

Return Migration by German Guestworkers: Neoclassical versus New Economic Theories

Amelie Constant and Douglas S. Massey*

ABSTRACT

Neoclassical economics and the new economics of labour migration posit very different motivations for international migration. The former assumes that people move abroad permanently to maximize lifetime earnings whereas the latter assumes they leave temporarily to overcome market deficiencies at home. As a result, the two models yield very different conceptualizations of return migration. We draw upon each theoretical model to derive predictions about how different variables are likely to influence the probability of return migration. We use data from the German Socio-economic Panel to test specific hypotheses derived from each model. Finding some support for both perspectives, we suggest that migrants may be heterogeneous with respect to their migratory motivations. If so, then parameters associated with the determinants of return migration in any population of international migration will reflect a blending of parameters associated with two distinct economic rationales. Equations estimated separately for remitting and non-remitting migrants lend support to this interpretation, meaning there may not be one unitary process of return migration, but several.

INTRODUCTION

From the late 1950s through the early 1970s, Germany imported millions of immigrant workers. Considered to be “guests” at the time, they were recruited to work in German factories and services to relieve what was seen as a temporary labour shortage. To satisfy employers, German authorities negotiated a series of binational guestworker agreements with different countries, beginning with Italy in 1955, Spain and Greece in 1960, Turkey in

* Population Studies Center, University of Pennsylvania, Philadelphia, USA.

1961, Portugal in 1964, and, finally, the former Yugoslavia in 1968. Agreements were also negotiated with Morocco in 1963 and Tunisia in 1965, but these nations never contributed many workers. Unlike immigrants to the United States, guestworker migrants were viewed as short-term entrants and were expected to comply with what German bureaucrats called the *rotationprinzip* (rotation principle), under which they would enter and work during economic booms but return or stay home during periods of recession. Thus, German law authorized only one-year work permits that were tied to a specific job and a particular employer, who could renew the permits but could not dismiss guestworkers during the year specified.

Initially, this principle probably coincided with the motivations of both employers and migrants. The former expected the need for foreign workers to last only until the next recession, whereas the latter sought to work abroad temporarily to solve specific economic problems at home (Bohning, 1981). The first guestworkers were generally young men unaccompanied by wives or children. As the postwar boom went on, however, the labour shortage proved not temporary but chronic, leading employers to demand more guestworkers and to extend the working permits of those already present. The migrants, meanwhile, found that once their initial economic goals had been met, new needs arose, leading to additional trips of longer duration (Piore, 1979). Although some of the migrants may indeed have “rotated”, they generally returned home only for short visits before coming back to jobs in Germany.

The situation changed dramatically in late 1973. The Arab Oil Boycott organized in the wake of the Yom Kippur War sent the European economy into a deep recession, and in November of that year Germany suspended guestworker recruitment. Authorities expected the migrant population to dwindle slowly as visas expired and the guests rotated out. They were surprised to discover, however, that neither employers nor guestworkers behaved according to plan (Martin and Miller, 1980). Employers wished to avoid the costs of recruitment and retraining, and thus sought to extend the visas of the foreign workers they already had. The migrants, meanwhile, did not want to give up their good jobs and steady incomes, so they stayed put. Rather than leaving, they sought to sponsor the entry of their wives and children. After dipping slightly in 1974, the foreign population of Germany rose and its composition shifted increasingly from workers to dependents. Since 1974 most immigrants to Germany have come through family reunification.

The enlargement of the European Union (EU) in the 1980s and 1990s granted certain former guestworkers (those from Greece, Spain, and Portugal) the right to come and go as they pleased (a right long accorded to Italians). Paradoxically, the incorporation of these countries into the EU and the granting of free labour rights to their citizens led not to more immigration and settlement, but to substantial return migration. In addition, with the collapse of the Soviet Union in

1989 and the parting of the Iron Curtain, millions of ethnic Germans poured into a reunited Germany from countries to the east. By the end of the millennium, the immigrant population of Germany had risen to more than 10 per cent of the total, not counting ethnic Germans born abroad.

Although authorities were surprised by the resistance of guestworkers and employers to return migration, significant numbers of immigrants did nonetheless return after 1973, though rates and patterns of exit differed from country to country. Return migration is necessarily a selective process, and regardless of whether emigrants are positively or negatively selected, their departure has important implications for a nation's population, society, and economy. Given its selective character, moreover, return migration also has important implications for research, as the immigrants who remain in a host country at any point in time are not a representative sample of the cohort that originally entered, creating the potential for significant bias whenever cross-sectional data are used to study patterns and processes of assimilation (Borjas, 1985). Emigration is also important in attempting to understand the economic and demographic consequences of immigration (Reagan and Olsen, 2000; Duleep, 1994).

Despite the importance of emigration theoretically, methodologically, and substantively, social scientists know relatively little about it. In this paper we seek to deepen understanding of return migration as a social and economic process by undertaking a detailed analysis of foreign born emigration from Germany. We develop two independent lines of theoretical reasoning, deriving contrasting hypotheses about return migration from neoclassical economics (NE) and the new economics of labour migration (NELM). Then, drawing on a longitudinal data set that contains a large sample of foreigners in Germany, we examine the characteristics of immigrants who return, estimate event history models of the decision to return, and consider the effect of the undercounting on our estimates. Finding support for both theoretical models we suggest a heterogeneity of migratory motives among foreigners in Germany and document the effect of this heterogeneity on estimates and interpretations of the determinants of return migration. Our results caution against an over-reliance on single theories in understanding and explaining international migration.

THE RATE AND SELECTIVITY OF RETURN MIGRATION

A major problem in studying return migration is the lack of reliable data. The United States, for example, does not keep *any* statistics on emigration. Indirect estimates suggest that emigration during the 1960s ran at about one-third of immigration, with the rate being highest among recent arrivals (Warren and Peck, 1980). A replication of this analysis found that emigration dropped to around 27 per cent of immigration during the 1970s, with most leaving within ten years of arrival (Warren and Kraly, 1985). Emigration rates appear to

have fallen further in the 1980s, but varied substantially by nationality, ranging from 3.5 per cent among Asians to 35 per cent among North Americans (Borjas and Bratsberg, 1994).

Using cohort data on legal US immigrants, Jasso and Rosenzweig (1982) found that cumulative emigration ranged from 20 per cent to 50 per cent over ten years, but varied according to economic conditions in the home country and proximity to the United States. In general, Europeans were most likely to emigrate, Asians were least likely, and immigrants from the Americas were in-between (Jasso and Rosenzweig, 1990). For its actuarial assumptions, the US Social Security Administration currently assumes that annual emigration amounts to 30 per cent of yearly immigration, but the Census Bureau now assumes a rate about half this level (Duleep, 1994).

If researchers are unsure about the rate immigrants return home, they are less confident about the characteristics of those who leave. Jasso and Rosenzweig (1988) found that skilled immigrants had a higher probability of return migration. In contrast, Borjas (1989) found that among foreign scientists and engineers, returnees were less successful economically. Massey (1987) found the same pattern of negative selectivity in his study of unskilled Mexican migrants, and Lindstrom and Massey (1994) also showed that Mexican emigrants were negatively selected with respect to human capital. Chiswick (1986), however, found little evidence that emigration was selective with respect to schooling.

Reagan and Olsen (2000), using data from the National Longitudinal Survey of Youth, compared patterns of return migration among male and female immigrants. They did not find a gender differential but they did uncover lower probabilities of return migration among those who had arrived at younger ages, those with higher potential wages, those with more years in the US, and those participating in welfare programmes. Duleep (1994) characterizes the emigration of foreigners either as “mistaken migration”, where disillusioned immigrants return home soon after arrival, or “retirement migration”, where immigrants returned home after labour force withdrawal at older ages.

Theoretically, Borjas and Bratsberg (1994) show that depending on whether immigrants are positively or negatively selected at arrival, emigration amplifies the original selection process at both tails of the distribution. If they are positively selected, return migrants tend to be the worst of the best; if they are negatively selected, returnees are the best of the worst. These theoretical findings are consistent with the empirical results of Ramos (1992), who used US census data to show that Puerto Rican migrants to the US mainland were negatively selected as a group, but that returnees were the most skilled among them.

Thus, theory and evidence from the United States suggest that selection for return migration may be either positive or negative, depending on a variety of

circumstances. A similarly complex picture emerges from studies carried out for other groups and countries. Barrett and Trace (1998) show that returning emigrants from Ireland have higher educations than those who remain abroad. In contrast, Bauer and Gang (1998) found that Egyptian return migrants were negatively selected with respect to skill, and having prior migrant experience and access to social networks abroad shortened that length of stay. Sending remittances home also lengthened trips, a finding also found among unskilled Mexican immigrants to the US (Lindstrom, 1996).

