Defying the Law of Gravity:
The Political Economy of International Migration[*]

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Abstract: The causes of international migration have been the focus of much scholarly attention. Existing work, however, tends to focus on single countries—either on the origin or destination side—which leads to conclusions that are not broadly generalizable. We make two main arguments: First, the existence and volume of migrant social networks, which provide information and support to would-be migrants, are key to understanding the perpetuation of migration flows. Second, a host of economic and political factors are important for explaining migration, and these operate independent of and also in conjunction with network effects to influence migration patterns. These arguments are tested on a large panel dataset comprised of migration flows from 128 origin countries into 26 destination countries over the period 1985-2004. The roles played by of social networks in shaping migration decisions are further analyzed with individual level survey data.

1. Introduction

History abounds with stories and images of migration. Consider the following: Moses and the Israelites journey from Egypt to the Promised Land; the Celts leave Central Europe and settle in Gaul; the Pilgrims sail from England to the New World; Italians, Irish and Eastern Europeans travel through Ellis Island in the late 19th century; and the residents of East Germany move west when the Berlin Wall comes down. While these examples differ historically, socially, politically and economically, they all illustrate the important role that migration—the act of leaving one's native land to settle elsewhere—plays in shaping the modern world.

Historical anecdotes aside, migration along with commodity trade and capital mobility, is an integral part of globalization. Political economists have devoted considerable energies to the

1

study of trade and financial globalization and with good reason. In 2004 international trade exceeded 20% of global gross national product and the cross-border flow of capital was double that. In strict quantitative terms, the legal international movement of people pales in comparison: recent estimates from the United Nations Population Division put the share of the world's population residing outside of their nation of origin at 185 million people—approximately 2.5% of the world's total population. Likewise, the Organization for Economic Cooperation and Development (OECD) estimates that the number of legal immigrants into OECD member countries stands at a little over three million annually (OECD 2006).

While quantitatively small, migration has important consequences for both the countries where the migrants originate and the countries where they settle. The effects of emigration on sending countries include expanded social roles for women and a decrease in poverty and unemployment, along with brain drain and heightened inequality due to remittances (Carrington and Detragiache 1998; Conway and Cohen 1998; Vidal 1998; Zachariah, Mathew and Rajan 2001). From an economic perspective, immigration has been shown to have a negative impact on the wages of unskilled labor in some destination countries (Borjas, Freeman and Katz 1996; Zorlu and Hartog 2005), but a positive impact on international trade (Head and Ries 1998; Rauch 2001). Politically, recent research has revealed that immigration boosts the electoral prospects for radical right parties (Knigge 1998; De Vos and Duerloo 1999; Lubbers, Gijsberts and Scheepers 2002), drives policy makers to enact increasingly strict immigration policies (Thraenhardt 1995; Bale 2003; Van der Valk 2003), and increases social expenditures (Borjas 1999; Brucker et al 1992; Lee and Miller 2000). More generally, the phenomenon of international migration has led scholars to redefine traditional notions of domestic security (Rudolph 2006), national citizenship (Castles 2002; Vertovec 2004), and transnational governance (Hollifield 2002).

Given the far-reaching consequences of migration it is surprising that we have so little systematic knowledge about its causes. A reading of this borad literature suggests three reasons

why this may be the case. First, scholars from a variety of disciplines have studied migration by focusing on either a particular country of origin or a particular destination. While this approach is useful in helping identify the cultural, social and historical conditions surrounding migration it does not allow for broad and generalizable conclusions (Massey et al. 1999). Second, quantitative studies of international migration have tended to concentrate on the policy implications of immigration for particular destination countries and, consequently, are not designed to make general theoretical claims (Borjas 2000). Third, the factors leading to initial migration – which we refer to as pioneer migration – may be different from those that promote subsequent migration (Massey et al. 1993).

In this paper we integrate insights from a variety of social science disciplines and argue that international migration can be best understood by focusing on social networks—the social, cultural and community ties that link individuals to persons of like origin already settled in destination countries (Boyd 1989; Portes and Bach 1995; Massey, et al. 1993, 1999; Faist 2000). Social networks help perpetuate and direct migration flows in that they perform two related functions. First, networks have *support effects*—existing populations of co-ethnics in destination countries help support migrants financially by providing monetary support, psychologically through the provision of a social community, and instrumentally by helping migrants assimilate into their new community. As such, migrants are more likely to move to a country where they have personal contacts that can decrease the myriad challenges associated with migration. Furthermore, because of their *informational effects*, networks of co-ethnics in destination countries can help migrants reduce uncertainty and mitigate risk, and thereby help them overcome traditional barriers associated with moving. Destination-specific information about labor and housing markets—not to mention information about the legal and regulatory environment, for instance—can help a potential migrant more efficiently plan and execute an international move. An emphasis on social networks, then, is a critical component in explaining patterns of international migration.

Social networks, however, do not help us understand the factors driving initial migration to particular destinations. When choosing among possible destinations, and when comparing these destinations to the country of origin, what factors lead individuals to become migration pioneers? We argue that traditional economic explanations are deficient for explaining initial migration between two countries and need to be complemented with political considerations. Specifically, when comparing among alternative destinations, we posit that migrants are drawn to countries offering superior social, political and economic environments.

We test our arguments about the initiation and perpetuation of international migration using a large panel data set comprised of migration flows from 128 origin into 26 destination countries over the period 1985-2004. To this data set we add covariates that measure political and economic conditions in both origin and destination countries. This enables us to evaluate the extent to which existing social networks help migrants overcome the costs associated with moving.

Our arguments and evidence are presented in the following six sections. In order to ground our discussion, in the next section we provide a brief set of stylized facts characterizing international migration. In the third section we develop our theoretical argument about the importance of social networks in the perpetuation of migration flows and we discuss how this argument complements traditional explanations. Section four contains a discussion of the variables, sample and empirical methodology used while section five contains our empirical results. In section six we briefly present some survey research findings. These provide micro-level evidence that supports our argument about the importance of social networks and allows us further examine the functions of social ties. Section seven concludes and discusses implications for future research.

2. International Migration: Stylized Facts

The contemporary debate over migration currently taking place in industrial democracies is not without reason. The size and composition of migrant flows has changed over the last one

hundred years, with the recent decade now approaching pre-World War I levels of global immigration (Hatton and Williamson 2006). Here we intend to give some empirical foundation to the discussion that follows. Our source for international migration statistics is the OECD's *International Migration Outlook* (OECD 2006). Continuing the collection of migration statistics initially contained in the Continuous Reporting System on Migration (SOPEMI), the OECD has attempted to harmonize their migration statistics. This task is complicated by the fact that national migration statistics are collected by local authorities (that is, not by the OECD itself) and these agencies define immigration differently. Germany, for example, counts asylum seekers as immigrants while the Netherlands, Sweden and Denmark do not. Norway counts asylum seekers as migrants once their application for refugee status has been processed.

The differential classification of refugees or asylees notwithstanding, the OECD distinguishes three categories of legal immigrants: (i) spouses, children and close relatives of citizens that enter the country on a permanent basis, (ii) individuals entering for economic and/or business reasons, and (iii) individuals entering to acquire national citizenship (Coppel, Dumont and Visco 2001).

