the host country. If the migrants have settled in Sweden and turned from temporary into permanent migrants, they are more likely to use their education in Sweden.

Outmigration to third country, 2000-2003

Outmigration to third country is to a large extent explained by marital status in this time period. Being married decreases the probability with two percentage points. Having children lowers the probability of outmigration to third country by 0.5 percentage points compared to those without any children.

Being employed reduces the propensity of migration to a third country by 0.5 percentage points. Receiving social benefits reduces the probability of outmigration to third country by 0.6 percentage points. If a migrant is working or receiving social benefits in Sweden, he is less likely to emigrate to a third country.

Summarizing the effects of the multinomial model for the time period 2000-2003, the probability of outmigration is even stronger reduced by a higher level of integration compared to the previous period. This is most logical, since the level of integration gets stronger the longer time since arrival.

Table 5.2 Multinomial logistic regression – Probability of outmigration, 2000-2003

			Number of observations	= 31506
			Wald chi2	= 313.71
			Prob > chi2	= 0.0000
			Log pseudolikelihood	= -1991.5849
			Pseudo R2	= 0.0881
	Coefficient	Std.Err.	Marginal effect	Std.Err.
Return migration				
Constant	-4.793***	0.428		
Ageatentry	0.002 n.s	0.024	0.0000 n.s	0.0000
$Ageatentry^2$	0.000 n.s	0.000	0.0000 n.s	0.0000
Gender	-0.037 n.s	0.172	-0.0001 n.s	0.0003
Married99	-0.434*	0.189	-0.0008*	0.0004
Children99	-0.498*	0.235	-0.0009*	0.0005
Secondary99	-0.012 n.s	0.215	-0.0000 n.s	0.0004
HigherEd99	0.721***	0.219	0.0016*	0.0007
Employed99	-2.816***	0.419	-0.0058***	0.0007
SocBid99	0.954***	0.223	-0.0019***	0.0005
Outmigration to third country				
Constant	-3.787***	0.428		
Ageatentry	0.030 n.s	0.032	0.0001 n.s	0.0001
$Ageatentry^2$	-0.000 n.s	0.000	-0.0000 n.s	0.0000
Gender	0.016 n.s	0.148	0.0001 n.s	0.0007
Married99	-0.433*	0.197	-0.0202*	0.0010
Children99	-1.052***	0.186	-0.0050***	0.0009
Secondary99	-0.008 n.s	0.188	-0.0000 n.s	0.0008
HigherEd99	-0.005 n.s	0.221	-0.0000 n.s	0.0010
Employed99	-1.121***	0.204	-0.0048***	0.0008
SocBid99	-1.135***	0.202	-0.0057***	0.0011

*** = significant at 0.1 % level
** = significant at 1 % level
* = significant at 5 % level
n.s = not significant

6. Conclusions & Discussion

6.1 Conclusions

This study shows that a higher education is affecting the return migration decision positively. Highly educated persons are more likely to find a well paid job and are expected to have better economical prerequisites than those with a lower level of education. Since the social protection system in Bosnia and Herzegovina is partially undeveloped, only those with a well paid job or wealthy relatives can afford any mishaps. This could be the explanation for the positive effect on return migration due to higher education. Having a higher education does not have any significant effect on outmigration to a third country.

Further, it is more likely for a family to return than emigrate to a third country. It is also more likely for women to return, but the large difference in the gender distribution concerns migrants above retirement age. There is a larger fraction of men that migrate to a third country. Having children decreases the probability of emigration. The children are intensively exposed to the population of Sweden, and are expected to integrate faster into the society than their parents. Staying in Sweden may therefore be an act of altruism by the parents as discussed in Dustmann (2003).

Being employed in Sweden or receiving social benefits has a negative effect on the probability of emigration. Hammarstedt (2004) found that among relatively well integrated immigrants in Sweden, the individuals with the least favorable position on the labor market choose to emigrate. Further, among exposed immigrants, those receiving social benefits have a higher probability to stay in Sweden. Ekberg and Ohlson (2000a; 2000b) showed that among the same refugees who are investigated in this study there are huge regional differences in the extent of integration, regarding employment rates. Therefore, they can be self-selected from a well integrated or exposed group of immigrants like suggested by Hammarstedt (2004).

Hammarstedt (2004) found that refugees from Iraq, Ethiopia, Lebanon and Iran mainly migrate to a third country instead of return to their home countries. This is not the case in the present study, since 62 % of the 4 % who emigrates from Sweden are return migrants. Differences between home countries concerning political stability are most likely the explanation for these differences in return migration behavior.

Once again, it must be stressed that the most important factors in this study are the political and economic situation in Bosnia and Herzegovina. Since the economic situation in Sweden has improved during the investigation period, pull-factors logically dominate the return migration behavior. An economic analysis of return migration behavior can not be done without taking the macro level factors into account. Several organizations and centers are working in the country for improvements and better possibilities to return. However, the refugees must have strong economic prerequisites or wealthy relatives to support them, in order to realize a return migration decision. A large part of the elderly refugees in Sweden would return to Bosnia and Herzegovina if they were allowed to bring their guarantee pension from Sweden. They consider themselves as temporary migrants but have involuntary become permanent migrants. Assuming that the optimal life cycle for a large fraction of the refugees is to accumulate savings and return to Bosnia and Herzegovina when the political and economic situation is safe enough, may in reality just be possible for a few of them.