The few studies of return migration from Germany are based on selected subsamples of immigrants and generally rely on self-reported *expected durations* of stay, which are assumed to proxy actual behaviour. These studies usually show that greater integration yields longer intended durations of stay. Dustmann (1993), for example, used a theoretical life-cycle model with endogenous return intentions to show that rising years since migration, speaking German, being married to a German, and having young children increased intended duration of stay. Steiner and Velling (1994) likewise found that intended duration rose with years since migration, education, German language ability, property ownership, having young children, and "feeling good" about Germany, but decreased with remitting, unemployment, and having children in the country of origin. As with immigrants in the United States, they found no gender differential.

Schmidt (1994) used longitudinal data from the first six waves of the German Socio-economic Panel (GSOEP) to examine return migration by blue collar immigrants. He assumed that panel attrition was independent of emigration and estimated that the overall probability of return migration was around 21 per cent, although the rate varied across countries of origin, decreased with education, rose when a spouse lived abroad, and was convex with respect to age. Having children in the home country and being unemployed decreased the intended length of stay. Unlike most other studies, however, Schmidt found no effect of years since migration. In his study of return migration for family reunification, Velling (1994) found no effect of gender, education, nationality, or years since migration. The odds of return were greater, however, for migrants who were less successful economically, who remitted regularly, and who were older.

THE DECISION TO RETURN

Results to date, therefore, suggest that return migration is a rather complicated socio-economic process and that its degree and nature of selectivity varies from group to group, depending on factors such as the selectivity of the original in-migration, conditions in sending and receiving countries, and other unknown and perhaps unobservable factors. Economic theory offers two different perspectives on return migration. Neoclassical economics (NE) views return migration as a cost-benefit decision, with actors deciding to stay or return in order

to maximize expected net lifetime earnings (Sjastaad, 1962; Todaro, 1976). According to this logic, immigrants originally move in response to higher wages in the receiving nation, which they expect to yield higher lifetime earnings. In the absence of a reduction in the binational wage differential, return migration should only occur if a migrant's expectations for higher net earnings are not met – because of under- or unemployment, because wages are lower than expected, or because the psychic costs of moving are higher than anticipated (i.e., they find they unexpectedly miss their homeland, its culture, and its people). In this sense, NE tends to view return migrants as “failures”, what Duleep (1994) calls “mistaken migrants” (though see Borjas (1994) for another interpretation based on real versus nominal wage differentials).

This logic would explain why the hazard of return migration is greatest just after arrival and falls over time. It also predicts negative selectivity with respect to wages, employment, and occupational achievement in the destination country – if migrants were successful on these dimensions why would they return home? Selectivity with respect to human capital depends, however, on how it is rewarded at origin and destination (Massey et al., 1998). Skills and education acquired in the country of origin are usually difficult to transfer and thus, are rewarded more at home than abroad, implying positive selection with respect to pre-migration schooling. In contrast, human capital acquired within the host country increases the immigrant's potential earnings there and will be imperfectly rewarded at the place of origin, suggesting negative selection with respect to post-migration, experience, education, and training.

In the neoclassical model, social attachments generally operate on the cost side of the equation. Attachments to people and institutions in the origin country lower the costs of going home, both psychic and monetary, and they raise the costs of remaining abroad. In contrast, attachments at the place of destination operate in precisely the opposite direction – raising the costs of return migration while decreasing the costs of staying. Migrant remittances, however, are anomalous under neoclassical assumptions; other things equal, migrants should use earnings to maximize utility in the host country rather than undertaking spending at home. NE, thus, emphasizes permanent out-migration.

A second perspective on return migration comes from a body of theory known as the new economics of labor migration (NELM), which views migration as a response to market failures at home rather than as an adjustment to international disequilibria in labour markets (Stark, 1991). Under this model, people seek to migrate abroad temporarily for limited periods of paid labour, either to remit earnings or accumulate savings in anticipation of an eventual return home. They are generally target earners, and once their earnings targets have been met, they go home (Piore, 1979). By generating remittances, migrants diversify sources of household income to manage risk in the absence of well-functioning insurance markets in sending nations; and by saving over a fixed time horizon they

overcome missing markets for capital and credit to accumulate funds for investment or consumption in their home communities. NELM, thus, views return migrants not as failures, but as “successes”: people who have met their income goals and are returning home to enjoy their success. Rather than being a mistake, return migration represents the final stage of a pre-established plan. NELM, thus, emphasizes temporary or recurrent migration.

Unlike NE, therefore, NELM predicts that return migrants will be *negatively* selected with respect to work effort. Those migrants who work fewer hours per week will have to remain abroad longer to meet a given income target. By the same token, return migrants under the new economics should be *positively* selected with respect to earnings. The higher the wages, the less time it will take to meet an income goal. As with NE, however, a lack of attachment to employment predicts a return journey, as the *raison d'être* for migration has disappeared. Indeed, because target earners only seek short-term access to paid labour, unemployment should *more strongly* predict their return compared with the income-maximizing migrants hypothesized under NE. The latter are present for the long haul and will thus spend more time looking for a new job before giving up and going home.

Work is not only a matter of money, of course, but also of status. While NE generally considers occupational prestige to be a non-monetary benefit in the cost-benefit calculus, NELM views prestige as irrelevant – temporary migrants are only there for the money and don't care if they have a low social status; what is important is the status at home that foreign earnings can buy. Indeed, indifference to low social status is one of the traits that makes immigrants attractive to employers in the first place (Piore, 1979).

NELM also predicts a relative lack of selectivity with respect to human capital. While the migrants hypothesized by NE aim to maximize income and thus move to wherever their human capital is most highly rewarded, those hypothesized by NELM are simply out to meet a specific income target, and once that goal is achieved they will return home no matter how much human capital they have.

Although social attachments to the sending country generally work in the same direction under both economic models, we expect them to operate more powerfully in promoting return migration under NELM. While the migrants hypothesized by NE may have left spouses or children at home, their goal is ultimately to achieve higher lifetime earnings through permanent resettlement abroad. As a result, they are willing to endure relatively long separations until proper arrangements can be made for family reunification. The migrants envisioned by NELM, in contrast, are target earners. Thus, having a spouse and children at home increases the incentive to work harder to reach the earnings goal sooner rather than later. Finally, although remittances are anomalous under NE assumptions, they are a fundamental goal of migration under those of NELM,

and the greater the remittances the sooner the migrant can be expected to achieve a particular target and return home.

Finally, the two theoretical models carry opposite predictions with respect to the presence of a spouse in the host country. Under NE, the presence of a spouse lowers the costs of remaining abroad and thus reduces the likelihood of return. Under the NELM, in contrast, the presence of a second potential worker increases the household's ability to meet a given earnings target and thus promotes shorter trips and higher probabilities of return. The presence of children, however, detracts from the mother's work effort and thus reduces the odds of return, as under the neoclassical model. As to other attachments, such as birthplace, home ownership, identity, and citizenship, the new economics does not hypothesize any particular effect, unless these variables are somehow associated with a larger earnings target.

DATA

Our analysis is based on data from the GSOEP, a nationally representative longitudinal survey developed at the Universities of Frankfurt and Mannheim for the Institute for Economic Research at the Free University of Berlin. It was launched in 1984 within the Federal Republic of Germany (West Germany) with about 12,000 respondents, including some 3,000 legal immigrants. The original cohort included persons from Italy, Greece, Spain, former Yugoslavia, and Turkey – the principal sources of guestworker migration prior to 1973. The first wave covered only non-institutionalized respondents, but if members of the original panel were later institutionalized they were followed and kept in the survey.

Each year the GSOEP interviews members of baseline households who are 16 or older at the survey date. Thus, the panel expands over time as the children of persons in the original panel turn age 16. After 1990, the panel was expanded to include Germans living in the former German Democratic Republic (East Germany) and in 1996 was further enlarged to include immigrants from Eastern Europe. The most important feature of the GSOEP from our viewpoint is that it oversamples immigrants and provides data on certain pre-migration characteristics, as well as their social, economic, and political status in Germany (Wagner et al., 1993). The GSOEP is also well-suited to studying return migration because it makes special efforts to follow people who move and to track and retain them when they return from temporary absences abroad. Respondents who emigrate permanently are specifically coded by the GSOEP and those who leave the panel through death are also indicated.