In figure 1 we show gross immigration inflows into selected countries averaged (to eliminate the influence of exogenous shocks) over the years 2000-2004. As has been true historically, the United States stands out as the leading destination for legal international immigration, admitting close to six hundred thousand migrants per year. Other important destinations include Germany, the United Kingdom and Spain.

This snapshot is illustrative of a longer history of differential immigration policies. In figure 2 we show immigration flows into the set of traditional immigration countries: Australia, Canada, New Zealand and the United States. Scholars tend to compare these countries because, as "English speaking settler societies," they represent a distinct model of liberal immigration policies (Freeman 1995) with relatively high levels of tolerance for immigration-related diversity (Pettigrew 1998). These countries have all undergone relatively similar immigration cycles as of 1995 and the sheer magnitude of immigration flows is reflective of the relative size of their

respective populations (note that the figures for the USA are in the tens of thousands). The spike in immigration to the US in the early 1990s is a consequence of the 1986 Immigration Reform and Control Act (IRCA) which provided amnesty to illegal aliens who could demonstrate that they had resided in the US since 1982. Once granted amnesty, these immigrants were formally counted in the Immigration and Naturalization Service's official census.

In figures 3 and 4 we show trends in immigration for selected Western and Southern European countries. In both cases there are some interesting developments. First, Germany (again, inflows are measured in the tens of thousands for Germany) is the leading destination for immigrants to Western Europe—a place it has held since 1989 with the collapse of the communist bloc. In addition, the United Kingdom continues to attract immigrants, albeit at a rate lower than that of Germany. Second, in Southern Europe, Portugal, Turkey and Spain have been the destinations of choice for those immigrating to that region. Spain, especially, has shifted from a country of emigration to a country of immigration. As the Spanish economy has grown and the population aged in recent decades, the need for low-skilled labor has increased. Responding to these employment opportunities, labor migrants from Morocco, China and Latin America have dominated recent flows to Spain (Bodega et al. 1995; Corkill 2001; Baldwin-Edwards 2002).

In addition to the size of immigration flows, the composition of the immigrant populations varies considerably across destination countries. In table 1 we document, for a selection of destination countries, the five largest sources of migrants for the 2000-2004 period. Consider Germany, which in the post-war period initially welcomed labor migrants from Italy, Spain, Greece, Turkey, Morocco, Tunisia and Yugoslavia. After the fall of the Iron Curtain, Germany solicited labor from central and Eastern Europe, adding flows of Hungarians and Poles to their immigrant population. Since then, the set of origin countries sending migrants to Germany has become more variegated, spanning all of Central and Eastern Europe and the former Soviet Union. Germany's recent migration flows reflect this history—labor migration coupled with family unification brings a large number of Turks and Poles, in particular, to Germany each year.

6

New Zealand, in contrast, traces its immigration roots back over one thousand years to the arrival of Polynesian peoples. The nineteenth century brought colonial migrants from the United Kingdom, and more recent newcomers from India, China, and South Africa. Flows from the last several years are composed of movers from the United Kingdom as the largest single source country, but are generally dominated by Asian immigrants. Canada, too, has a colonial past which brought Britons and French migrants. Yet, immigration to Canada today is primarily composed of Asian migrants, with large numbers also coming from central Europe. Finally, the United States in recent years is a destination for migrants from Latin America—mainly Mexico—as well as Asia.

3. Explaining International Immigration

The stylized facts just presented are a mere snapshot of the dynamic processes of international migration. That a majority of origin and destination countries are tied together by colonial or historical linkages is hardly a surprise; we argue that these linkages help perpetuate the flow of international migrants over time. Apart from colonial connections, we ask: What factors lead individuals from one country to move and, once that decision has been made, what influences the choice of destination country?

As mentioned in the introduction, the lion's share of studies ask this question within the context of particular origin and destination countries. Since our goal is to examine migration generally we begin with a canonical economic model of an individual's decision to migrate (Borjas 2000). Assume that there are two countries where individuals can seek employment: the country of origin, o, and a destination country, d. The individual, aged t years, can earn w_{ot} dollars in the origin and w_{dt} dollars in the destination. In Borjas' model, as in other economic models of migration, there is a cost of moving, M, which includes both physical and psychic costs associated with relocating to a new country. The net gain from migration over a lifetime is given by:

$$\text{Net Gain} = \sum_{k=t}^{T} \frac{w_{dk} - w_{ok}}{(1+r)^{k-t}} - M \qquad (1)$$

The implications of this model are straightforward: an individual migrates to destination d if the (discounted) income stream is greater in the destination than in the origin and if this difference is large enough to compensate for the costs of moving. This model is useful for policy analysis because it suggests that increasing wages in the origin country (or decreasing them in the destination) will decrease the pressure to immigrate to a particular destination. It is, however, not particularly useful from a practical perspective as it makes a number of unrealistic assumptions.

First, this model assumes that migrants have sufficient information about the economic opportunities not just in the origin and a particular destination, but across a large number of possible destinations. And, even if accurate information is available, the model assumes that the costs—language, training, customs—associated with being economically successful are equal across all employment environments. Second, the model ignores other factors that "pull" migrants to various destinations. If expected income is higher in two destinations (as compared with the origin), migrants can be pulled to various destinations by political and social opportunities—the probability of legal admission, the right to vote, the opportunity for education, the ability to get health care, etc. Third, the characterization of the immigration decision as described by equation (1) ignores "push" factors—characteristics of the origin country—such as economic circumstances, limitations on freedom or the occurrence of civil conflict. These may make emigration a very attractive option, but also may make it difficult or impossible to leave (Neumayer 2005).

Finally, this model assumes that moving, represented by the cost parameter M, always has a net negative value. Certainly distance between the origin and destination countries imposes an initial cost on the immigrant. That cost, however, varies with the stock of co-ethnics residing in the set of possible destination countries. Co-ethnic communities can help reduce the costs of moving because they provide both an informational benefit—information about the availability of

housing and employment—and a support benefit—including, but not limited to, financial, social, political and familial support.[1] We explore these benefits as well as the other factors influencing immigration decisions in the next section.

<u>The Role of Social Capital</u>

Our focus on co-ethnic networks as key factors in migration processes is rooted in the more general literature on social capital. In general, social network theorists posit that migrant networks promote international migration by providing information and support to would-be migrants. These two functions allow potential migrants to decrease their expected risk when moving to a new destination and serve to decrease the transaction costs associated with relocation (Portes 1995; Portes and Böröcz 1989; Massey et al. 1999). The social capital provided to by co-ethnic networks is akin to a public good available to individuals from the same country of origin.

There is ample evidence that potential immigrants are drawn to communities with large populations of individuals from their same place of origin. Using a sample of Mexican immigrants to the United States, Massey et al. (1987) show that almost forty percent of migrants found jobs through friends or relatives.[2] Examinations of migrant communities across global cities lead to similar conclusions: Joly (1987), Josephides (1987), Hily and Poinard (1987), and Wilpert (1988) found that co-ethnic ties influenced employment opportunities for, respectively, Pakistanis living in London, Greek Cypriots living in Britain, Portuguese living in France, and Turks living in Germany.

