Determinants of Return Migration of Turkish Immigrants in Germany

Preliminary and Incomplete

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Abstract

In this paper, we analyze the determinants of return migration of first generation Turkish immigrants from Germany using duration analysis. Employing the German Socio-Economic Panel, we use a proportional hazards model, controlling for immigrants' demographic characteristics and labor market outcomes as well as unobserved heterogeneity. We find that immigrants with a higher savings potential - either due to higher earnings or smaller family size-are more likely to return. This supports the hypothesis that these immigrants went to Germany to accumulate wealth. Furthermore, we find that immigrants who enter Germany at older ages and who are unmarried at the time of entry are more likely to return. Another significant finding is that immigrants who return have lower earnings than those who stay. In addition, we examine the potential effect of German unification on the way these demographic characteristics and labor market outcomes influence the return behavior of these immigrants.

1 Introduction

Immigration has become one of the most significant economic issues, particularly in North America and Europe. Borjas (2000), referring to a United Nations estimate reports that 200 million people, around 2% of the world's population, now live in a country where they were not born.

It is not only the inflow of immigrants but also their outflow that determine the stock of immigrants and their characteristics; which, in turn, determine their impact on the host and source country economies. For instance, if there is concern about the potential impact of immigration on the wages of natives, there would be much less an impact if there is also a high rate of outmigration.

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According to Bohning (1981), in the Federal Republic of Germany, 9 in 10 Italian, 8 in 10 Spanish, 7 in 10 Greek, 5 in 10 Yugoslav, and 3 in 10 of the Turkish workers who were admitted to work during the years 1961-76 left during this period.

The return behavior of immigrants has important economic implications for the source country. A major motivation for immigration is asset accumulation. Although an exodus of workers seeking to take advantage of higher wages in other countries may impose a cost on the source country economy, migrants who return home often bring with them significant amounts of assets. Moreover, many of them invest their assets in small businesses.[1] Another major contribution of immigrants to the source country economy is their remittances.[2] Since the amount of assets immigrants can accumulate depends on their economic performance in the host country, immigrants' economic success in the host country is also important for the source country.

An important issue in return migration is the selection process. The contribution of immigrants to the host country economy depends on how well they assimilate in the labor market. One important determinant of this is whether immigrants who are more successful or less successful in the labor market return. As Borjas and Bratsberg (1996) argues, if the returners tend to be the more successful migrants, we would observe a downward biased rate of assimilation of immigrants to the host country economy. This would also imply that for a given cohort of immigrants, we would see a higher participation rate in the welfare system of the host country.

Therefore, it is important to know the determinants of return migration and how immigrants who return to their home countries are selected in terms of their labor market ability. For instance, if a host country is designing immigration policies to combat social security problems or temporary worker shortages, it needs to take into consideration that some of these immigrants will return to their home countries. Or if a source country government is designing outmigration policies to increase domestic physical or human capital with the return of its citizens, it would like to know how the returners will be selected in terms of their labor market ability and, therefore, their capital holdings.

Immigrants' return decision will be influenced by their demographic characteristics and labor market outcomes as well as the macroeconomic environment. There are two important macroeconomic factors that influence immigrants' re-

[1] Based on a survey of Turkish emigrants from Germany in Turkey, Dustmann and Kirchkamp (2002) report that only 6 percent worked as salaried workers after return, whereas 51 percent of the returners operated small businesses. The other 43 percent were retired. Another interesting fact that Dustmann and Kirchkamp report is that the median age of the retirees among the returners was 45. This suggests that some immigrants were able to accumulate enough assets by a relatively early age to spend the rest of their lifes as rentiers. The facts that half of these migrants engaged in entrepreneurial activities after return and that most of the rest lived as rentiers suggest that the major motivation for their immigration was asset accumulation.

[2] Immigrants' remittances are a huge support factor for the balance of payments of some source countires. For instance, for India, the top receiver country, remittances are equal to 2.6% of its GDP. For Mexico and Turkey, these figures are 1.7% and 2.3%, respectively (IMF, 1999).

turn decision. These are the purchasing power parity and the relative wages between Turkey and Germany. Purchasing power parity is important because it determines the value of immigrants' asset holdings after returning to their home countries. Relative wages are also important because the difference between the wages in Germany and those in Turkey is a measure of the opportunity cost of returning. In order to identify the effect of these two macroeconomic factors, we exploit the time variation in their values.

Section 2 provides a short examination of the background of Turkish immigrants in Germany and the literature on return migration. Section 3 explains the data used in the study. In section 4, we explain the empirical methodology and present the results. Section 5 concludes.