Our sample includes immigrants who entered as guestworkers from Italy, Greece, Spain, former Yugoslavia, and Turkey and members of their households

who turned age 16 between 1984 and 1997 (and members of households the latter may have formed). We excluded immigrants who were on active military duty (around a dozen people) as well as those who were added to the panel after German reunification. As can be seen in Table 1, the baseline sample includes 3,010 immigrants surveyed in 1984. Each year thereafter the panel was decreased by death, emigration, temporary absence, or refusal and was increased by the entry of new respondents turning age 16 and the re-entry of respondents after a temporary absence. Across all 14 years of the panel, 888 respondents were present in all survey waves; 765 emigrated; 71 died; 1,603 were added to the panel; and 1,359 missed at least one year and then returned. In total, we observed 33,493 person years of information.

TABLE 1
YEARLY OBSERVATIONS OF IMMIGRANTS EXTRACTED FROM
GERMAN SOCIO-ECONOMIC PANEL BY GENDER

Wave	Year	Males	Females	Total
1	1984	1,592	1,418	3,010
2	1985	1,375	1,226	2,601
3	1986	1,349	1,180	2,529
4	1987	1,345	1,197	2,542
5	1988	1,275	1,160	2,435
6	1989	1,237	1,167	2,404
7	1990	1,242	1,145	2,387
8	1991	1,241	1,148	2,389
9	1992	1,224	1,148	2,372
10	1993	1,220	1,139	2,359
11	1994	1,158	1,110	2,268
12	1995	1,089	1,053	2,142
13	1996	1,043	1,018	2,061
14	1997	1,015	979	1,994
Person Years	1984- 1997	17,405	16,088	33,493

Our theoretical review discussed a variety of determinants of emigration, which can generally be grouped under six headings. The first is *human capital*, which consists of personal traits and characteristics that affect a migrant's productivity. Here a fundamental distinction is between experience, education, and skills acquired in sending versus receiving nations. The second, *work effort*, is basically the number of hours worked per week. The third is *attachment to employment*, or the degree an immigrant participates in the paid labour force at place of destination. The fourth category is *socio-economic achievement* – the

social and economic benefits earned by immigrants through their participation in the labour market. The fifth category is *attachment to Germany* and the last is *attachment to country of origin*. The attachments may be social (having close relatives at home or abroad), economic (owning property at origin or destination), psychological (feelings of comfort in sending versus receiving contexts), or political (citizenship and legal status at origin and destination).

Table 2 summarizes how we operationalize variables in each category using data from the GSOEP and the predicted direction of their effects. The only measure of pre-migration human capital is years of schooling in the home country. All other indicators of human capital refer to skills and abilities acquired in Germany. German experience is measured as years since migration (or years since birth among foreign nationals born in Germany). German education is measured categorically by the kind and level of schooling completed (primary-secondary, technical high school, academic high school [*abitur*], or other). We also measure whether a respondent has received any specific vocational training in Germany and his or her degree of fluency in the German language. As the table indicates, whereas NE predicts positive selectivity with respect to home country schooling and negative selectivity with respect to human capital acquired in Germany, NELM predicts no selectivity at all.

Work effort is measured in terms of three categories. Full time employment (35+ hours per week) serves as the reference category, and is compared with those working part-time (under 35 hours) and those in training. The three remaining categories fall under the rubric of attachment to employment: those who work irregularly, those officially registered as unemployed, and those out of the labour force. As noted earlier, NE generally views return migrants as failures, yielding a prediction of positive selectivity with respect to labour force attachment. NELM also predicts that migrants return home upon loss of employment, however, it predicts that those working fewer hours will be less likely to return home. Hence, the expected negative effect for work effort.

The socio-economic achievements we consider are earnings and occupational prestige. As discussed above, the neoclassic and new economic theories yield contrasting predictions about earnings, with NE predicting negative selectivity and NELM predicting positive selectivity. The Treiman International Occupational Prestige Scale (Treiman, 1977) measures occupational prestige, and again the theoretical predictions contrast. The NE hypothesizes positive selectivity with respect to occupational status, while NELM predicts no selectivity at all.

The GSOEP provides a rather complete set of indicators of attachment to the host country, including whether the respondent's spouse was in Germany; whether the respondent had children in Germany; whether the respondent was born in Germany; whether he or she owned a home in Germany; and whether

he or she was a German citizen. As shown in Table 2, NE theory predicts negative effects for these indicators on the probability of return migration. In contrast, NELM predicts a positive effect for the presence of a spouse, a negative effect for the presence of children, and no effects for other indicators of social attachment to Germany.

TABLE 2
THEORETICAL VARIABLES AND THEIR DEFINITIONS
IN MODELS PREDICTING THE RETURN MIGRATION
OF IMMIGRANTS FROM GERMANY

Variable	Definition	Predicted direction of effect	
		NE	NELM
Human capital			
Home country schooling	Years of schooling or vocational training at home	+	0
Time since migration	Years since migration	-	0
German education			
No degree	Reference		
Primary-secondary	Attended primary or secondary school in Germany	-	0
Technical	Finished technical school in Germany	-	0
<i>Abitur</i>	Finished academic high school in Germany	-	0
Other	Completed other degree in Germany	-	0
German vocational training	Obtained vocational training in Germany	-	0
Fluent in German	Speaks German fluently	-	0
Work effort			
Full time	Reference (works 35+ hours/week)		
Part time	Respondent works part time	+	-
In training	Respondent in training	+	-
Attachment to employment			
Marginally employed	Respondent works irregularly or is minimally employed	+	+
Unemployed	Respondent is registered as unemployed	+	+
Not employed	Respondent not working or looking for work	+	+
Socio-economic achievement			
Earnings	Weekly gross earnings in 100 DM	-	+
Prestige	Value on Treiman International Occupational Scale	-	0

TABLE 2 CONTINUED

Variable	Definition	Predicted direction of effect	
		NE	NELM
Attachment to Germany			
Spouse in Germany	Married with spouse in Germany	-	+
Children in Germany	Children <16 in household	-	-
German born	Respondent born in Germany or entered before 1949	-	0
Own home	Respondent owns home in Germany	-	0
Feel German	Respondent feels "totally German"	-	0
German citizen	Respondent has German citizenship	-	0
Attachment to origin			
Spouse in home country	Married with spouse outside Germany	+	+
Children in home country	Children <18 in home country	+	+
Remitted	Respondent sent money to friends or relatives at home	0	+

Notes: NE=Neoclassical Economics; NELM=New Economics of Labour Migration

Attachment to country of origin was measured by three indicators: whether the respondent's spouse was living outside of Germany, whether the respondent had children under age 18 in the home country, and whether the respondent sent remittances home. As remittances are anomalous given neoclassical assumptions they are hypothesized to have no effect under that model, whereas the effect posited by the new economics is decidedly positive. Both theoretical models predict the same effects for having a spouse and children in Germany. The dependent variable – whether or not a respondent emigrated in a given person year – was constructed by following respondents year by year from the time they enter the panel (in 1984 or whenever they turned age 16) up through the last observation (the date of the survey, death, emigration). The year in which a respondent emigrated was coded as 1 and all prior years were coded as 0.

Our analysis included several substantive controls. The first two are demographic: the sex and age of the respondent during the person year. We also controlled for region of origin by creating dummy variables to indicate Turkish, ex-Yugoslav, and EU nationality. Place of destination was indicated by a set of dummy variables indicating the ten states of the Federal Republic of Germany, including the city-states of Berlin and Hamburg (with the former serving as the reference). Finally, we controlled for period by including a series of dummy variables to indicate specific years (with 1984 serving as the reference).