In addition to assistance in finding employment, scholars have documented how co-ethnic networks linking origin and destination countries facilitate migration in general (Massey et al.

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[1] Consider the decision faced by a native Ecuadorian deciding whether to migrate to the United States, Germany or Spain. Economic opportunities, all things equal, are likely greater in the US and Germany than they are in Spain and, Germany and Spain are further away from Ecuador than the US. However, the social costs of migrating to Spain are far lower, not just because of the use of a common language, but because of the existence of a large community of co-ethnics. The existence of a co-ethnic community in Spain helps decrease the transaction and information costs associated with moving, provides benefits by virtue of group membership, and creates additional linkages to potential migrants living in Ecuador.

[2] Donato et al (1992) reports that family connections increased both the wage rate and number of hours worked for Mexican immigrants. Greenwell et al (1997) reached a similar conclusion for Salvadorean and Filipino immigrants residing in Los Angeles.

1993; Faist 2000), help immigrants find housing (Bailey and Waldinger 1991; Sassen 1995; Light et al. 1999), and integrate immigrants socially and politically into the host society (Boyd 1989; Fong and Ooka 1996; Hagan 1998). In their study of the Great Black Migration in the United States, Carrington, Detragiache and Vishwanath (1996) demonstrate both formally and empirically that existing migrant networks between African Americans in the North and the South decreased moving costs for subsequent migrants via two main mechanisms. First, migrants already in the North provided friends and family in the South with employment and housing information.[3] Second, previous migrants established formal and informal institutions that lessened the costs of adapting to a new environment.

Focusing on migrant social networks provides leverage on a number of questions that have received little attention in prior scholarship. While we have ample ethnographic and case study evidence that co-ethnic networks foster migration it has yet to be established that these networks matter after accounting for relative wages and other determinants of international migration. Because of the support and information role played by co-ethnic networks we hypothesize that these networks have a statistically significant and substantively important direct impact on immigration flows even when controlling for a wide variety of other factors.

Viewing the web of relationships entangled within migrant communities as a form of social capital allows us to go beyond simply positing that social networks exert a positive and direct effect on migration flows. Because the information and support roles played by migrant social capital is an aggregate resource that can be drawn on by group members, we argue that the stock of migrants in a particular destination can actually render mute traditional barriers to migration; barriers associated with distance, relative wages, and language. Thus we hypothesize an indirect relationship between social networks and migrant flow: as the size of the co-ethnic network in a particular destination increases, the importance of traditional barriers will decrease.

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[3] In related studies Marks (1989) and Grossman (1989) show how letters passed from migrants back to family members and friends documented both employment and housing conditions.

The hypotheses that co-ethnic networks have indirect effects on migration flows should not be taken to imply that other determinants of international migration are unimportant. Rather, our argument is in the tradition of a broader literature on social networks that recognizes the influence of social factors on economic calculations (e.g., Granovetter 1985; Granovetter and Swedberg 1992). The social structures in which people—in this case migrants—are embedded instruct their selection of goals and preferences, regulate the means through which they pursue their aims, and constrain their behavior upon achieving certain ends (Portes 1995, Portes and Sennesbrenner 1989). By conditioning other influences, migrant social networks promote, shape and direct international migration.

<u>What Drives Migration?</u>

While we emphasize the importance of co-ethnic networks in conditioning migrant flows we recognize that this focus begs the question of what leads individuals—the pioneers—to initially move to a particular destination. Furthermore, given a situation where potential migrants have comparable network contacts in a variety of countries, what factors tip the scales toward one destination over another? At the macro-level we can divide these factors into three groups: those that link home countries (which we refer to as countries of origin) to destination countries; those that are unique to destination countries (pull factors); and those that are unique to origin countries (push factors). Scholars studying cross-national trade (e.g., Rose 2001), foreign direct investment (e.g., Loungani, Mody and Razin 2002), and equity flows (e.g., Eichengreen and Luengnaruemitchai 2006) ground their analyses in "gravity equations." In physics the law of gravity states that the force of gravity between two objects is proportional to the masses of the two objects divided by the distance between them. As applied to international commodity and capital movements, gravity equations stipulate that cross-national economic flows are a function of the relative size of the two countries as well as the cost—captured by distance—associated with moving commodities or capital from country to country.

While the use of gravity equations is a relatively new phenomenon in international economics (Baldwin and Taglioni 2006), it has long history when it comes to the study of migration. In one of the first contributions to the science of migration, the geographer E.G. Ravenstein highlighted the important role that distance plays in the decision over where to move:

> We have already proved that the great body of our migrants only proceed a short distance, and that there takes place consequently a universal shifting or displacement of the population, which produced "currents of migration" setting in the direction of the great centres of commerce and industry which absorb the migrants.
> In forming an estimate of this displacement we must take into account the number of natives of each country which furnishes the migrants, as also the population of the towns or districts which absorb them. (Ravenstein 1885).

As Greenwood and Hunt (2003) observe, Ravenstein's first "law of migration" contains three components: (i) distance deters migration; (ii) migrants are attracted by economically active areas; and (iii) the relative size of the origin and destination influence migration flows.

The reduction in transportation costs associated with advances in technology have decreased the physical costs associated with migration, though it is still the case that immigration is likely between countries that are geographically closer. Physical distance, however, is not the only way to capture the relationship between origin and destination countries. Gravity models of both trade and capital hold that cross-country linkages based on common language and colonial histories help decrease the transaction costs inherent in these international transactions.

The same can be said of migration decisions. It is likely that migration flows will be larger if a pair of countries shares a common language as this reduces a barrier to entry and increases the likelihood that a migrant will be able to secure employment, housing, etc. McManus et al. (1983), Chiswick and Miller (1995), and Lazear (1995), among others, have documented the economic benefits of language fluency for immigrants. A similar argument can be made for countries that share a colonial history. Individuals in countries with a shared history—whether a colony or a colonizer—will have better information about the institutions, culture and economy of the other country and, subsequently, will be more likely to migrate to them. This effect is not unambiguous as Riley et al. (2002) and Sharpe (2005) find that all colonial relationships are not

alike for integrating immigrants into a destination society, and Neumayer (2005) finds that these historical ties are not always associated with greater flows of asylum seekers.

Destination Country Characteristics

In addition to the role that country linkages play in affecting migration, the decision to migrate to a particular destination is influenced by some of the country's characteristics. A large body of literature, as we discussed in the beginning of this section, argues that migration decisions are driven by economic considerations. Individuals, according to this view, compare the expected wage in destination countries with their (expected) wage in their country of origin. George Borjas put it succinctly:

> Neo-classical theory assumes that individuals maximize their utility: individuals 'search' for the country of residence that maximizes their well-being…In a sense, competing countries make 'migration offers' rom which individuals compare and choose. The information gathered in this marketplace leads many individuals to conclude that it is 'profitable' to remain in their birthplace…Conversely, other individuals conclude that they are better off in some other country….[t]his approach leads to a clear—and empirically testable— categorization of the types of immigrant flows that arise in a world where individuals search for the 'best' country (Borjas 1989: 461).