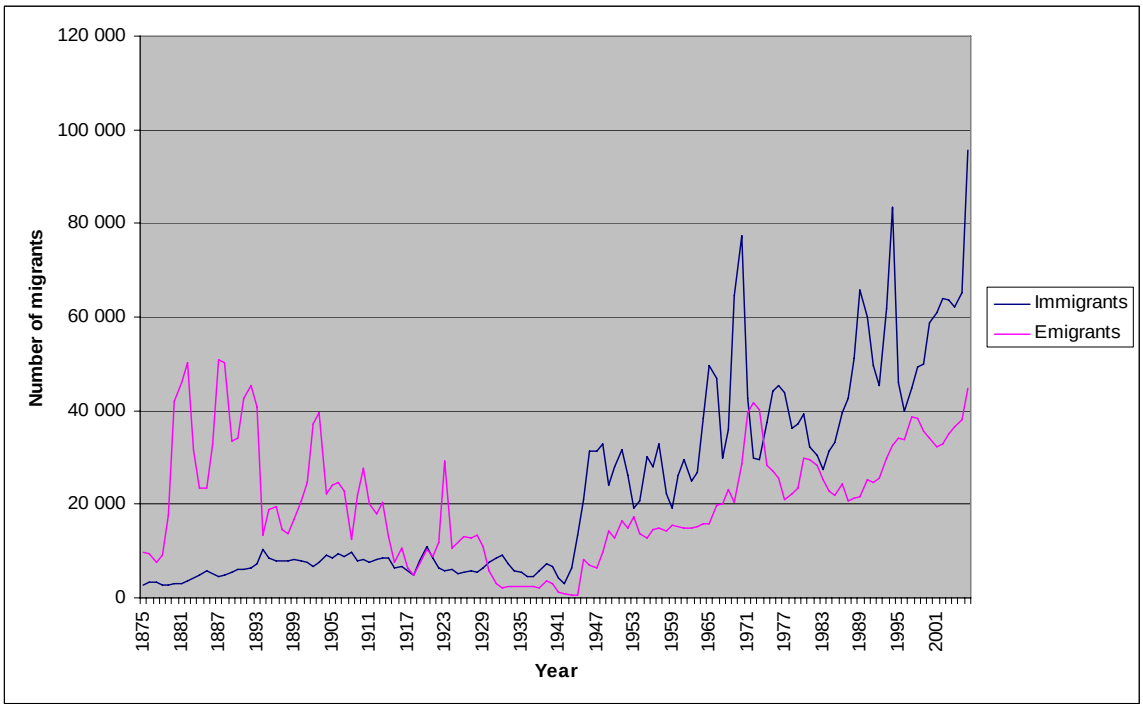
6.2 Discussion about further research

Ekberg and Ohlson (2000) found large regional differences concerning the integration of the refugees who arrived in 1993-1994. It would be very interesting to investigate the return migration behavior due to region of residence in Sweden.

From the descriptive statistics of the refugees who arrived in 1993-1994, it was found that the age distribution among return migrants peaks at 45 years and at a lower level around 65 years. If the pensioners were allowed to bring their guarantee pensions abroad, this second peak would probably be the highest. It would be interesting to investigate the financial possibilities of such a reform on macro level.