Table 3 shows means and standard deviations for the foregoing variables, computed across person years. In general, the respondents evinced modest endowments of human capital. During the average year of observation, the typical respondent had 4.8 years of home-country schooling and had been in Germany for 19 years. The vast majority had completed no schooling in Germany (73% reported nothing at all), although 17 per cent did complete primary or secondary school and 17 per cent indicated they had received some vocational training in Germany. Roughly a quarter of the respondents spoke fluent

TABLE 3A
MEANS AND STANDARD DEVIATIONS OF VARIABLES USED IN ANALYSIS
OF RETURN MIGRATION FROM GERMANY (Theoretical variables)

Variable	Mean	Standard deviation
Human capital		
Home country schooling	4.77	3.52
Time since migration	19.33	8.45
German education		
No degree	0.73	0.44
Primary-secondary	0.17	0.37
Technical	0.07	0.26
<i>Abitur</i>	0.01	0.10
Other	0.02	0.14
German vocational training	0.17	0.38
Fluent in German	0.24	0.43
Work effort		
Full time	0.55	0.50
Part time	0.05	0.21
In training	0.04	0.20
Attachment to employment		
Marginally employed	0.01	0.11
Unemployed	0.08	0.27
Not employed	0.27	0.44
Socio-economic achievement		
Earnings (100 DEM)	4.59	4.37
Prestige	27.87	13.16
Attachment to Germany		
Spouse in Germany	0.71	0.46
Children in Germany	0.57	0.50
German born	0.16	0.37
Own home	0.11	0.31
Feel German	0.05	0.22
German citizen	0.12	0.33
Attachment to origin		
Spouse in home country	0.02	0.15
Children in home country	0.06	0.23
Remitted	0.23	0.42

TABLE 3B
 MEANS AND STANDARD DEVIATIONS OF VARIABLES
 USED IN ANALYSIS OF RETURN MIGRATION FROM GERMANY
 (Control variables)

Variable	Mean	Standard deviation
Demography		
Mean age	37.49	13.56
Age category		
16-18	0.06	0.23
19-24	0.17	0.38
25-64	0.76	0.43
65+	0.02	0.13
Male	0.52	0.48
Nationality		
Turkey	0.33	0.47
Former Yugoslavia	0.18	0.38
European Union	0.37	0.48
Place of residence		
Berlin	0.04	0.19
Schleswig-Holstein	0.01	0.12
Hamburg	0.02	0.14
Lower Saxony	0.06	0.24
Bremen	0.01	0.08
North Rhein-Westfalia	0.27	0.44
Hessen	0.13	0.34
Rheinland-Pflaz-Saarland	0.05	0.21
Baden-Wurttemberg	0.28	0.45
Bavaria	0.14	0.34
Year		
1984	0.09	0.29
1985	0.08	0.27
1986	0.08	0.26
1987	0.08	0.26
1988	0.07	0.26
1989	0.07	0.26
1990	0.07	0.26
1991	0.07	0.26
1992	0.07	0.26
1993	0.07	0.26
1994	0.07	0.25
1995	0.06	0.24
1996	0.06	0.24
1997	0.06	0.24
Total person years	33,493	

Attachment to the labour force was generally bimodal. In 55 per cent of the person years, respondents were employed full time, in 27 per cent they were out of the labour force, in 5 per cent they were employed part time, in 4 per cent they were in training, and in 8 per cent they were unemployed. In only 1 per cent of person years were respondents marginally employed. They reported average weekly earnings of 459 Deutschmarks from a job that scored roughly 28 points on the Treiman International Occupational Prestige Scale.

During the typical person year, the vast majority of respondents were married with a spouse present in Germany (71%). Some 16 per cent were German born, 12 per cent were German citizens, and 11 per cent owned a home in Germany. Despite these connections and an average of 19 years spent in Germany, very few respondents reported that they actually “felt German”. Nonetheless, immediate family connections to the sending country were also sparse, with just 2 per cent of respondents reporting a spouse outside of Germany in the typical person year and 6 per cent reporting a child in the home country. Nearly a quarter of respondents reported sending remittances abroad in the average person year of observation. In terms of demography, 52 per cent of the respondents were male with an average age of 37. A third were Turkish nationals, 18 per cent were from the former Yugoslavia, and 37 per cent were from the EU. The largest concentrations of foreigners were observed in the states of Rheinland-Pfalz-Saarland (28%), North Rhein-Westfalia (27%), and Bavaria (14%).

THE PROCESS OF RETURN MIGRATION

In order to model the process of return migration we conducted a discrete time event history analysis that followed each respondent year-by-year from 1984 to 1997 and used logistic regression to predict whether the person emigrated during the person year, using the set of theoretical and control variables specified above. The results are summarized in Table 4, which contains coefficients and standard errors along with the associated odds ratios. As expected, return migration is hardly a random process. The fitted model is highly significant ($p < .0001$ for both the log likelihood ratio and chi squared statistic) and reveals pronounced selectivity with respect to a variety of characteristics.

As predicted by NE, emigration is negatively selective with respect to time since migration – the longer a person has been in Germany, the lower the likelihood of returning home (results similar to Borjas, 1989 and Dustmann, 1993). If mean values are inserted into the equation and time since migration varied from zero to 30 years to generate predicted probabilities, the probability of return migration is seen to be approximately .020 in the year immediately after arrival, falling to .017 in year five, .014 in year ten, and .012 in year 15, reaching .008 in year 30. Although the coefficient for the squared term is positive, it is not significant, meaning that the decline in emigration probabilities after arrival is nearly linear.

TABLE 4A
 DISCRETE TIME EVENT HISTORY ANALYSIS OF LIKELIHOOD OF RETURN
 MIGRATION AMONG IMMIGRANTS TO GERMANY, 1984-1997
 (Theoretical variables)

Predictor variables	Outcome: emigrated in person year		
	B	SE	Odds ratio
Human capital			
Home country schooling	0.027	0.014	1.027
Time since migration	-0.046*	0.014	0.955
Time since migration squared	0.0003	0.0003	1.000
German education			
No degree	-	-	1.000
Primary-secondary	0.192	0.143	1.212
Technical	-0.097	0.238	0.907
<i>Abitur</i>	-0.548	0.597	0.578
Other	0.312	0.276	1.367
German vocational training	-0.126	0.137	0.882
Fluent in German	-0.178	0.128	0.837
Work effort			
Full time	-	-	1.000
Part time	0.128	0.246	1.137
In training	-0.114	0.288	0.893
Attachment to employment			
Marginally employed	0.658*	0.341	1.931
Unemployed	0.767*	0.208	2.153
Not employed	0.753*	0.190	2.123
Socio-economic achievement			
Earnings (100 DEM)	-0.027	0.024	1.000
Prestige	0.004	0.003	1.004
Attachment to Germany			
Spouse in Germany	-0.303*	0.110	0.738
Children born in Germany	-0.207*	0.085	0.813
German born	0.189	0.199	1.208
Own home	-0.251	0.158	0.778
Feel German	-0.780*	0.303	0.458
German citizen	-0.573*	0.214	0.564
Attachment to origin			
Spouse in home country	0.749*	0.184	2.115
Children in home country	0.475*	0.138	1.607
Remitted	0.320*	0.099	1.377

Note: *p<.05

TABLE 4B
DISCRETE TIME EVENT HISTORY ANALYSIS OF LIKELIHOOD OF RETURN
MIGRATION AMONG IMMIGRANTS TO GERMANY, 1984-1997
(Control variables)

Predictor Variables	Outcome: emigrated in person year		
	B	SE	Odds ratio
Demography			
Age			
17-18	-	-	1.000
19-24	0.0003*	0.00004	1.000
25-64	-0.339*	0.145	0.712
65+	-0.297	0.284	0.743
Male	-0.026	0.088	0.948
Nationality			
European Union	-	-	1.000
Former Yugoslavia	-1.089*	0.131	0.336
Turkey	-0.814*	0.097	0.443
Place of residence			
Berlin	-	-	-
Schleswig-Holstein	-0.073	0.405	0.929
Hamburg	-0.069	0.341	0.933
Lower Saxony	0.034	0.260	1.034
Bremen	0.668	0.450	1.951
North Rhein-Westfalia	0.055	0.227	1.057
Hessen	-0.067	0.241	0.936
Rheinland-Pfalz-			
Saarland	0.051	0.271	1.053
Baden-Wuerttemberg	-0.065	0.229	0.938
Bavaria	0.046	0.241	1.047
Period			
1984	-	-	-
1985	-0.861*	0.149	0.423
1986	-0.964*	0.159	0.381
1987	-0.433*	0.137	0.649
1988	-0.863*	0.160	0.426
1989	-1.067*	0.178	0.344
1990	-1.348*	0.202	0.260
1991	-1.300*	0.203	0.273
1992	-1.300*	0.205	0.274
1993	-0.776*	0.173	0.460
1994	-0.999*	0.191	0.368
1995	-0.817*	0.186	0.442
1996	-1.275*	0.224	0.279
1997	-1.230*	0.224	0.292
Intercept			
	-2.280*	0.338	1.000
Log Likelihood	-3304.358*		
Chi Squared	685.877*		
Person Years	33,493		

Note: * $p < .05$

In keeping with expectations derived from NELM, return migration is not very selective with respect to other human capital characteristics, including fluency in German. Only one variable – schooling in the home country – approaches statistical significance at $p=.06$, suggesting some tendency for better educated migrants to return home. According to the odds ratio, each year of home country schooling raises the annual odds of return migration by 2.7 per cent.