Economic opportunities, however, are not the only characteristics of destination countries that influence immigration. Migrants, especially when choosing among advanced industrial economies, also consider welfare benefits and political rights.

The welfare magnet hypothesis posits that migrants, once they have made the decision to leave home, will seek out destinations that offer them the heftiest bundle of social services. The idea is that to decrease risk, migrants will move to societies where economic hardship is most fully alleviated by the government. Originally formulated with respect to interstate migration within the United States, this thesis has been tested in relation to intra-national migration as well as international movement. To date, the reported results have been mixed.

In the U.S. context, some researchers have found evidence that interstate migration in the United States is motivated in part by an interest in extracting better benefits from the government (Borjas 1998; Bailey 2005), while others have reported disconfirming results (Allard and

Danziger 2000). Looking at where immigrants to the U.S. settle, Zavodny (1997) argues that rather than a state's welfare provision, its stock of migrant networks influences immigration to particular locales. Studies of international migration dynamics also offer a mixed bag of results. Some findings substantiate the welfare magnet hypothesis for migrants to Western Europe (Boeri 2002; Gallardo-Sejas 2006). Others offer only partial evidence of welfare migration to OECD countries—contingent on model specifications (Pedersen, Pytlikova and Smith 2003), or disconfirming results (Neumayer 2004). In our analysis, we test the welfare magnet hypothesis across OECD destinations.

In addition to enhanced social and economic prospects, potential migrants consider the hospitability of the political environment. Large networks of co-ethnics notwithstanding, the political environment could be characterized by intolerance for immigrants at the mass level. The public's reaction to immigration may well be an important consideration for potential migrants, who will have to live and work along side members of the national majority.[4] An immigrant's prospects for economic gains and a decent quality of life may be constrained in a context that is hostile to new arrivals. Therefore, we also include in our models an indicator of native views on immigration: percentage of votes cast for radical right parties in the most recent national legislative election. Immigration is a bread-and-butter issue for radical right politicians, and their level of support from voters indicates the salience of immigration matters among national publics (Betz 1994; Kitschelt 1996; Gibson, McAllister and Swenson 2002). We expect that radical right success, which is a highly visible signal that the public is wary of immigration, results in lower inflows of migrants.

In addition to striving to maximize their human, social and even language capital, do migrants seek to build meaningful political capital in their new environment? All else equal, do

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[4] It is indeed likely that support for right wing parties—and parties hostile to immigrants in general—will gain strength and thrive in countries with large existing immigrant populations. The implication of this for our empirical models, because we include both migrant stock and support for right-wing parties, is to bias results against rejecting the null hypothesis of no effect.

migrants choose destinations where they will have the best opportunities for political incorporation? Immigration scholars have closely examined the relationship between immigration and political rights. Rather than considering political rights as a draw for migrants, however, the focus has been on how foreign influxes affect citizenship policies and regimes (Joppke 1999), or on how traditions of political belonging influence immigration policies (Castles and Davidson 2000). Recent debates in many advanced democracies about citizenship policies and about non-citizen political rights have prompted consideration of new political models for immigrant participation (Messina 2005). For instance, as countries struggle to better incorporate immigrants and their future generations into domestic society, some have debated whether to make citizenship easier to obtain, or to offer local voting rights to non-citizen residents.

In our sample of destination countries over two decades, there is variation in these two important aspects of immigrant political rights. First, two general types of citizenship regime are represented: *jus solis,* which is rooted in territorial claims and is generally the best avenue for migrants to gain access to citizenship, and *jus sanguinis*, a blood or ethnicity based conditionality which is less open to immigrant incorporation (Brubaker 1992; Howard 2005).

Second, the countries in our sample of destinations offer different voting rights to residents who are not citizens. New Zealand, for instance, has a long tradition of extending national voting rights to alien residents, and many European countries, including Sweden and Ireland, allow non-citizens to vote in municipal elections. In contrast, Austria, France and Switzerland do not offer any such rights. Over the period of our analysis, things have changed in some countries. For instance, in recent years Luxembourg and Portugal have extended municipal voting rights to resident aliens. Our indicator of non-citizen voting rights is a dichotomous measure denoting whether (1) or not (0) a country allows for any type of non-citizen voting rights in a given year. If international migrants are driven by considerations of political rights, policies associated with a *jus solis* citizenship regime and voting rights for non-citizens should serve as incentives, or pull factors.

Finally, we recognize that national states play a pivotal role in shaping international migration by establishing the boundaries of legal inflows, and that immigration policies vary across potential destinations. As such, migration flows should be directed toward countries with more liberal immigration regulations. Though scholars debate the factors that ultimately shape national immigration policies in liberal democracies (Freeman 1995; Rudolph 2003), the evidence suggests that they reflect economic, security and cultural considerations to varying degrees. What is important for our purposes is that we control for differences in migration policy both across potential destinations and over time.

Origin Country Characteristics

While social networks and destination attributes influence a migrant's choice of where to migrate, characteristics associated with the country of origin may also influence a decision to stay or go. When economic prospects are bright, individuals may choose to remain at home rather than migrate abroad. Domestic strife, whether in the form of human rights abuse, absence of democratic freedoms or civil war, on the other hand, may also influence the likelihood of out-migration. Poor domestic political conditions may increase an individual's utility for emigrating. Alternately, strife may work to decrease out-migration due to physical or legal restraints on movement. It may also be due to a lack of knowledge of migratory alternatives. Social disorder may limit the amount of information a potential emigrant receives, as communication with the outside world can become difficult or impossible (Gilbert and Koser 2006). Of course, under dire domestic circumstances in the country of origin, the most likely avenue for moving to a new country would be the asylum-seeking process. In such cases, migrants will generally not show up in our analysis due to our restricted focus on labor migration.

4. Empirics: Model, Measures and Methodology

We test the impact of co-ethnic migrant networks and other factors on international migration using a panel data set of migrant flows from 128 origin countries to 26 destination countries over the period 1985-2004. To fix ideas, we estimate a regression of the following form:

$$\log(\text{Migration Flow})_{odt} = \beta_1 \text{Immigrant Stock}_{odt-1} + \beta_2 \text{Distance}_{od} + \beta_4 \text{No Common Language}_{od}$$
$$+\beta_5 \text{No Colonial Heritage}_{od} + \beta_6 \text{Relative Wage}_{odt-1} + \beta_7 \text{Unemployment}_{dt-1} + \beta_8 \text{Welfare State}_{dt-1}$$
$$+\beta_9 \text{Right Wing Support}_{dt-1} + \beta_{10} \text{Voting Rights}_{dt-1} + \beta_{11} \textit{Jus Solis}_{dt-1}$$
$$+\beta_{12} \text{Age Structure}_{ot-1} + +\beta_{13} \text{Democracy}_{ot-1} + \beta_{14} \text{Civil War}_{ot-1} \qquad (2)$$
$$+\beta_{15} \text{Actual Policy}_{dt-1} + \beta_{16} \text{Policy Preference}_{dt-1} + \beta_{17} \log(\text{Population})_{ot-1}$$
$$+\delta \sum \text{Destination Dummies} + \gamma \text{Trend} + \varepsilon_{dot}$$

The dependent variable, migration flow, measures the flow of individuals between a country of origin (o) and a destination (d) each year (t). We standardize migration flows by (thousands of) origin country population and then take the logarithm. The source for our immigration flow data is the OECD's *International Migration Outlook* (OECD 2006). We measure the existence and size of co-ethnic networks using data from the OECD as well. For each year we measure the size of a co-ethnic network as the proportion of the stock of foreign born from country o residing in country d to the total size of country o's population (in thousands).