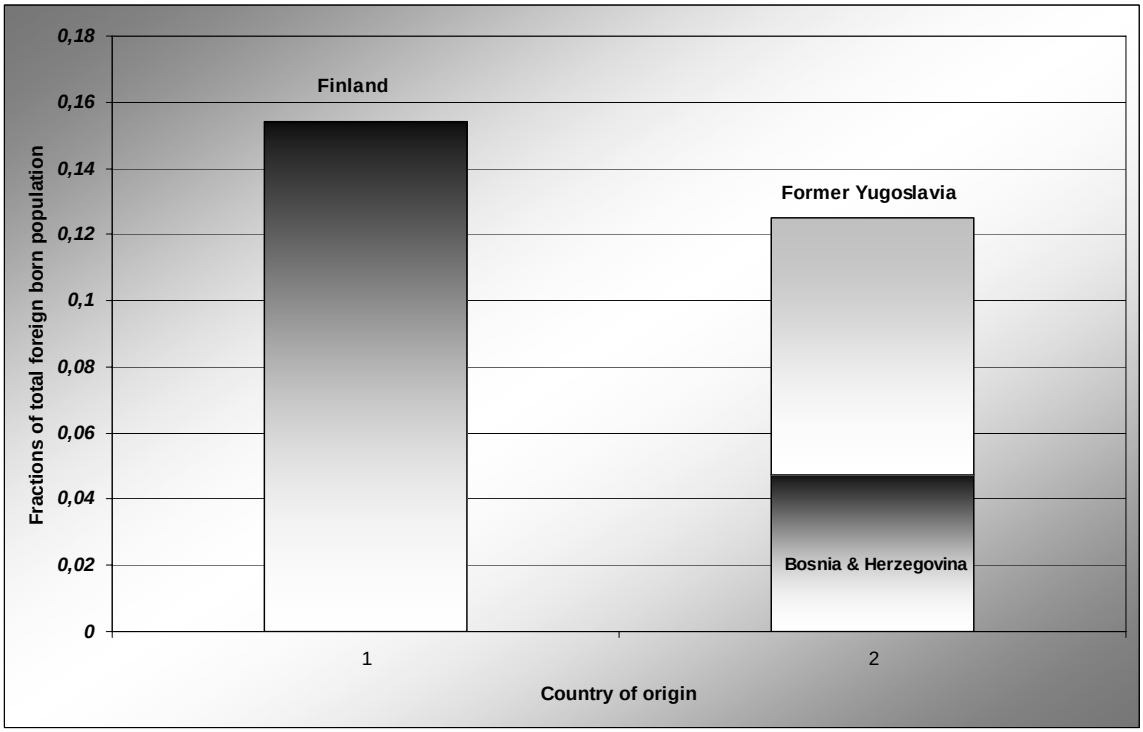
Appendix 1

Figure A1.1 The Swedish migration trends 1875-2006



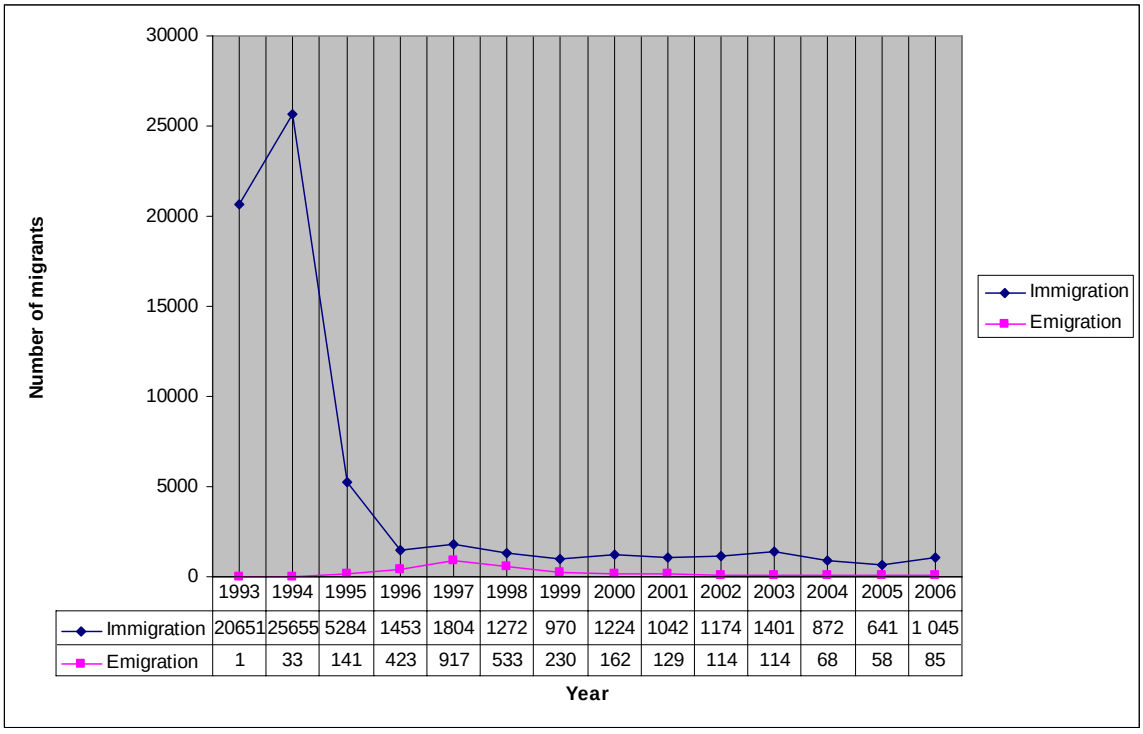
Source: Statistics Sweden

Figure A1.2 The two largest foreign born groups in Sweden, 2006



Source: LOUISE database

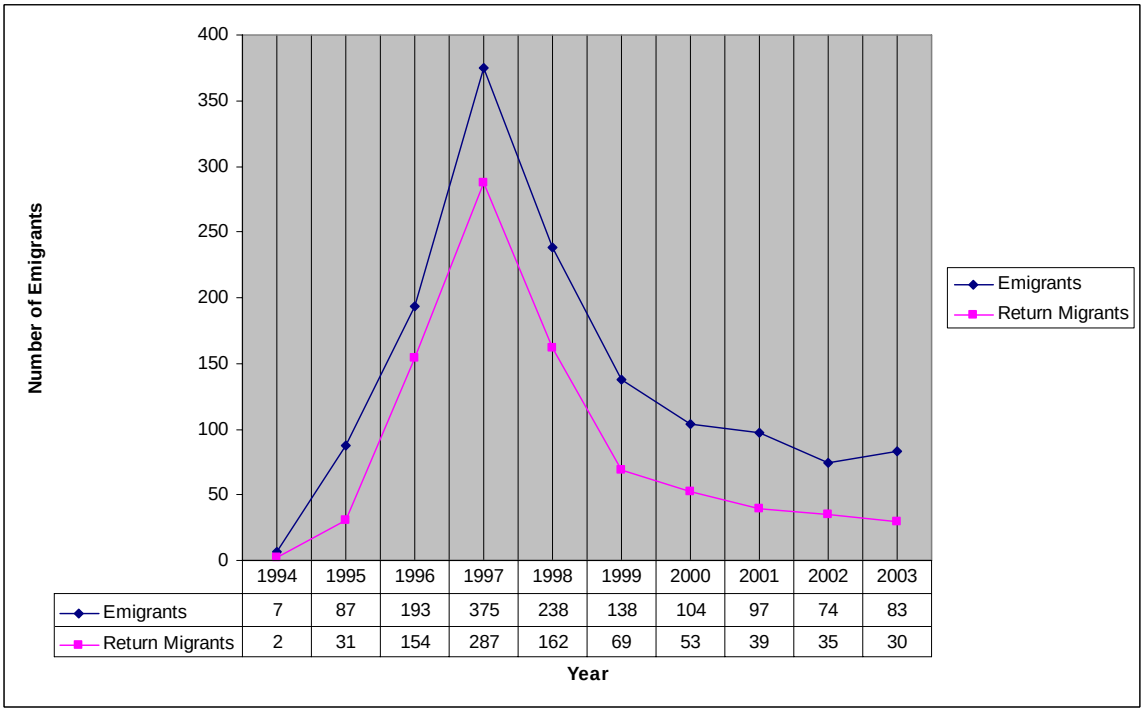
Figure A1.3 Migration trends for Sweden among people from Bosnia and Herzegovina, 1993-2006



	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Immigration	20651	25655	5284	1453	1804	1272	970	1224	1042	1174	1401	872	641	1 045
Emigration	1	33	141	423	917	533	230	162	129	114	114	68	58	85

Source: The Swedish Migration Board. Note: All Bosnian migrants are included in this diagram.

Figure A1.4 Emigration rates from Sweden to Bosnia and Herzegovina, 1994-2003



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Emigrants	7	87	193	375	238	138	104	97	74	83
Return Migrants	2	31	154	287	162	69	53	39	35	30