The coefficients for part-time employment and in training are small, not even close to statistical significance, which is inconsistent with both theories but more of a challenge to NELM. In keeping with the precepts of both theories, however, return migration is quite selective with respect to attachment to employment. A lack of attachment, as indicated by marginal employment, unemployment, or noninvolvement in the labour force, strongly predicts return migration. Across all these indicators, a lack of stable full-time employment roughly doubles the odds of return migration (i.e. the odds ratios vary closely around a value of 2.0).

Holding constant the respondent's attachment to employment, return migration is not selective of occupational achievement. Neither earnings nor prestige significantly influence the likelihood of return. Those immigrants most likely to go home are those who "fail" to achieve stable employment, rather than those who "fail" to achieve high earnings or prestige. It is the lack of access to employment, not lack of prestige or remuneration, that promotes return migration.

The likelihood of return migration is also strongly determined by the range and nature of social attachments to Germany and origin countries. Having a spouse or children in Germany, and being a German citizen all strongly lower the probability of return migration, as does "feeling German". Yet, having a spouse and children outside of Germany strongly increase the likelihood of going home. The foregoing pattern of effects for social attachments is consistent with NE theory. The main challenge to that theory concerns remittances. Although NE does not predict remitting, nearly a quarter of all respondents sent money home, and those who remitted displayed significantly higher odds of returning.

Among control variables, we find that the effect of age is mildly curvilinear – moderate in the teen years, slightly higher during the years of college attendance and military service (19-24) when many children of immigrants return to their parents' country of origin for training or compulsory service, lower during the primary labour force ages from 25 to 64, and only slightly higher at ages 65 and older. When mean values are inserted into the logit equation to generate predicted probabilities, the likelihood of return is seen to vary little across age groups, fluctuating narrowly between .009 and .0012. Like others, we also found that the likelihood of return migration was not selective with respect to gender.

In terms of nationality, immigrants from EU countries are most likely to return home, those from the former Yugoslavia are least likely, and those from Turkey

are in-between, but generally much more like immigrants from the Balkans. Being of Yugoslav nationality reduces the odds of return migration by 66 per cent and being from Turkey lowers them by 56 per cent, compared with immigrants from the EU. There are no significant differences between the German states in the propensity to emigrate, and the probability of return migration appears generally to have declined over time, with a few cyclical ups and downs.

In sum, a detailed event history analysis of emigration by foreigners surveyed by the GSOEP suggests that those who return home are selected mainly in terms of their social and economic attachments to Germany and their sending nations. Those with weak employment attachment in Germany are more likely to return; those with strong social attachments to Germany are more likely to stay; and those with strong social and economic links to countries of origin are more likely to leave. Return migrants from Germany do not appear to be selected with respect to human capital or occupational achievement, whether measured in terms of earnings or prestige. Immigrants seemingly come to work and they remain in Germany irrespective of the wages and status they attain – as long as they have a stable job and don't have social attachments that raise the costs of leaving.

UNDERCOUNTEDEMIGRANTS

In the foregoing analysis, we assumed that the GSOEP coding of emigration was correct. Those respondents who were identified as emigrants were coded 1 in the year they left and 0 otherwise. Under this procedure, only 765 immigrants left Germany permanently over the 14 years of the panel. We noticed, however, that a much larger number of people (1,359 of 3,010 original respondents) left the panel for one or more years. This raises the possibility that some of these people are actually unrecorded emigrants. As always, determining when a “move” has taken place is problematic. Perhaps people who leave the panel for two or three consecutive years and subsequently return may have returned to their country of origin. Even if the absence is intended to be “temporary”, intentions are notoriously unreliable as guides to eventual behaviour.

In order to test the robustness of our findings with respect to alternative definitions of return migration, we recoded the outcome variable and replicated the analysis using a multinomial logit procedure. We defined any absence from the panel for three consecutive years as a likely return move, whether or not it was coded as emigration by GSOEP investigators. An absence of one or two years indicated a possible return trip. To operationalize these definitions, we went through the data set and recoded any respondent who left the panel for three consecutive years as having emigrated in the last record before the three-year absence. All years subsequent to this absence were excluded, even if the respondent later came back (a few respondents did return after being gone for three years). Those who left the panel for one- or two-year periods were coded

as unclear or possible emigrants during the last year before their exit from the panel and all prior years were retained in the analysis. The former category of “long-term return migrants” includes all those we suspect to be emigrants and the latter category of “short-term return migrants” includes some who may be emigrants but also may encompass many refusals and other losses to follow-up.

Using our more expansive definition of return migration, we observe 2,293 emigrants (respondents who left for three or more consecutive years) and 2,536 possible return migrants (those who left for shorter periods). We then repeated the discrete time event history using a multinomial specification to predict the likelihood that a respondent left the panel long term, left the panel short term, or remained in the panel (the reference category) during the person year in question. The results of this exercise are presented in Table 5.

The coefficients in the left-hand columns show the effect of theoretical variables on the likelihood of long-term return migration to consider how robust our findings are with respect to the potential under-recording of emigration. In general, we replicate the basic pattern of findings established earlier, except that the strength of effects is attenuated, as one might expect given the more liberal definition of return migration we employed. Time since migration remains negative, but the effect is weak and insignificant. As before, return migration is not very selective with respect to other indicators of human capital (with the exception of the ambiguous, but now significant, “other” category); and once again neither earnings nor occupational status bear on the decision to return. As in the original analysis, the principal determinants of return migration have to do with attachments to Germany and the country of origin. Unemployment significantly increases the odds of return migration, and whereas the effects of marginal unemployment and non-employment are no longer significant statistically, they are in the expected direction and close to significant at conventional levels ($p=.08$). Once again social and psychological attachments to Germany seem to deter return migration. Although the presence of a spouse is the only indicator of social attachment to Germany that attains statistical significance, with the exception of the citizenship variable, all carry the expected negative sign and the effect of German birth approaches significance at $p=.06$.

Social attachments to the country of origin again positively predict return migration. Having a spouse and children outside of Germany raise the probability of return migration. In this case, however, the influence of remittances is not significant, a result more consistent with the postulates of NE analysis. Among control variables, we observed a decline in the probability of emigration over time, although the trend is more pronounced than before. Emigrants from the former Yugoslavia continue to be the least likely to return, followed by Turks, and then those from the EU. In the current model specification, however, we observe some modest regional effects, with lower rates of return migration from Lower Saxony, North Rhein-Westfalia, Hessen, Rheinland-Pfalz-Saarland, Baden-Wurttemberg, and Bavaria.

TABLE 5A
 MULTINOMIAL DISCRETE TIME EVENT HISTORY ANALYSIS
 OF LIKELIHOOD OF RETURN MIGRATION AMONG IMMIGRANTS
 TO GERMANY, 1984-1997 (Theoretical variables)

Predictor variables	Left for 3+ years		Left for <3 years	
	B	SE	B	SE
Human Capital				
Home country schooling	0.0004	0.008	-0.007	0.008
Time since migration	-0.008	0.008	0.018*	0.009
Time since migration squared	0.00004	0.0003	-0.0005*	0.0002
German degree				
No degree	-	-	-	-
Primary-secondary	0.079	0.077	-0.220*	0.072
Technical	-0.005	0.114	-0.009	0.093
<i>Abitur</i>	-0.352	0.271	-1.983*	0.457
Other	0.487*	0.186	-0.457*	0.196
German vocational training	-0.042	0.073	-0.030	0.067
Fluent in German	-0.060	0.068	0.194*	0.060
Work effort				
Full time	-	-	-	-
Part time	0.095	0.124	0.055	0.106
In training	-0.118	0.139	0.359*	0.116
Attachment to employment				
Marginally employed	0.338	0.194	-0.127	0.191
Unemployed	0.366*	0.112	-0.118	0.115
Not employed	0.170	0.098	-0.160	0.097
Socio-economic achievement				
Earnings (100 DEM)	-0.003	0.011	-0.015	0.011
Prestige	-0.004	0.002	-0.003	0.002
Attachment to Germany				
Spouse in Germany	-0.331*	0.065	0.013	0.065
Children in Germany	-0.045	0.050	0.133*	0.048
German born	-0.205	0.109	0.159	0.095
Own home	-0.090	0.083	-0.074	0.072
Feel German	-0.141	0.116	-0.142	0.102
German citizen	0.175	0.110	0.033	0.094
Attachment to origin				
Spouse in home country	0.251*	0.130	-0.750*	0.232
Children in home country	0.286*	0.089	-0.085	0.107
Remitted	0.012	0.060	0.038	0.058