We argue that migration is more costly and difficult between countries that are farther away from one another, between countries where people speak different languages, and between countries where there is no common colonial heritage. We measure distance as the log of great circle distance in kilometers (in thousands of miles) between country capitals.[5] No colonial heritage is coded 1 for countries that were never in a colonial relationship and no common language is coded 1 for countries that do not share the same official language. All of these variables are from Mayer and Zignago (2006).

Economic opportunities in the destination country are measured using two variables. First, we create a ratio of origin to destination country real gross domestic product per worker. If GDP per worker is higher (lower) in the origin than in the destination country then we expect greater (lesser) migration. Data for real GDP per worker comes from the Penn World Table (PWT)

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[5] In our original specification we included a variable for common border based on the expectation that migration flows will be greater between countries that are contiguous. This variable was never statistically significant due in large part to is extensive collinearity with the distance measure and was dropped from the models we report here.

version 6.2. Second, measure employment opportunities—or lack thereof—by including the unemployment rate in the destination country based on estimates obtained the World Bank's World Development Indicators (WDI) on CD-ROM (2006 edition).[6]

Our measure of a destination country's welfare policies is captured by per capita government consumption as a percentage of gross domestic product which we obtain from the Penn World Tables. Our preference would be to use measures of aggregate social spending or disaggregated spending on health, education and welfare. Unfortunately these measures are not available on a consistent basis for the years and countries in our sample.[7]

Data on level of electoral support for the extreme right comes from two centralized sources, Extreme Right Electorates and Party Success (EREPS) and Election Resources on the Internet, as well as national reports on electoral outcomes. The percentage of votes going to radical right parties in the most recent national legislative elections serves as the measure.[8] We expect that greater support for far right parties will be associated with lower inflows, as this electoral outcome offers a highly visible indicator of a society's level of animosity towards foreigners.

The two variables measuring political rights—the right to vote in any election and citizenship policy based on *jus solis*—were collected by the authors and are based on national and secondary sources. We expect that electoral rights for aliens and citizenship policies that are inclusive of individuals without blood ties to the national majority will be positively associated with the size of immigration flows.

We use data from the Penn World Tables to measure economic prospects in the origin country which we operationalize in terms of per capita GDP Growth. The World Bank's World

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[6] Optimally we would like to create a ratio of the unemployment rate between the origin and destination countries. Unemployment data is missing for over 50% of the origin which would unreasonably restrict our sample. This is the case even if we augment the World Bank's unemployment statistics with series obtained from the International Labour Organization.

[7] For a sample of twelve OECD countries for the years 1985, 1990, and 1995, the correlation between government consumption and aggregates social expenditure, health expenditures, education expenditures and welfare expenditures is .46, .57, .49, and .75, respectively.

[8] The links to electronic sources are: http://www.politik.uni-mainz.de/ereps/ and www.electionresources.org.

Development Indicators is used to measure the age structure of the population as the percentage of the population aged between 16 and 64. Democracy in the origin country is measured using the POLITY data set from which we use the POLITY2 variable measuring the country's democracy score minus its autocracy score.[9] We also include a variable that measures the magnitude of a civil war in the origin country. This variable is from the Correlates of War project.

We use two different variables to tap into a country's migration policy; both are collected by the United Nations Department of Economic and Social Affairs' Population Division and are based on surveys of policymakers responsible for population policies in their respective countries. (United Nations 1978, 1985, 2001, 2003, 2005). The first variable—immigration policy—measures the objective pursued via current immigration policies (at time t). Policy makers report whether their goal is to "lower," "maintain," or "raise" the level of immigration and we code this variable +1, 0 and -1 respectively. The second variable—view of immigration policy—measures the government's perception of the level of immigration. Respondents could reply "too high," "satisfactory," or "too low" and this variable is coded +1, 0, -1, respectively.[10]

To account for the fact that larger countries of origin can generate higher rates of out-migration we include the size of population in the origin country from the World Bank's World Development Indicators.

We also include a set of destination specific dummy variables. These dummy variables not only account for cross-national differences in the measurement of immigration but they provide a control for economic, political and social conditions that influence immigration rates yet are

[9] In the original version of this paper we also included a measure of the origin country's human rights regime based on data from both Amnesty International and the United States State Department. The correlation between the human rights score and the POLITY measure of democracy was .86 rendering the former measure statistically insignificant in all specifications.

[10] The sources of these data offer both snapshots and retrospective accounts of policy measures over time. In a few instances the snapshot data and the retrospective data are different, suggesting either inaccuracy in reporting or intentional backward revision. When faced with data inconsistencies, we opted to use the original data presented in each year's snapshot.

constant over time. Finally, we also include a time trend to capture the increasing propensity of the world's citizens to migrate.

<u>Empirical Method</u>

To test our first hypothesis, that co-ethnic migrant networks increase migrant flows, we estimate equation (2) using ordinary least squares. Due to problems associated with both serial correlation and heteroscedasticity we report Newey-West standard errors.[11]

Our second hypothesis is concerned with the extent to which the size of co-ethnic networks effect other determinants of international immigration. To test these hypotheses we interact the size of the migrant stock—our measure of the size of the co-ethnic network—with these other variables and report the combined effect of the respective interactions. An interactive model is also appropriate to explore the factors that motivate pioneer immigrants.

5. Results

Table 2 contains our main empirical results. Column 1 is used to test our first hypothesis that, controlling for all other factors, the size of a co-ethnic migrant network has a positive effect on subsequent migrant flows. The parameter estimate on the migrant stock is positive and is statistically significant at conventional levels. While the parameter estimate is substantively small recall that both the immigrant flow and migrant stock are based on shares of the origin country's population in thousands. We also note that since the migrant stock variable is measured at time t-1 we have no reason to be concerned about possible endogeneity.

The rest of the variables included in column 1 square with prior research. Holding all other variables constant immigration flows are lower between countries that are farther apart, do not share a common language and do not have a similar colonial history. Individuals are also less likely to migrate when wages in the origin exceed those in the destination.

The characteristics of destination countries also play an important role in influencing migration decisions; recall that we also include a set of destination specific dummy variables.

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[11] We set the lag truncation at 5 lags. Our results are robust to varying the lag length.

High rates of unemployment are associated with lower migration while increased government spending has the opposite effect. We also find that potential migrants are sensitive to political conditions across possible destinations and are deterred from going to countries where right wing parties enjoy significant political support. Our results, however, provide no statistical support for the argument that political rights—either citizenship or voting right—have a significant effect on migration decisions.[12]

We also find that origin country characteristics play an important role in international migration. Individuals are less prone to emigrate from countries that enjoy higher rates of per capita economic growth. Civil war in origin countries also decreases migration though, as noted above, this is likely due to the fact that individuals leaving civil war torn countries are likely to be classified as refugees and/or asylum seekers. Countries with a larger proportion of the population aged between 15 and 64 are likely to generate more migrants as are countries with greater political freedoms.