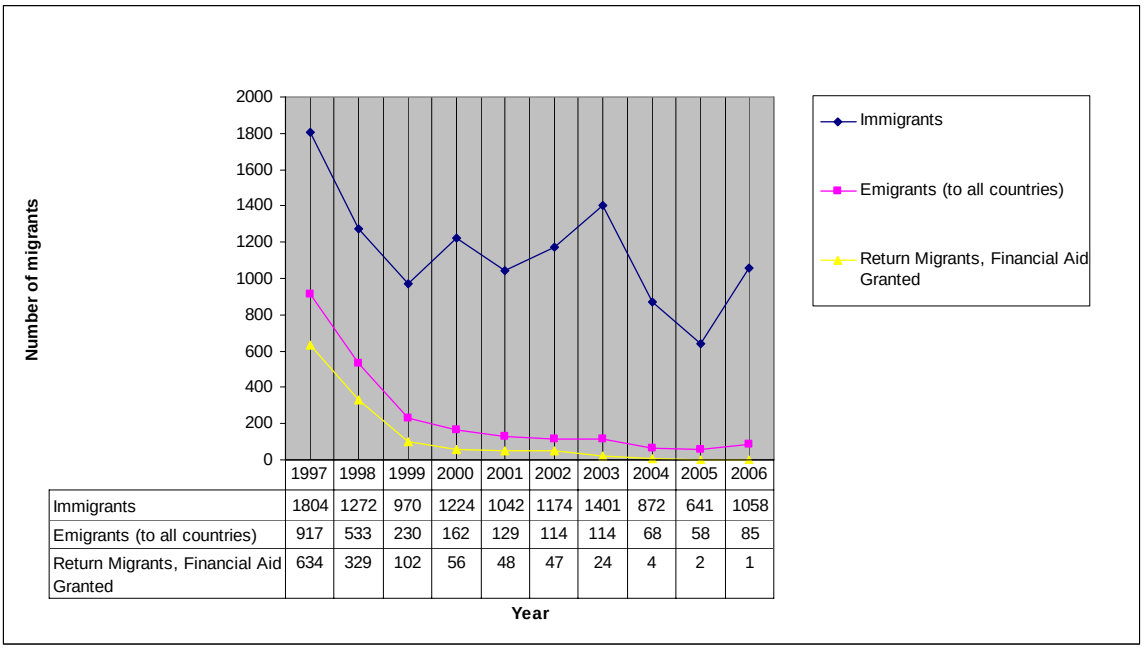
Source: LOUISE database Note: Only Bosnians who arrived in 1993 and 1994 are included in these figures.

Figure A1.5 Return migration to Bosnia and Herzegovina 1996-2003

	TOTAL BOSNIA AND HERZEGOVINA									
	REFUGEES					DPs				
	BOS	CRO	SER	OTH	TOTAL	BOS	CRO	SER	OTH	TOTAL
1996	76,385	3,144	8,477	33	**88,039**	101,402	505	62,792	42	**164,741**
1997	74,756	33,568	11,136	820	**120,280**	39,447	10,191	8,452	205	**58,295**
1998	78,589	23,187	6,765	1,459	**110,000**	15,806	4,325	9,139	300	**29,570**
1999	18,440	6,299	6,332	579	**31,650**	24,907	6,760	11,315	403	**43,385**
2000	7,633	4,834	5,303	837	**18,607**	36,944	7,779	14,175	449	**59,347**
2001	4,642	4,244	9,155	652	**18,693**	48,042	5,960	25,734	436	**80,172**
2002	12,592	5,933	18,220	389	**37,134**	41,511	5,319	23,215	730	**70,775**
2003	804	416	1,244	74	**2,538**	2,659	400	2,438	12	**5,509**
TOTAL	**273,841**	**81,625**	**66,632**	**4,843**	**426,941**	**310,718**	**41,239**	**157,260**	**2,577**	**511,794**

Source: UNHCR; IOM; Ministries for Refugees; Deportation movements; Municipal Authorities; UNHCR Sarajevo OHR Brcko District; DPs Associations and NGOs. Note: DPs is an abbreviation for displaced persons.

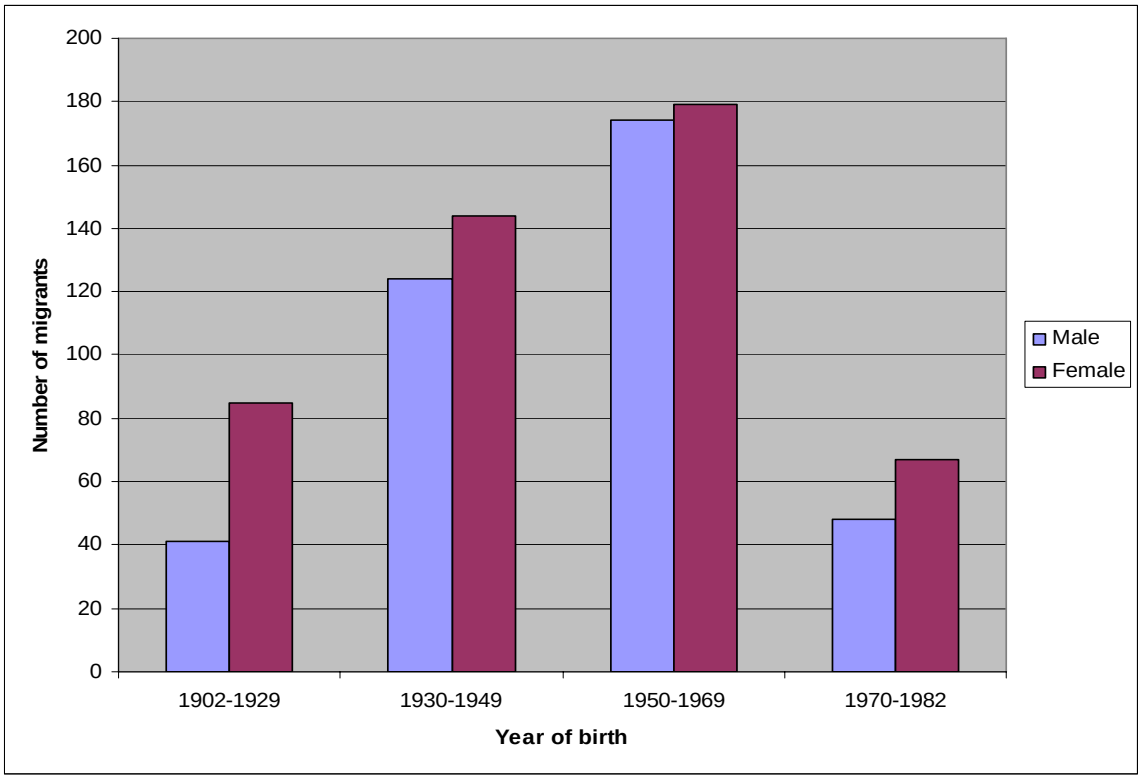
Figure A1.6 Bosnian return migrants who have received financial aid