Note: *p<.05

TABLE 5B
 MULTINOMIAL DISCRETE TIME EVENT HISTORY ANALYSIS
 OF LIKELIHOOD OF RETURN MIGRATION AMONG IMMIGRANTS
 TO GERMANY, 1984-1997 (Control variables)

Predictor variables	Left for 3+ years		Left for <3 years	
	B	SE	B	SE
Demographic				
Age				
16-18	-	-	-	-
19-24	0.0004	0.0004	-0.0002*	0.00004
25-64	-0.095	0.081	0.215*	0.077
65+	0.167	0.209	-1.814*	0.596
Male	0.013	0.051	0.005	0.049
National origin				
European Union	-	-	-	-
Former Yugoslavia	-0.545*	0.073	0.012	0.065
Turkey	-0.348*	0.058	-0.054	0.057
Place of residence				
Berlin	-	-	-	-
Schleswig-Holstein	-0.080	0.218	1.486*	0.126
Hamburg	-0.218	0.168	-0.508*	0.187
Lower Saxony	-0.505*	0.140	-0.757*	0.133
Bremen	0.393	0.238	-1.007	0.356
North Rhein-Westfalia	-0.322*	0.113	-0.615*	0.102
Hessen	-0.250*	0.120	-0.331*	0.105
Rheinland-Pfalz-				
Saarland	-0.395*	0.146	-1.452*	0.180
Baden-Wurtemberg	-0.558*	0.115	-0.746*	0.104
Bavaria	-0.448*	0.124	-0.353*	0.107
Period				
1984	-	-	-	-
1985	-0.602*	0.086	0.091	0.125
1986	-0.828*	0.093	0.167	0.123
1987	-0.610*	0.088	0.306*	0.120
1988	-0.922*	0.099	0.348*	0.120
1989	-1.037*	0.104	0.430*	0.119
1990	-1.083*	0.107	0.510*	0.118
1991	-0.939*	0.104	0.575*	0.118
1992	-0.843*	0.103	0.706*	0.117
1993	-0.570*	0.097	0.810*	0.116
1994	-0.596*	0.100	0.980*	0.116
1995	-2.064*	0.169	1.025*	0.116
1996+	-2.622*	0.158	-0.157	0.126
Intercept				
Log likelihood	-16079.930*		-2.284*	0.190
Chi squared	2137.629*			
Person years	33,445			

Note: *p<.05

The coefficients in the left-hand columns are those of primary theoretical interest. Nonetheless, the fact that the coefficients in the right-hand columns are so different from those on the left suggests a fundamentally different process. Shorter exits from the panel are positively associated with time since migration and fluency in German, and negatively associated with schooling in Germany and fluency in German. With the exception of the “in training” variable, short-term exits from the panel are not related to employment variables, but the odds of such an exit are positively predicted by the presence of children in Germany and lowered by having a spouse abroad.

HETEROGENEITY OF MOTIVES

In general, our replication of the binomial event history model with a more liberal definition of emigration and a multinomial specification does not alter the basic conclusions reached earlier. In general, results appear to be more consistent with NE rather than NELM, with immigrants returning when they lose or lack employment and when they possess a distribution of social ties that raise the costs of staying and lower the costs of returning. Nonetheless, the fact that a significant minority of immigrants remit funds home (23%) and that such behaviour is strongly associated with return migration suggests there is *something* to NELM.

As pointed out by Massey et al. (1998), the two theoretical schemes are neither mutually exclusive nor contradictory. Although it is not sensible to assume that a single actor is simultaneously an income maximizer and a target earner, it is entirely plausible that some migrants are short-term migrants seeking to reach an earnings target while others are permanent migrants seeking to maximize lifetime earnings, or that people may change their motivations for migration over time. In other words, there may be a latent heterogeneity of motives within any population of immigrants.

Although the motivations of immigrants in the GSOEP are not directly observable, the sending of remittances offers a strong behaviour clue about intentions. Perhaps those who remit are target earners who behave according to the postulates of NELM whereas those who do not are income maximizers who behave according to the logic of NE.

To consider this possibility, in Table 6 we examine the characteristics of those immigrants who do and do not remit. Specifically, we focused on the original cohort of immigrants interviewed in 1984 and divided it into two groups: those who remitted in the previous year and those who did not. We considered the more likely to be target earners and the latter closer to income maximizers. Although both categories have been in Germany for roughly the same amount of time, on virtually all other characteristics they are quite different from one another. In general, those who remit have more home country

schooling, are less fluent in German, and have less schooling or vocational training in Germany. Remitters have higher rates of employment and work at higher-paying jobs that carry more prestige, and they are far more likely than non-remitters to have a spouse and children at home and are far less likely to own a home in Germany, hold German citizenship, or to have been born in Germany. Those who remitted in 1984 tend to be older and male and to have come from the former Yugoslavia.

TABLE 6
SELECTED CHARACTERISTICS OF MIGRANTS
WHO REMIT AND DO NOT REMIT

Background variable	Remitted in person year	Did not remit in person year
Human capital		
Home country schooling	6.33	4.30
Time since migration	18.94	19.45
Fluent in German	0.12	0.27
No German schooling	0.88	0.69
German vocational training	0.11	0.19
Employment		
Full time	0.81	0.47
Achievement		
Wage (100 DEM)	6.58	3.40
Prestige	31.20	26.87
Attachments		
Spouse in home country	0.07	0.01
Children in home country	0.14	0.03
Own home in country	0.06	0.12
German citizen	0.02	0.15
German born	0.02	0.20
Controls		
Age	42.69	35.92
Male	0.72	0.46
Turkey	0.35	0.33
Former Yugoslavia	0.29	0.14
European Union	0.35	0.38

Given the array of observable differences between immigrants who remit and those who do not, we concluded that unmeasured differences in motivations were quite likely. We, therefore, estimated discrete time event history models to predict return migration separately within each group, using the GSOEP coding of emigration and a binomial logistic regression. Given the reduction in degrees

of freedom we recoded German education, work effort, and employment attachment to reduce the number of categories. German education was re-expressed as a single dummy variable indicating whether the respondent went to school in Germany (regardless of degree or kind), work effort was captured by a full-time/part-time distinction (with in-training collapsed into the latter), and attachment was measured in terms of unemployed or not employed (with the marginally employed collapsed into part time).

The effects of selected variables on the probability of return migration by remitting migrants are indicated by the coefficients shown on the left side of Table 7 and the effects of the same variables on the odds of return migration among non-remitters are indicated by the coefficients on the right. Whereas none of the human capital variables has a significant influence on the probability of return migration among remitting immigrants (as one would expect under NELM), several human capital indicators have significant and strong effects among those not remitting (as expected under NE theory). Among those not remitting, return migration is more likely for those with home country education and less likely for those with fluency in German. Likewise, the odds of leaving Germany decline sharply and non-linearly with time since migration, dropping from around .02 immediately after entry to .01 at year ten, .007 at year 15, .006 in year 20 and .004 in year 30. In contrast, the likelihood of return migration does not vary with time since arrival among those sending remittances, as one would expect if they were target earners.

Work effort does not have a significant effect on return migration among either group of immigrants. Although the coefficient for part-time work approaches significance ($p=.10$) in the equation for remitting migrants, the effect is opposite that predicted under NELM. Clearer and more powerful effects are observed for attachment to employment. Among both remitters and non-remitters, weak attachment to employment significantly increases the odds of a return move; but consistent with the arguments developed earlier, the effect of weak employment attachment is more powerful among those who remit than among those who do not. Although the differential effect of unemployment between the two groups of immigrants is not significant, the differential effect of non-employment does reach this threshold ($p<.05$). In other words, a loss of employment is more likely to promote the return migration of target earning than income maximizing immigrants.

A critical difference between a migrant operating under NELM and one functioning under NE concerns the effect of having a spouse present in Germany. For a household attempting to achieve a target income, the presence of a second worker should reduce the time to achieve any earnings goal and thus increase the likelihood of returning home. In contrast, for an earnings maximizer the presence of a spouse will bolster household income and reduce the costs of remaining in Germany, thus lowering the odds of return (at least in the absence

of children). Precisely this pattern of results is achieved in Table 7, where the coefficient for "Spouse in Germany" is positive for remitters and negative for non-remitters. Although the positive effect of a spouse present among remitting migrants approaches significance at $p=.07$, the negative effect among non-remitters does not ($p=.14$); but the difference between them is statistically significant at $p=.05$. Thus the presence of a spouse appears to have opposite effects among migrants seeking to maximize earnings and those seeking to achieve a specific income target.