The control variables are also statistically significant and correctly signed. Destination policies devised to restrict immigration flows (actual immigration policy coded +1) are associated with lower levels of immigration, and in situations where policymakers view the current level of immigration as being too high (view of immigration policy coded +1), one finds smaller flows of immigrants.[13] Finally, the control for origin country population is negative and statistically significant which supports the proposition that larger countries have proportionately fewer migrants.

To explore the factors that drive pioneer migrants and to evaluate the degree to which existing co-ethnic networks—due to their information and support functions—decrease the influence of traditional barriers to immigration, we estimate an interactive model. This model interacts the migrant stock with other country-pair, destination country and origin country

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[12] Dropping the host country dummy variables does result in the citizenship at birth variable becoming positive and statistically significant, however.
[13] Again, recall that we also include a set of destination country dummy variables.

characteristics, allowing us to manipulate the size of the co-ethnic stock and observe how the influence of the characteristic in question on migration flows changes.

Under the first column in our interactive model we set the stock of co-ethnics at zero to simulate a situation where there is no migrant network.[14] As expected, in the absence of a co-ethnic network pioneer migrants are less likely to flow between countries that are farther apart, have different official languages, and have different colonial histories. We also find, as we did earlier, that pioneers are sensitive to economic and conditions as both the income ratio and the unemployment rate in the destination are statistically significant. And, as in column 1, we find pioneers to be attracted to countries with better social welfare conditions and repelled by political environments where extreme right parties are influential.   We also find a similar pattern for origin country characteristics: pioneers are less likely to leave countries with better economic conditions and more likely to leave countries where there are more political rights. Civil wars continue to have a negative influence.

As we move from left to right across the columns of table 2 we increase the size of the co-ethnic stock in the destination countries. Our priors are that due to the support and information functions associated with co-ethnic social capital at some point the stock of co-ethnics will decrease—and may even eliminate—barriers to immigration.   When destination countries have a very small co-ethnic population (.5 which is equivalent to 1 migrant in the destination per 2 thousand inhabitants in the country of origin) we observe that both the income ratio and civil war in the origin no longer have a statistically significant influence on patterns of international migration.[15]

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[14] Note that this specification also includes the control variables for immigration policy, the view of immigration policy and the origin country's population. We do not report those parameter estimates because they are not interacted with the existing migrant stock.

[15] To be clear, the cell entries in the columns under the heading "interactive model" represent the combined effect of migrant stock (set at the level indicated at the top of the column) and the average value of the variable listed in the respective row.

Increasing the size of the co-ethnic population in a destination 2 per thousand serves dramatically reduce the barriers to immigration. This level, we should note, is slightly above the median level of migrant stock when migrant stock is not equal to zero. At this level of co-ethnic stock distance, common language, and support for right-wing political parties no longer play a statistically significant role in deterring immigrants. When the co-ethnic population reaches 5 per thousand (the 75th percentile of non-zero non-migrant stock values) the no common colonial origin and economic growth in the origin variables become statistically insignificant. Increasing unemployment in the destination continues to have a negative and statistically significant effect on immigrant flows until the co-ethnic stock reaches 48 per thousand; a level that occurs in less than six percent of all observations.

These results demonstrate the importance of social networks in reducing the costs and risks associated with international migration. Our findings suggest that migrant networks – large and small – are influential in migration decisions. We find that the existence of a community of co-ethnics, even a small one, has a positive impact on immigrant flows. However, as networks grow, their impact strengthens, suggesting that larger, weak networks act as a stronger draw than small, dense groups. Relating this to the debate over whether strong or weak ties are more efficient in generating the resources predicted by social capital theories, we find that larger networks produce greater resources for co-ethnics. This supports the aggregate-level argument that expansive networks dominated by weak ties are relatively more effective than strong ties in generating social capital. Thinking about this from the perspective of potential migrants, does this mean that "friends of friends" ties are more effective than "family and friends" connections in directing migration flows? In the micro-level analysis below, we investigate the resources that different types of social connections offer to migrants.

Our results, however, go further than specifying the independent effects of migrant networks. Not only are they important in and of themselves, but they also influence the way other predictors operate in the model. Based on the network's size, it will have different effects on other

explanatory factors. That is, as migrant networks grow, they change the decision making contexts for would-be migrants, prompting different considerations. In particular, the larger the network, the more likely it is that migrants will travel long distances to a new home, and brave personal harm in escaping dangerous situations in their countries of origin. This interaction effect is rooted in the risk-reduction function of social networks.

Furthermore, a look across the columns in table 2 reveals that the positive coefficients for destination country characteristics grow and gain significance while the negative coefficients become insignificant, meaning the relationships strengthen as the co-ethnic population rises. We argue that this trend is a function of the information effect of migrant networks—having interpersonal links to the destination gives potential migrants access to news about employment, social services and political rights. The effects of social networks on the calculations of would-be migrants are powerful and multi-faceted—understanding them is the key to gaining insight into migration.

Robustness

We evaluate the robustness of our results in three ways. Given that our sample of destination countries is heterogeneous with regard to their immigration histories, cultures and institutions, we first re-estimate the results from table 2 on two different sub-samples. In table 3 we restrict our attention to the countries of the EU 15. These countries, in contrast, have less experience with modern immigration. And some, Portugal and Spain for instance, are considerably newer to the immigrant-receiving role than others, such as France and the United Kingdom. These differences show up in our parameter estimates. While the stock of immigrants remains both substantively and statistically significant, the same cannot be said of all other variables. In the non-interactive model we still find that distance, colonial relationships and relative wages matter as well as the probability of employment and citizenship rights in the destination country and one measure of political rights in the origin country. So far as pioneer immigrants are concerned, we find no effect of distance but find that shared border and colonial origin are statistically significant

though in opposite directions. Viewed historically this is reasonable as the destination countries are relatively close geographically speaking (which accounts for the lack of significance on distance) and have borders that reflect cultural, political and, in some cases, religious differences. Of particular interest is that pioneer immigrants are drawn to countries that provide employment opportunities and where political rights are afforded to the immigrant community.

We engaged in the same exercise and restricted the host countries to the set of traditional immigration countries—the United States, Canada, Australia, and New Zealand—and obtained similar results which we do not report to save space.

Our second robustness check is methodological: given the truncated nature of the dependent variable we substituted a tobit model for our OLS specification. [16] The results from the tobit model were broadly supportive of—and in many cases stronger than—the results we report.

Third, we tested the robustness of our results to the use of alternative data sources. For example, we used a measure of real gross domestic product per worker from the World Bank instead of the measure from the Penn World Tables and we did likewise for measures of government expenditures. We substituted Amnesty International's coding of human rights practices for the State Department's and we compared different measures of democracy from the POLITY data set. While the use of alternative measures did affect the sample size and the estimated coefficients, they did not change the results of the hypotheses tests we report or the substantive interpretations of the interactions.