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Immigrants	1804	1272	970	1224	1042	1174	1401	872	641	1058
Emigrants (to all countries)	917	533	230	162	129	114	114	68	58	85
Return Migrants, Financial Aid Granted	634	329	102	56	48	47	24	4	2	1

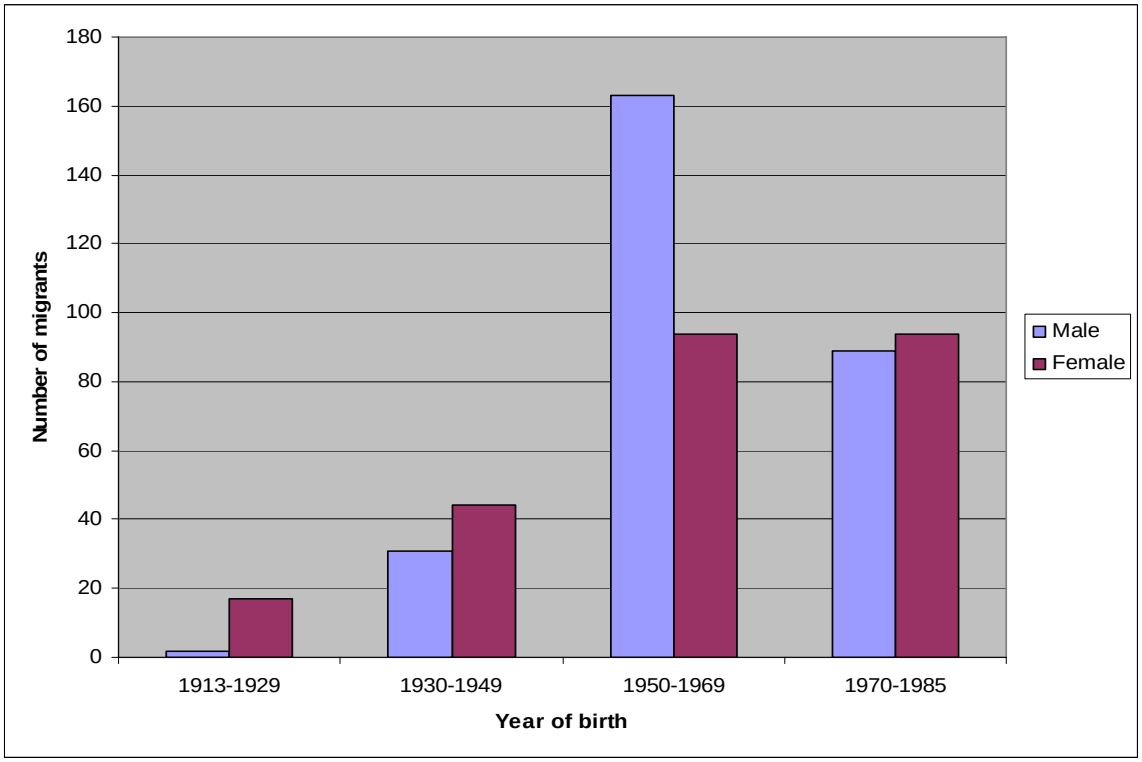
Note: Data on financial support is only available from 1997. *Source:* The Swedish Migration Board