2 Background and Related Literature

This study analyzes the behavior of the guestworkers of 1960's and 70's who immigrated to Germany under a bilateral agreement between the German and Turkish governments. The initial goal of the guestworker recruitment system was to have these migrants work in Germany for a limited number of years and replace them with new ones once their permit expired. While most of the migrants in fact went back, some stayed. Paine (1974) reports that, in practice, if these guestworkers maintained their employment status in Germany for a few years, they were able to stay. In 1973, after the oil price shocks, recruitment of new immigrant workers came to a halt. However, immigration continued mostly in the form of family reunification. [3]

The German government actively recruited immigrant workers by opening recruitment posts in the capitals and major cities of these countries. Residents of these countries who were willing to go to Germany registered at these agencies and were matched with employers in Germany. There was a high demand in these countries for immigration to Germany, which meant that German agencies could be selective. According to Martin (1980) "With 10 Turks wanting to work in Germany for each one recruited by employers, the Germans could be selective, and they were. Some 30 to 40 percent of the Turks recruited to work in Germany were skilled workers in Turkey who worked as manual laborers in Germany. By 1970, for example, 40 percent of Turkey's carpenters and stonemasons were employed in Germany, often as assembly line or unskilled workers."

The literature has identified a number of determinants of return migration. Borjas and Bratsberg (1996) emphasize that return migration may be part of an optimal life-cycle location decision. At the time they immigrate, migrants realize that after they acquire physical or human capital in the host country, it may be optimal for them to return because the returns to that type of capital are higher in the home country. If the home country has lower prices, the assets that migrants accumulate in the source country will have higher purchasing power at home. Another reason for return migration, noted by Hill (1987),

[3] Only 10% of the migrants in our sample entered Germany after 1973.

is that migrants have a preference for location. Return migration may also be the result of unexpected events, either in the host country or in the home country (Berninghaus and Siefer-Vogt, 1992). Unexpected changes in earnings or in preferences for living in Germany, for instance due to the death of family members back at home, might alter migrants' decisions.

3 Data

The data set we use is the German Socio-Economic Panel (GSOEP). This is a longitudinal dataset of households in Germany that contains an oversampled group of immigrants from five Mediterranean countries, of which three are members of the European Union (Greece, Italy and Spain) and two are not (Turkey and Ex-Yugoslavia). In this paper, we restrict our analysis to Turkish immigrants only. We use the 2000 version of the GSOEP, which contains annual information from 1984 to 2000 on return migration and labor market outcomes (employment status and earnings) as well as retrospective information on labor market status. In addition, we have information on demographic characteristics like marriage status, number of children and schooling of immigrants. We also know the age and calendar year immigrants in our sample entered Germany.

The sample we use is a random sample of the immigrants in Germany in 1984. Since some immigrants already returned to their home country by 1984, this is not a random sample of the initial cohorts of immigrants but rather a stock sample of immigrants in 1984. For this reason, we use the standard techniques in duration analysis to handle stock samples.

Another issue in the data with regard to our model is that there is no information about asset holdings. Therefore, we generate a proxy variable for immigrants' asset holdings. We observe immigrants' earnings since 1983. There is a minimum consumption level (subsistence income level) in Germany defined by the government that depends on the household size and composition. Using information on marriage status and number of children, we generate the subsistence income level for each household. Using this information along with earnings information, we generate the saving potential for each year we have earnings information. Then, for each year, savings potential is calculated by first averaging the saving potentials up to that year and multiplying this average by duration of residence.

The sample we use is restricted to males who entered Germany after the age of 18. We want to analyze the behavior of immigrants who made the choice to immigrate to Germany. That is why we drop the immigrants who were younger than 18 at the time of entry to Germany, who presumably could not have made the decision to migrate themselves, but were tied movers along with their family.

4 Empirical Methodology and Results

We use Cox proportional hazard model in our estimation. In this model, the hazard at time t, $h(t)$, is defined as:

$$h(t) = h_0(t) \exp(\beta_1 x_1 + ... + \beta_k x_k)$$

Above, $h_0(t)$ is the baseline hazard, $x = (x_1, ..., x_k)$ are the control variables. The Cox proportional hazard model provides estimates of $\beta_1, \beta_2, .., \beta_k$, but not of the baseline hazard.

The control variables include demographic characteristics like age at entry, marriage status at entry, number of children at entry, high school completion status, whether the immigrant belong to 1974-1983 cohort[4]; labor market characteristics like average household income up to that year, employment status last period as well as its interaction with age, whether the immigrant is qualified to retire and its interaction with number of years since qualification; and variables characterizing the macroeconomic environment –the ratio of wages in Turkey to those in Germany at purchasing power parity and its interaction with age–. To capture the savings motive in immigration, we control for the potential savings of immigrants interacted with the purchasing power parity between Germany and Turkey as well as its interaction with age. In addition, we have two calendar year controls: one for 1984 when the German government implemented a policy to encourage return migration by providing financial bonuses conditional on return and another one for years after 1991 to control for any potential effect of unification of Germany.