6. Social Networks and Migration: Micro Evidence

The migration flow analyses above specify the pull strength of migrant networks.[17] In generalizable terms, we can see how the existence and size of a network influences migration

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[16] To avoid a proliferation of tables we summarize the results of our robustness exercises rather than include the results. These additional results are available from the authors upon request.

[17] It is beyond the scope of this paper to consider the effects of social networks in the country of origin. See Faist (2000) for a more comprehensive consideration of the push and pull effects of network ties.

decisions on a mass scale. Because these aggregate relationships depend on thousands of individual decisions by migrants, we also investigate some micro-level trends as they relate to social networks. In this section we offer descriptive data from immigrant surveys that underscore the importance of co-ethnic populations in destination countries: social connections are particularly important for migration decisions and for settlement processes such as locating housing and work. We then move the analysis of migrant networks forward by testing the role of different types of migrants' social ties in transmitting information and offering support to future migrants to Germany.

Descriptive survey results

Three recent national surveys of immigrants, New Zealand's Longitudinal Immigration Survey (LisNZ), the Longitudinal Survey of Immigrants to Canada (LSIC), and the German Socio-Economic Panel survey (GSOEP), measure the relevance of networks for destination selection and integration into their host society.

The LisNZ pilot study interviews recent immigrants to New Zealand in 2001 and 2002. Approximately one-third of respondents reports that their move was predominantly motivated by kinship ties, followed by lifestyle, education, low crime rates, employment opportunities, political freedoms, and economic conditions. Among all respondents three-fourths report having known somebody in New Zealand prior to migrating, and friends or relatives served as the main sources of pre–migratory information about New Zealand were friends or relatives living there. In choosing a place to live in New Zealand, immigrants mainly chose locales based on the desire to live with family (41 percent) or to live near family/friends (25 percent). After considerations of access to education, neighborhood quality and affordability, some respondents expressed a preference to live near others of the same ethnic group or religion. These results emphasize the impact of social networks on migration to New Zealand.

Shifting to the Canadian survey, the LSIC asks respondents who moved to Canada between October 2000 and September 2001 why they settled in their Census Metropolitan Area (CMA) of

residence. The main draws are related to social ties, followed by consideration of job opportunities. Over 40 percent of newcomers state that their location choice was driven by the presence of a close family member. Other key considerations include joining friends, job prospects and education-related criteria, and housing factors. In the three largest cities for immigration, Toronto, Vancouver and Montreal, the number one pull factor was social ties.

The two most pressing needs of migrants are housing and employment. The LSIC finds that over 80 percent of immigrants surveyed had made housing arrangements before arriving in Canada. Nearly 90 percent of people with relatives or friends already in the country had made prior arrangements for accommodations. People seeking housing upon arrival used a number of different strategies: talking to friends or relations was most prevalent, followed by consulting major newspapers, visiting neighborhoods, enlisting realtors, and looking online or in ethnic newspapers. Though most respondents had no difficulties finding housing, nearly 40 percent reported problems. These included high housing prices, a need for guarantors and cosigners, and unfamiliarity with the town or city.[18] In general, social ties were instrumental in bringing most of the migrant respondents to Canada, drawing them to specific locales within the country, and helping them settle into their new society.

Moving on to German survey data, the GSOEP is a national longitudinal survey of Germany's residents that over-samples immigrants over twenty years (1984 to present). The sample we use here is the 1500 non-refugee foreign-born respondents who moved from 61 countries to Germany during the time period that coincides with our most of our aggregate analysis (1985-2001).[19] When asked why they moved to Germany, the predominant answer is to join family members, for the freedoms provided, to make money, and to escape poverty in the respondent's country of origin. Before moving to Germany, 63 percent of respondents had family

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[18] Source: Longitudinal Study of Immigrations to Canada, 2001, Statistics Canada.
[19] Ethnic German migrants to Germany are not included in the sample used here.

in Germany. In Germany, as well, social networks are the dominant factor in migrants' decision making.

<u>Modeling network functions</u>

It is not disputed that social ties offer specific resources to migrants, and that these resources include support and information.[20] However, these generally accepted claims about how migrant networks operate have not been put to empirical test. Do all social ties function in the same way? Research on migrant social ties identify different types of network connections that range from close personal ties to large migrant networks, but it is unclear whether they all operate the same way to provide benefits. Indeed, our migration models above appear to make a case for the strength of large network ties in drawing migrants to particular destinations. Yet, interestingly, the migrant survey results reviewed above make a compelling case for the importance of family ties in reducing the risks of moving to a new environment (see, too, Palloni et al. 2001). To unpack these relationships, we use survey data from the GSOEP immigrant sample to further investigate the roles of social networks—focusing on the critical task of finding suitable housing. Specifically, we are looking to see whether "friends and family" ties or large migrant networks are more useful to migrants in locating accommodations.

The GSOEP asks respondents whether or not the housing situation in Germany met the expectations they held prior to migrating. The possible responses are: worse than expected, as expected, and better than expected. This survey item reveals two key aspects of housing market experiences: whether or not the individual had an accurate picture of the housing scene before moving to Germany, and how easy it was to find housing (relative to expectations). We explore both dimensions: the first reveals the accuracy of the information a migrant held before moving, and the second speaks to the migrant's own experience with the housing market. We present the results in table 4.

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[20] There is variation, of course, at the individual level when it comes to access to such resources. See Hagan (1998) for a discussion a gendered understanding of this inequality.

In the first model, we look at the information aspect of this issue: Did the individual have an accurate understanding of the housing market before migrating? We code the responses with 1 representing immigrants with good preliminary housing information, and 0 for those with inaccurate expectations. Our key independent variables of interest are two varieties of pre-migration social ties to Germany: size of the migrant's co-ethnic stock in Germany in the year of migration, and the presence of family members already living in Germany. Control variables are gender, age at time of migration, distance between country of origin and Germany, colonial ties between origin and Germany (which in this sample turns out to be a dummy variable for Austrians), and whether or not the origin country and Germany share a common language.[21] A dummy variable for each year of migration for this sample (1985-2001) is included in the model but is not displayed here. The second model uses the same predictor variables to explain the ease with which the respondent found housing in Germany—relative to his or her prior expectations. Here, the dependent variable is coded to increase as ease of finding housing rises from more difficult than expected (0), to as expected (1), to easier than expected (2). The model is an ordered logit to accommodate this categorization.

The results from the first model reveal the strong, significant effect of the size of the co-ethnic stock on having good information about Germany's housing market prior to arrival. Family ties, on the other hand, are not influential here, nor are the control variables. These results suggest that, with respect to the transmission of information on housing, a large co-ethnic network operates more effectively than a family connection in the destination country. From a social networks perspective this makes sense: large networks, which tend to be porous and characterized by weak social ties, should function more effectively than small, dense networks produce social capital and to collect and provide information (Boissevian 1974; Granovetter 1974, 1975; Burt 1992; Faist 2000).[22]

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[21] Though the colonial variable and language variable are correlated, removal of each from the model does not substantively influence the effects of the other.