TABLE 7A
DISCRETE TIME EVENT HISTORY ANALYSIS OF LIKELIHOOD
OF RETURN MIGRATION BY REMITTING AND NON-REMITTING
IMMIGRANTS TO GERMANY, 1984-1997 (Theoretical variables)

Predictor variables	Immigrants who remitted		Immigrants not remitting	
	B	SE	B	SE
Human capital				
Home country schooling	0.003	0.029	0.036*	0.018
Time since migration	-0.002	0.059	-0.076*	0.0185
Time since migration squared	-0.001	0.001	0.0008*	0.0003
German schooling	-0.234	0.459	0.196	0.187
German vocational training	-0.267	0.361	-0.127	0.188
Fluent in German	-0.720	0.445	-0.430*	0.184
Work effort				
Full time	-	-	-	-
Part time	0.793	0.476	-0.070	0.255
Attachment to employment				
Unemployed	1.135*	0.413	0.761*	0.258
Not employed	1.280*	0.404	0.660*	0.232
Socio-economic achievement				
Earnings (100 DEM)	-0.014	0.047	-0.018	0.029
Prestige	0.004	0.007	0.0002	0.004
Attachment to Germany				
Spouse in Germany	0.574	0.315	-0.226	0.153
Children in Germany	-0.491*	0.180	-0.250*	0.118
Own home	-0.155	0.383	-0.316	0.205
Attachment to origin				
Spouse in home country	1.511*	0.357	0.631	0.366
Children in home country	0.514*	0.208	0.756*	0.194

Note: * $p<.05$

TABLE 7B
DISCRETE TIME EVENT HISTORY ANALYSIS OF LIKELIHOOD
OF RETURN MIGRATION BY REMITTING AND NON-REMITTING
IMMIGRANTS TO GERMANY, 1984-1997 (Control variables)

Predictor variables	Immigrants who remitted		Immigrants not remitting	
	B	SE	B	SE
Demography				
Age				
16-18	-	-	-	-
19-24	0.0002	0.00012	0.00034*	0.00007
25-64	-1.041*	0.474	-0.401*	0.195
65+	-0.197	0.615	-0.873*	0.398
Male	0.278	0.199	-0.025	0.123
National origin				
European Union	-	-	-	-
Former Yugoslavia	-1.421*	0.253	-0.824*	0.173
Turkey	-0.549*	0.178	-0.793*	0.128
Period				
1984	-	-	-	-
1985	-0.831*	0.269	-0.813	0.183
1986	-0.945*	0.294	-0.806*	0.195
1987	-0.661*	0.278	-0.380*	0.176
1988	-0.933*	0.319	-0.770*	0.212
1989	-1.254*	0.372	-0.918*	0.239
1990	-1.280*	0.400	-1.237*	0.286
1991	-1.643*	0.451	-1.461*	0.328
1992	-0.704*	0.350	-0.689*	0.265
1993	-1.141*	0.411	-0.933*	0.297
1994	-1.094*	0.421	-0.643*	0.281
1995+	-2.025*	0.465	-1.406*	0.297
Intercept				
Log likelihood	-2.5830*	0.695	-1.945*	0.333
Chi squared	-1910.491*		3921.081*	
Person years	273.685*		348.429*	
	7,660		16,913	

Note: *p<.05

As expected, among both groups of migrants the presence of children in Germany lowers the likelihood of return migration and their presence in the home country raises the probability of going home. Having a spouse outside of Germany also appears to increase the likelihood of emigration, especially among those migrants who remit. Whereas having a spouse at home increases the odds of a return migration among remitters by a factor of 4.5 ($p < .001$), among non-remitters the odds grow by only 88 per cent ($p = .08$).

Finally, we see that among remitting migrants the odds of return migration are lowest during the prime labour force years 25-64, whereas among non-remitting

migrants the odds are lowest in the retirement years 65+, indicating that retirement migration is more likely among the former than the latter. Nationality seems to have a more pronounced effect among migrants who remit than those who do not. Among remitting migrants, those from the former Yugoslavia are least likely to return, followed by Turks, and lastly by EU immigrants. Among non-remitting migrants, however, Turks, and ex-Yugoslavs have roughly the same odds of emigration, which are significantly lower than those for migrants from the EU.

CONCLUSION

In this paper, we undertook a comprehensive analysis of return migration by guestworker immigrants to Germany during the period 1984 to 1997. Using the GSOEP, a longitudinal data file, we estimated a discrete time event history analysis of the likelihood of return migration by migrants from the EU, Turkey, and the former Yugoslavia. The model was specified by drawing on two distinct lines of theory – NE and NELM. Although these models often yield the same predicted effects, in certain instances different or even opposite effects of certain variables are hypothesized, offering an opportunity for a critical comparison of the two models.

We began by estimating a simple model that followed migrants from their point of entry into the GSOEP up to their emigration or the final survey date, using the code for permanent emigration included on the GSOEP file to indicate a departure. This analysis showed that return migrants were not very selected with respect to human capital characteristics or socio-economic achievements, but were highly associated to various social and economic attachments to Germany and countries of origin. Neither education at home, education in Germany, German vocational training, fluency in German, earnings in Germany, or occupational prestige significantly predicted the likelihood of return migration. In contrast, the decision to emigrate was strongly affected by a range of different attachments to Germany, including those that are social (presence of spouse, children), political (being a German citizen), and psychological (feeling German). Likewise, return migration was strongly influenced by attachments to the home country that were social (spouse or children abroad) and economic (remitting money abroad). Emigration was not selective of age, sex, or state of residence in Germany, but migrants from the former Yugoslavia were least likely to return home while those from the EU were most likely to do so.

These data suggest that immigrants come to Germany to work and are not deterred from settlement by low wages or low prestige; they only return home when they lose access to German jobs, have strong social and economic contacts to the home country, and lack social, political, or psychological ties to Germany. For a migrant who is employed full time, with a spouse and children in Germany,

no immediate relatives at home, who feels German, is a German citizen, and who does not remit, the annual probability of return migration was .00015, holding other variables constant at the mean. In contrast, for a jobless migrant with no relatives in Germany, who does not feel German, is not a German citizen, and has a spouse and children at home to whom remittances have been sent, the probability of emigration is .0515, with other variables constant at the mean.

Since the definition of a return move is ultimately subjective, we decided to replicate the analysis with a more liberal definition of emigration to see how robust the foregoing results were. Rather than accepting the official GSOEP definition of emigration, we coded anyone who left the panel for three consecutive years as an emigrant and anyone who left for one or two consecutive years as unclear and redid the discrete time event history analysis using a multinomial specification. Using this procedure, we replicated the basic pattern of results obtained earlier, although the effects were generally less dramatic under the looser definition of emigration.

The results obtained from these two analyses showed a mixed pattern of support for hypotheses derived from NELM and NE. Although results were generally consistent with the neoclassical model, the relative lack of selectivity with respect to human capital was troubling and generally inconsistent with what we would expect from income maximizing migrants. At the same time, the strong influence of remittances on return migration was consistent with a strategy of target earning. We thus hypothesized that immigrants might be heterogeneous with respect to their migratory motivations, with some migrants operating according to the logic of NE and others according to the dictates of NELM. That is, whereas some immigrants come to Germany seeking to settle permanently to maximize lifetime earnings, others see themselves as present temporarily to achieve a particular earnings target and expect eventually to return home.

We operationalized this distinction by separating migrants who remitted from those who did not, hypothesizing the former to be target earners whose economic motivations are linked to the overcoming of market failures at home and the latter to be income maximizers seeking to make a new life for themselves in Germany. When we re-estimated the model separately for the two groups, we found that remitting migrants conformed more closely to predictions from the NELM while non-remitting migrants behaved in ways more consistent with NE theory. That is, non-remitting migrants were highly selected on human capital characteristics while remitting migrants were not; a lack of attachment to employment was more important in promoting the return of remitting than non-remitting migrants; and whereas having a spouse in Germany increased the odds of return among remitting migrants it decreased them among non-remitting immigrants.

We, thus, find evidence for a heterogeneity of economic motivations among immigrants to Germany, with the vast majority (roughly three-quarters)

displaying a socio-economic profile, selectivity of return, and repertoire of behaviour consistent with the income maximizing behaviour postulated by NE, and significant minority (about one-quarter) displaying a profile, selectivity, and behaviour consistent with NELM. A key issue for future research is to identify what determines which strategy a migrant adopts: the target earning strategy of NELM, indicated by remitting, or the income maximizing strategy of NE, under which no remittances occur, and how the original strategy adopted may change over time in response to migratory experiences. Future researchers should also pay attention to this heterogeneity of economic motivations and attempt to distinguish between the two kinds of immigrants using remitting as a key indicator. In particular, if remitting is not included as a control variable, then our findings suggest that parameter estimates will be incorrect owing to omitted variable bias.