Figure A1.7a Age distribution among return migrants, 1994-2003



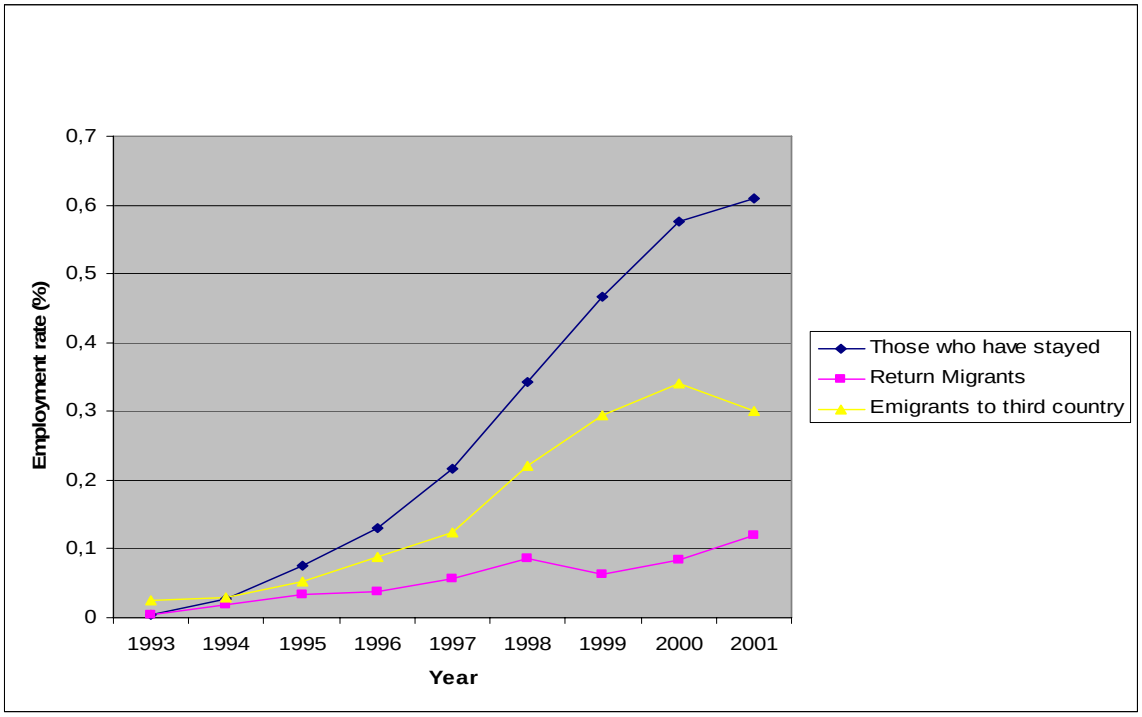
Source: LOUISE database

Figure A1.7b Age distribution among emigrants to third country, 1994-2003



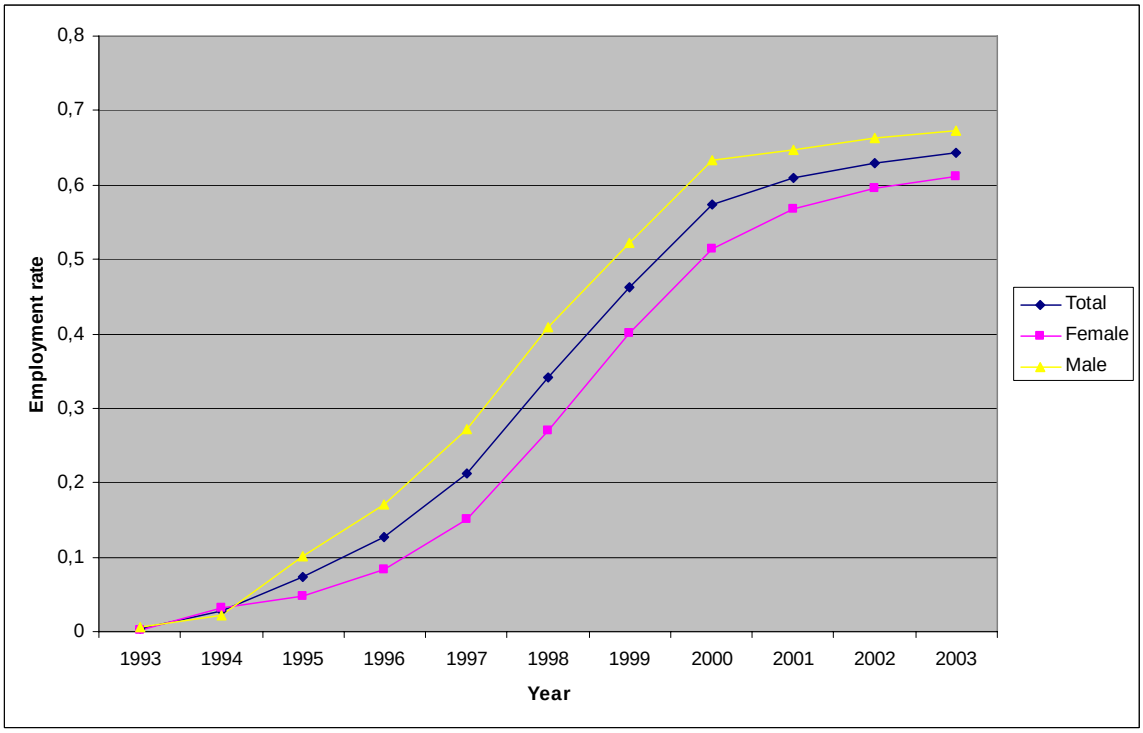
Source: LOUISE database

Figure A1.8a Employment rates among Bosnian refugees on the Swedish labor market, 1993-2001



Source: LOUISE database

Figure A1.8b Employment rates among Bosnian refugees on the Swedish labor market 1993-2003



Source: LOUISE database

Appendix 2

Table A2.1 Construction of the Variables

Dependent variables:		
Multinomial dependent variable	1 =	Stay in Sweden
	2 =	Return Migration
	3 =	Outmigration to third country
Return Migration:	1 =	Return migration from Sweden to Bosnia and Herzegovina
	0 =	Stay in Sweden
Outmigration to third country:	1 =	Outmigration from Sweden to third country
	0 =	Stay in Sweden
Independent variables:		
Age at entry:		Age at entry, either 1993 or 1994
Age at entry, squared:		Age at entry, squared
Gender:	1 =	Male
	0 =	Female
Family status		
Married:	1 =	Married
	0 =	Unmarried, divorced or widow
Children:	1 =	Husband-wife family (incl. partnership) with at least one child under 18 years in the household Common-law spouse family with at least one child under 18 years in the household Single parent with at least one child under 18 years in the household
	0 =	No children under 18 years in the household
Education		
Secondary school	1 =	If the individual has secondary school as the highest l level of education
	0 =	Otherwise
Higher education	1 =	If the individual has a university degree or postgraduate education
	0 =	Otherwise
Employed:	1 =	Gainfully employed (at least one hour per week)
	0 =	No occupation
Social benefits:	1 =	If the individual belong to a household that have received social benefits
	0 =	Otherwise

Appendix 3

Model specification, multinomial estimation, 1996-1999

$$prob(return\ 96-99) =$$

$$= \frac{e^{\beta_{1A}AGE+\beta_{2A}AGE^2+\beta_{3A}SEX+\beta_{4A}MAR95+\beta_{5A}CHI95+\beta_{6A}SEC95+\beta_{7A}HIGH95+\beta_{8A}EMP95+\beta_{9A}SOC95}}{1+e^{\beta_{1A}AGE+\beta_{2A}AGE^2+\beta_{3A}SEX+\beta_{4A}MAR95+\beta_{5A}CHI95+\beta_{6A}SEC95+\beta_{7A}HIGH95+\beta_{8A}EMP95+\beta_{9A}SOC95} + e^{\beta_{1B}AGE+\beta_{2B}AGE^2+\beta_{3B}SEX+\beta_{4B}MAR95+\beta_{5B}CHI95+\beta_{6B}SEC95+\beta_{7B}HIGH95+\beta_{8B}EMP95+\beta_{9B}SOC95}}$$

$$prob(outmigration\ to\ third\ country\ 96-99) =$$

$$= \frac{e^{\beta_{1B}AGE+\beta_{2B}AGE^2+\beta_{3B}SEX+\beta_{4B}MAR95+\beta_{5B}CHI95+\beta_{6B}SEC95+\beta_{7B}HIGH95+\beta_{8B}EMP95+\beta_{9B}SOC95}}{1+e^{\beta_{1A}AGE+\beta_{2A}AGE^2+\beta_{3A}SEX+\beta_{4A}MAR95+\beta_{5A}CHI95+\beta_{6A}SEC95+\beta_{7A}HIGH95+\beta_{8A}EMP95+\beta_{9A}SOC95} + e^{\beta_{1B}AGE+\beta_{2B}AGE^2+\beta_{3B}SEX+\beta_{4B}MAR95+\beta_{5B}CHI95+\beta_{6B}SEC95+\beta_{7B}HIGH95+\beta_{8B}EMP95+\beta_{9B}SOC95}}$$

$$prob(no\ outmigration\ 96-99) =$$

$$= \frac{1}{1+e^{\beta_{1A}AGE+\beta_{2A}AGE^2+\beta_{3A}SEX+\beta_{4A}MAR95+\beta_{5A}CHI95+\beta_{6A}SEC95+\beta_{7A}HIGH95+\beta_{8A}EMP95+\beta_{9A}SOC95} + e^{\beta_{1B}AGE+\beta_{2B}AGE^2+\beta_{3B}SEX+\beta_{4B}MAR95+\beta_{5B}CHI95+\beta_{6B}SEC95+\beta_{7B}HIGH95+\beta_{8B}EMP95+\beta_{9B}SOC95}}$$