The key assumption of the proportional hazard models, as the name suggests, is that hazard ratio is proportional over time. Therefore, we test this assumption. This is basically a test of $\beta_k(t) = \beta$ for all t. The test indicates that marriage at entry status variable clearly violates the proportional hazard assumption. Therefore, we use a stratified proportional hazard model, where the stratification is based on marriage status at entry.

In the stratified proportional hazard model, the coefficients are assumed to be the same; however, the baseline hazard function is allowed to vary by strata. Below i denotes the stratum.

$$h(t) = h_{0i}(t) \exp(\beta_1 x_1 + ... + \beta_k x_k)$$

Table 1 displays the results of this stratified proportional hazards model.

[4] Guestworker recruitment program ended in 1973.

Table 1: Cox Estimation - Stratified By Marriage Status At Entry

	Hazard Ratio	P-value
Age at entry	1.446	0.001
Child at entry	1.473	0.192
High School	0.934	0.860
74-83 Cohort	0.943	0.934
Mean HH Income / 1000	0.960	0.007
ppp * PotentialSavings / 1000	1.005	0.000
Age * ppp * PotentialSavings / 100000	0.993	0.000
Wage * 100	1.231	0.022
Age * Wage	0.730	0.047
QualifiedtoRetire	2.872	0.017
YearsQualified * QualifiedtoRetire	0.746	0.005
LagUnemp * 10	1.904	0.001
Age * LagUnemp	0.895	0.002
1984	1.607	0.267
1991-1999	1.170	0.771
Log-likelihood	-234.401	
Wald test (d.o.f)	133.61(15)	0.000
N. of observations	2844	
N. of individuals	310	
N. of events	64	

With respect to immigrants' demographic characteristics, we find that immigrants who enter Germany at older ages are more likely to return. Number of children at entry (the model already controls for marriage status at entry because stratification is based on it), high school completion status, whether or not the immigrant entered as a guestworker turn out to be insignificant.

Labor market outcomes are important determinants of return migration. What we find is that unemployment makes immigrants more likely to return. This effect is stronger for younger immigrants compared to older immigrants. In addition, higher income immigrants are less likely to return. Both of these facts indicate that return immigrants are negatively selected in terms of their observed labor market characteristics. This has important implications for both the source and host countries. In the host country, economic assimilation will be faster than it would be at the absence of return migration. Therefore, we can claim that return migration attenuates the burden of immigrants on the welfare system in Germany. The fact that lower income immigrants are more likely to return to their home country implies that the amount of physical and human capital they will take back to their home country will be lower than the immigrant population have on average.

In order to control for the influence of the macroeconomic conditions, we

used the ratio of wages in Turkey to that in Germany. The findings show that as the relative wages in Turkey increase, immigrants become more likely to return. This effect diminishes as an immigrant gets older. This finding should not be necessarily interpreted as higher earnings potential in their home country pulls immigrants back. A higher earnings potential is highly correlated with the overall macroeconomic stability and performance of the source country. Therefore, a higher relative wage may also imply a higher return to investment on accumulated wealth or better social services on health, education, and so forth.

We find that an increase in the purchasing power of immigrants' potential accumulated savings increases their return rates. This supports the hypothesis that these immigrants went to Germany to accumulate wealth. As expected, as an immigrant ages, the purchasing power of his accumulated savings become less important as he has a shorter life span left to consume them.

We find that qualification for retirement, under the rules of Germany retirement system, has a very strong effect on return migration. However, as the duration of retirement increases, retired immigrants become less likely to return. In other words, immigrants prefer to return as soon as they retire.

Both the unification and the financial bonus policy conditional on return turn out to be insignificant in influencing Turkish immigrants' return decision.

5 Conclusions

In this paper, we present a clear empirical evidence for the savings motive in immigration. We find that as the purchasing power of their savings potential of immigrants increase, they become more likely to return.

The other significant finding is that return migrants are negatively selected in their labor market outcomes: They are more likely to be unemployed and they have lower earnings compared to stayers. These imply that their economic assimilation to the host country will be faster than it would be at the absence of return migration and return migration will attenuate the pressure they might put on the welfare system of the host country. From the source countries' perspective, this implies that the amount of capital –both as human capital and as accumulated wealth– that immigrants bring back with their permanent return will be limited.

We also find that return rates increase significantly with retirement and that immigrants who enter Germany at older ages are more likely to return.

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