REFERENCES

- Barrett, A., and F. Trace
 1998 "Who is coming back? The educational profile of returning migrants in the 1990s", *Irish Banking Review*, Summer: 38-51.
- Bauer, T., and I.N. Gang
 1998 "Temporary migrants from Egypt: how long do they stay abroad?", Institute for the Study of Labour, Bonn University, Germany, discussion paper no. 3.
- Bohning, W.R.
 1981 "Estimating the propensity of guestworkers to leave", *Monthly Labor Review*, 104(5): 37-40.
- Borjas, G.J.
 1985 "Assimilation, changes in cohort quality, and the earnings of immigrants", *Journal of Labor Economics*, 3(October): 463-489.
 1989 "Immigrant and emigrant earnings: a longitudinal study", *Economic Inquiry*, 27(January): 21-37.
- Borjas, G.J., and B.M. Bratsberg
 1994 "Who leaves? The outmigration of the foreign born", National Bureau of Economic Research, Cambridge, working paper, no. 4913.
- Chiswick, B.R.
 1986 "Human capital and the labor market adjustment of immigrants: testing alternative hypotheses", in O. Stark (Ed.), *Research in Human Capital and Development*, volume 4, JAI Press, Greenwich: 1-26.
- Duleep, H.O.
 1994 "Social security and the emigration of immigrants", *Social Security Bulletin*, 57: 37-52.
- Dustmann, C.
 1993 "Return intentions of migrants: theory and evidence", University of Bielefeld, Germany, discussion paper, no. 274.
 1996 "Return migration – the European experience", *Economic Policy: A European Forum*, 22: S215-49.

- Jasso, G., and M.R. Rosenzweig
 1982 "Estimating the emigration rates of legal immigrants using administrative and survey data: the 1971 cohort of immigrants to the United States", *Demography*, 19(3): 279-90.
- 1986 "What's in a name? Country-of-origin influences on the earnings of immigrants in the United States", in O. Stark (Ed.), *Research in Human Capital and Development*, volume 4, JAI Press, Greenwich: 75-106.
- 1988 "How well do U.S. immigrants do? Vintage effects, emigration selectivity and occupational mobility of immigrants", in P.T. Schultz (Ed.), *Research of Population Economics*, volume 6, JAI Press, Greenwich: 229-253.
- 1990 *The New Chosen People: Immigrants in the United States*, Russell Sage Foundation, New York.
- Lindstrom, D.P.
 1996 "Economic opportunity in Mexico and return migration from the United States", *Demography*, 33(3): 357-374.
- Lindstrom, D.P., and D.S. Massey
 1994 "Selective emigration, cohort quality, and models of immigrant assimilation", *Social Science Research*, 23(4): 315-49.
- Martin, P.L., and M.J. Miller
 1980 "Guestworkers: lessons from Western Europe", *Industrial and Labor Relations Review*, 33: 315-330.
- Massey, D.S.
 1987 "Understanding Mexican migration to the United States", *American Journal of Sociology*, 92: 1332-1403.
- Massey, D.S., et al.
 1998 *Worlds in Motion: International Migration at the End of the Millennium*, Oxford University Press, Oxford.
- Piore, M.J.
 1979 *Birds of Passage: Migrant Labor in Industrial Societies*, Cambridge University Press, New York.
- Ramos, F.A.
 1992 "Out-migration and return migration of Puerto Ricans", in G. Borjas and R. Freeman (Eds), *Immigration and the Work Force: Economic Consequences for the United States and Source Areas*, University of Chicago Press, Chicago.
- Reagan, P.B., and R.J. Olsen
 2000 "You can go home again: evidence from longitudinal data", *Demography*, 37(3): 339-50.
- Schmidt, C.M.
 1994 "The country of origin, family structure and return migration of Germany's guest-workers", in R.V. Burkhauser, and G.G. Wagner (Eds), *Vierteljahrsheft zur Wirtschaftsforschung*, Duncker and Humblot, Berlin.
- Sjastaad, L.A.
 1962 "The costs and returns of human migration", *Journal of Political Economy*, 70S: 80-93.
- Stark, O.
 1991 *The Migration of Labor*, Basil Blackwell, Cambridge.

Steiner, V., and J. Velling

- 1994 "Re-migration behavior and expected duration of stay of guest workers in Germany", in G. Steinmann, and R.E. Ulrich (Eds), *The Economic Consequences of Immigration to Germany*, Physica-Verlag, Heidelberg.

Treiman, D.J.

- 1977 *Occupational Prestige in Comparative Perspective*, Academic Press, New York.

Velling, J.

- 1994 "The determinants of family reunification among German guest-workers", in R.V. Burkhauser, and G.G. Wagner (Eds), *Vierteljahrsheft zur Wirtschaftsforschung*, Duncker and Humblot, Berlin.

Warren, R., and E.P. Kraly

- 1985 "The elusive exodus: emigration from the United States", *Population Trends and Public Policy*, no. 8., Population Reference Bureau, Washington, DC.

Warren, R., and J.Marks Peck

- 1980 "Foreign-born emigration from the United States: 1960-1970", *Demography*, 17(1): 1-84.

Wagner, G.G., R. V. Burkhauser, and F. Behringer

- 1993 "The English language public use file of the German socio-economic panel", *Journal of Human Resources*, 28(2): 429-433.

MIGRATION EN RETOUR DES TRAVAILLEURS IMMIGRÉS EN ALLEMAGNE: THÉORIE NÉOCLASSIQUE OU NOUVELLE THÉORIE ÉCONOMIQUE ?

L'économie néoclassique et l'économie nouvelle concernant la migration de la main-d'œuvre partent de principes très différents pour expliquer la migration internationale. La première suppose que les personnes émigrent de manière permanente afin de maximaliser ce qu'elles vont gagner tout au long de leur vie, tandis que la seconde postule qu'elles partent provisoirement pour échapper à des marchés difficiles dans leur pays d'origine. En conséquence, les deux modèles aboutissent à une formulation très différente de la migration en retour. Nous nous fondons sur chacun de ces modèles théoriques pour établir des projections sur la façon dont des variables différentes pourraient influencer sur la probabilité de la migration en retour. Nous nous servons de données du Groupe d'étude socio-économique allemand pour mettre à l'essai des hypothèses particulières dérivées de chacun des deux modèles. Ayant constaté des facteurs appuyant à la fois l'une et l'autre perspective, nous estimons que les migrants pourraient former un groupe hétérogène quant à leurs motivations migratoires. Dans ce cas, les paramètres liés aux déterminants de la migration en retour dans une population quelconque faisant partie de la migration internationale résulteront d'une fusion de paramètres liés à deux modes de pensée économiques distincts. Les équations estimées séparément pour les migrants effectuant des transferts de fonds et ceux qui ne le font pas tendent à confirmer cette interprétation, ce qui signifie qu'il n'y a peut-être pas un seul processus unitaire de migration en retour, mais qu'il en existe plusieurs.

MIGRACIÓN DE RETORNO DE TRABAJADORES INVITADOS ALEMANES: LA TEORÍA NEOCLÁSICA *VERSUS* LA TEORÍA DE LA NUEVA ECONOMÍA

La economía neoclásica y la nueva economía en la migración laboral plantean motivaciones de migración internacional muy diferentes. En la primera, se asume que las personas se desplazan al extranjero con carácter permanente para alentar al máximo sus ingresos durante su vida, mientras que la segunda, asume que abandonan temporalmente su país para superar deficiencias de mercado en el país de origen. Por consiguiente, los dos modelos tienen conceptualizaciones sumamente diferentes en cuanto a la migración de retorno. En este artículo se estudia cada modelo teórico para predecir en qué medida las distintas variables pueden influir en la probabilidad de la migración de retorno. Para ello, se utilizan datos de la Junta Socioeconómica Alemana que prueba hipótesis específicas provenientes de cada modelo. Al contar con bases que apoyen ambas perspectivas, sugerimos que los migrantes pueden ser heterogéneos con relación a sus motivaciones migratorias. En ese caso, los parámetros asociados con las

determinantes de la migración de retorno de cualquier población de migración internacional comprenderán una mezcla de parámetros asociados a dos lógicas económicas distintas. Las ecuaciones estiman por separado a los migrantes que envían remesas y a quienes no lo hacen y apoyan esta interpretación, lo cual demuestra que no puede haber un proceso unitario único para la migración de retorno sino más bien varios procesos.