Model specification, multinomial estimation, 2000-2003

$$prob(return\ 00-03) =$$

$$= \frac{e^{\beta_{1A}AGE+\beta_{2A}AGE^2+\beta_{3A}SEX+\beta_{4A}MAR99+\beta_{5A}CHI99+\beta_{6A}SEC99+\beta_{7A}HIGH99+\beta_{8A}EMP99+\beta_{9A}SOC99}}{1+e^{\beta_{1A}AGE+\beta_{2A}AGE^2+\beta_{3A}SEX+\beta_{4A}MAR99+\beta_{5A}CHI99+\beta_{6A}SEC99+\beta_{7A}HIGH99+\beta_{8A}EMP99+\beta_{9A}SOC99} + e^{\beta_{1B}AGE+\beta_{2B}AGE^2+\beta_{3B}SEX+\beta_{4B}MAR99+\beta_{5B}CHI99+\beta_{6B}SEC99+\beta_{7B}HIGH99+\beta_{8B}EMP99+\beta_{9B}SOC99}}$$

$$prob(outmigration\ to\ third\ country\ 00-03) =$$

$$= \frac{e^{\beta_{1B}AGE+\beta_{2B}AGE^2+\beta_{3B}SEX+\beta_{4B}MAR99+\beta_{5B}CHI99+\beta_{6B}SEC99+\beta_{7B}HIGH99+\beta_{8B}EMP99+\beta_{9B}SOC99}}{1+e^{\beta_{1A}AGE+\beta_{2A}AGE^2+\beta_{3A}SEX+\beta_{4A}MAR99+\beta_{5A}CHI99+\beta_{6A}SEC99+\beta_{7A}HIGH99+\beta_{8A}EMP99+\beta_{9A}SOC99} + e^{\beta_{1B}AGE+\beta_{2B}AGE^2+\beta_{3B}SEX+\beta_{4B}MAR99+\beta_{5B}CHI99+\beta_{6B}SEC99+\beta_{7B}HIGH99+\beta_{8B}EMP99+\beta_{9B}SOC99}}$$

$$prob(no\ outmigration\ 00-03) =$$

$$= \frac{1}{1+e^{\beta_{1A}AGE+\beta_{2A}AGE^2+\beta_{3A}SEX+\beta_{4A}MAR99+\beta_{5A}CHI99+\beta_{6A}SEC99+\beta_{7A}HIGH99+\beta_{8A}EMP99+\beta_{9A}SOC99} + e^{\beta_{1B}AGE+\beta_{2B}AGE^2+\beta_{3B}SEX+\beta_{4B}MAR99+\beta_{5B}CHI99+\beta_{6B}SEC99+\beta_{7B}HIGH99+\beta_{8B}EMP99+\beta_{9B}SOC99}}$$

Table A3.1 Logit estimates – Probability of return migration, 1996-1999

	Coefficient	Std. Err.	Marginal effect	Std. Err.
Constant	-3.956***	0.333		
Ageatentry	-0.004 n.s	0.015	-0.0001 n.s	0.0003
$Ageatentry^2$	0.0004**	0.000	0.0000**	0.0000
Gender	-0.082 n.s	0.084	-0.0014 n.s	0.0015
Married95	0.045 n.s	0.114	0.0007 n.s	0.0020
Children95	-0.192 n.s	0.105	-0.0034 n.s	0.0020
Secondary95	-0.248**	0.110	-0.0043**	0.0019
HigherEd95	0.359***	0.112	0.0070**	0.0024
Employed95	-0.792***	0.247	-0.0104***	0.0023
SocBid95	-0.382*	0.197	-0.0081 n.s	0.0049

*** = significant at 0.1 % level
** = significant at 1 % level
* = significant at 5 % level
n.s = not significant

Model specification:

$$prob(return\ migration\ 96-99) =$$

$$= \frac{e^{\beta_1 AGEATENTRY + \beta_2 AGEATENTRY^2 + \beta_3 GENDER + \beta_4 MARRIED95 + \beta_5 CHILDREN95 + \beta_6 SECONDARY95 + \beta_7 HIGHEREDUCATION95 + \beta_8 EMPLOYED95 + \beta_9 SOCBID95}}{1 + e^{\beta_1 AGEATENTRY + \beta_2 AGEATENTRY^2 + \beta_3 GENDER + \beta_4 MARRIED95 + \beta_5 CHILDREN95 + \beta_6 SECONDARY95 + \beta_7 HIGHEREDUCATION95 + \beta_8 EMPLOYED95 + \beta_9 SOCBID95}}$$

$$prob(no\ return\ 96-99) =$$

$$= \frac{1}{1 + e^{\beta_1 AGEATENTRY + \beta_2 AGEATENTRY^2 + \beta_3 GENDER + \beta_4 MARRIED95 + \beta_5 CHILDREN95 + \beta_6 SECONDARY95 + \beta_7 HIGHEREDUCATION95 + \beta_8 EMPLOYED95 + \beta_9 SOCBID95}}$$

Table A3.2 Logit estimates – Probability of outmigration to third country, 1996-1999

	Coefficient	Std. Err.	Marginal effect	Std. Err.
Constant	-2.523***	0.455		
Ageatentry	-0.009 n.s	0.029	-0.0001 n.s	0.0002
$Ageatentry^2$	0.000 n.s	0.000	0.0000 n.s	0.0000
Gender	0.166 n.s	0.127	0.0012 n.s	0.0009
Married95	-0.250 n.s	0.183	-0.0019 n.s	0.0015
Children95	-0.838***	0.147	-0.0069***	0.0013
Secondary95	-0.210 n.s	0.155	-0.0015 n.s	0.0011
HigherEd95	0.026 n.s	0.182	0.0002 n.s	0.0014
Employed95	-0.461 n.s	0.263	-0.0028**	0.0013
SocBid95	-1.430***	0.179	-0.0217***	0.0047

*** = significant at 0.1 % level
** = significant at 1 % level
* = significant at 5 % level
n.s = not significant

Model specification:

$$prob(outmigration\ to\ third\ country\ 96-99) =$$

$$= \frac{e^{\beta_1 AGEATENTRY + \beta_2 AGEATENTRY^2 + \beta_3 GENDER + \beta_4 MARRIED95 + \beta_5 CHILDREN95 + \beta_6 SECONDARY95 + \beta_7 HIGHEREDUCATION95 + \beta_8 EMPLOYED95 + \beta_9 SOCBID95}}{1 + e^{\beta_1 AGEATENTRY + \beta_2 AGEATENTRY^2 + \beta_3 GENDER + \beta_4 MARRIED95 + \beta_5 CHILDREN95 + \beta_6 SECONDARY95 + \beta_7 HIGHEREDUCATION95 + \beta_8 EMPLOYED95 + \beta_9 SOCBID95}}$$

$$prob(no\ outmigration\ 96-99) =$$

$$= \frac{1}{1 + e^{\beta_1 AGEATENTRY + \beta_2 AGEATENTRY^2 + \beta_3 GENDER + \beta_4 MARRIED95 + \beta_5 CHILDREN95 + \beta_6 SECONDARY95 + \beta_7 HIGHEREDUCATION95 + \beta_8 EMPLOYED95 + \beta_9 SOCBID95}}$$

Table A3.3 Logit estimates – Probability of return migration, 2000-2003

	Coefficient	Std. Err.	Marginal effect	Std. Err.
Constant	-4.775***	0.428		
Ageatentry	0.002 n.s	0.024	0.0000 n.s	0.0000
$Ageatentry^2$	0.000 n.s	0.000	-0.0000 n.s	0.0000
Gender	-0.038 n.s	0.172	-0.0001 n.s	0.0003
Married95	-0.431**	0.189	-0.0008*	0.0004
Children95	-0.504**	0.235	-0.0009*	0.0005
Secondary95	-0.019 n.s	0.215	-0.0000 n.s	0.0004
HigherEd95	0.719***	0.220	0.0016*	0.0007
Employed95	-2.826***	0.419	-0.0585***	0.0007
SocBid95	-0.978***	0.226	-0.0020***	0.0006

*** = significant at 0.1 % level
** = significant at 1 % level
* = significant at 5 % level
n.s = not significant

Model specification:

$$prob(return\ migration\ 00-03) =$$

$$= \frac{e^{\beta_1 AGEATENTRY+\beta_2 AGEATENTRY^2+\beta_3 GENDER+\beta_4 MARRIED99+\beta_5 CHILDREN99+\beta_6 SECONDARY99+\beta_7 HIGHEREDUCATION99+\beta_8 EMPLOYED99+\beta_9 SOCBID99}}{1+e^{\beta_1 AGEATENTRY+\beta_2 AGEATENTRY^2+\beta_3 GENDER+\beta_4 MARRIED99+\beta_5 CHILDREN99+\beta_6 SECONDARY99+\beta_7 HIGHEREDUCATION99+\beta_8 EMPLOYED99+\beta_9 SOCBID99}}$$

$$prob(no\ return\ 00-03) =$$

$$= \frac{1}{1+e^{\beta_1 AGEATENTRY+\beta_2 AGEATENTRY^2+\beta_3 GENDER+\beta_4 MARRIED99+\beta_5 CHILDREN99+\beta_6 SECONDARY99+\beta_7 HIGHEREDUCATION99+\beta_8 EMPLOYED99+\beta_9 SOCBID99}}$$

Table A3.4 Logit estimates – Probability of outmigration to third country, 2000-2003

	Coefficient	Std. Err.	Marginal effect	Std. Err.
Constant	-3.827***	0.450		
Ageatentry	0.033 n.s	0.034	0.0001 n.s	0.0002
$Ageatentry^2$	-0.000 n.s	0.001	-0.0000 n.s	0.0000
Gender	0.025 n.s	0.150	0.0001 n.s	0.0007
Married95	-0.372 n.s	0.197	-0.0017 n.s	0.0010
Children95	-1.067***	0.188	-0.0051***	0.0010
Secondary95	-0.010 n.s	0.191	-0.0000 n.s	0.0008
HigherEd95	0.006 n.s	0.223	0.0000 n.s	0.0010
Employed95	-1.119***	0.205	-0.0048***	0.0008
SocBid95	-1.128***	0.205	-0.0056***	0.0011

*** = significant at 0.1 % level
** = significant at 1 % level
* = significant at 5 % level
n.s = not significant

Model specification:

$$prob(outmigration\ to\ third\ country\ 00-03) =$$

$$= \frac{e^{\beta_1 AGEATENTRY + \beta_2 AGEATENTRY^2 + \beta_3 GENDER + \beta_4 MARRIED99 + \beta_5 CHILDREN99 + \beta_6 SECONDARY99 + \beta_7 HIGHEREDUCATION99 + \beta_8 EMPLOYED99 + \beta_9 SOCBID99}}{1 + e^{\beta_1 AGEATENTRY + \beta_2 AGEATENTRY^2 + \beta_3 GENDER + \beta_4 MARRIED99 + \beta_5 CHILDREN99 + \beta_6 SECONDARY99 + \beta_7 HIGHEREDUCATION99 + \beta_8 EMPLOYED99 + \beta_9 SOCBID99}}$$

$$prob(no\ return\ 00-03) =$$

$$= \frac{1}{1 + e^{\beta_1 AGEATENTRY + \beta_2 AGEATENTRY^2 + \beta_3 GENDER + \beta_4 MARRIED99 + \beta_5 CHILDREN99 + \beta_6 SECONDARY99 + \beta_7 HIGHEREDUCATION99 + \beta_8 EMPLOYED99 + \beta_9 SOCBID99}}$$

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