[22] Social capital theorists are divided over the type of network that produces social capital. To cast this in terms of Granovetter's (1974) distinction between strong, dense ("friends and family") ties and weak,

The second model, in contrast, demonstrates the important role of family ties in actually finding housing. Having family already established in Germany increases the likelihood that locating a place to live will be easier than expected. Gender, age and colonial ties also affect the relative ease with which an individual finds housing: older male Austrians who move to Germany are in general pleasantly surprised with their success in the real estate arena. On the other hand, size of migrant stock has no significant effect here. This model suggests that the support function of migrant ties is dominated by kinship relations rather than large migrant networks. For immigrants to Germany, actual assistance is the benefit provide by personal ties, but not via migrant stock.

This is an important pair of findings. The main support and informational functions of migrant networks appear to stem from different types of social ties. Weak ties are more crucial for information, and strong ties provide support. Both are essential for migration, as each one helps to reduce the risks of moving to a foreign country. This offers important insight into our macro-level analysis above. As the migrant network indicator in those models is the stock of co-ethnics, the key mechanism is likely information transmission, rather than provision of support. The larger and more porous the migrant network, the more information it can offer. This can reduce the perceived risks of migration—even when a move involves crossing long distances or moving through dangerous channels.

7. Discussion and Conclusion

International migration is a process that has far reaching consequences. To date we have little systematic knowledge of its causes. Massey and his colleagues (1998) suggest that this is due, at least in part, to the differing economic and social contexts within which migration occurs.

porous ("friends of friends") links among individuals, Coleman (1988) and Loury (1977) emphasize the importance of strong ties for generating social capital. Granovetter (1973) and Burt (1992), on the other hand, argue that social capital is born of structural holes, a characteristic of weak network ties. An observation by Boissevian (1974) connects this back to network size, noting that the larger the network the less likely it is that any one member personally knows any other, and therefore the less dense it is.

The fact that migration has been treated as a phenomenon unique to a particular time, place and people means that the conclusions of academic studies are often not broadly generalizable. By developing hypotheses about the importance of migrant networks for migration flows and by evaluating the impact of alternative political, economic and social conditions, we provide a framework and an analysis that overcomes this criticism.

The results from both macro and micro level data provide confirmation for the argument that co-ethnic networks, through their information and support functions, increase subsequent flows immigrant flows. Taken to its logical extreme, this result could lead one to conclude that immigration should continue unabated until the source country is essentially empty. This conclusion, however, is rash for as the size of a migrant community in a particular destination grows, the gains from immigrating to that country exhibit diminishing returns. Figure 5, which is a based on the empirical specification from column 1 of table 2 with migrant stock included as a quadratic, shows that immigration into a particular destination increases until the co-ethnic stock reaches 127 per thousand and then begins to decline. This more nuanced measurement of the relationship between social networks and migrant flows reconciles the cumulative predictions of migrant network theories with the fact that in reality, these networks do not serve as an endless draw.

While our focus has been on the causes of international migration, the strength of social networks in determining migration flows has some interesting implications for future research. International migration, while part of the overall process of globalization, helps facilitate commodity and capital flows between countries. With regard to trade, immigrants residing in a destination country are a set of consumers that may demand imports from their country of origin. Immigrants may also have knowledge of commodity preferences for their country of origin and may have origin country business contacts (Globerman 2001). In a recent study of US members of the World Trade Centers Association, Rauch and Watson found that the utilization of networks linking the origin to the destination country increased the level of international transactions by

approximately 1.25% for each 10% increase in the stock of migrants in the US (Rauch and Watson 2002).

Likewise, international capital flows are facilitated by the existence of migrant social networks. Not only is foreign direct and portfolio investment facilitated by personal ties (Bandelj 2002), but remittances have become a significant source of capital inflows for developing countries. Recent estimates from the World Bank (2006) put the dollar value of remittances in 2004 for countries such as Mexico, India and China above the 15 billion dollar mark. For Mexico this is an amount that exceeds both the size of foreign direct investment into Mexico and the cash inflow resulting from oil sales. In addition to serving as a source of hard currency for foreign exchange, remittances are directed back to local communities and can have a profound impact on poverty. Based on survey data, the World Bank estimates that remittances have reduced poverty in Uganda by 11%, in Bangladesh by 6% and by 5% in Ghana (World Bank 2006). On a related note, future research should investigate the role of return migration and remittances—and the way they are regulated by governments—on migration and also on transnational migration networks. These are factors that likely influence the ties among co-ethnics residing in countries of origin and destination, and a broad view of these processes would improve our understanding of how migrant networks are formed and maintained.

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Figure 1

International Immigration
Annual Average: 2000-2004
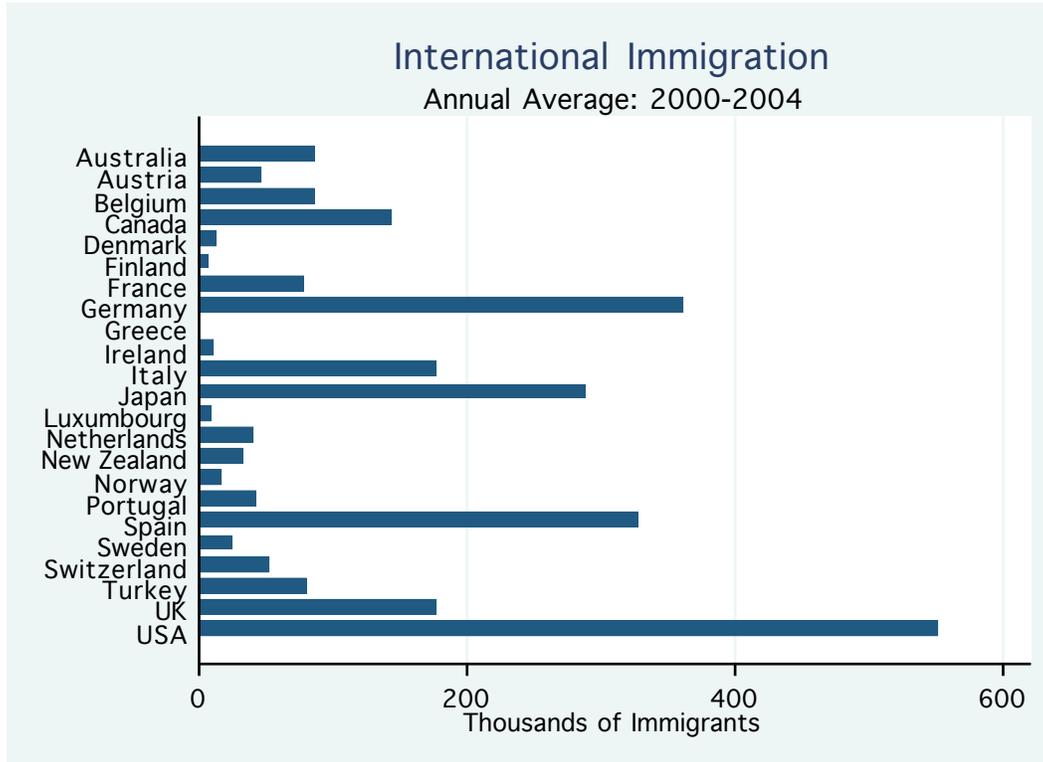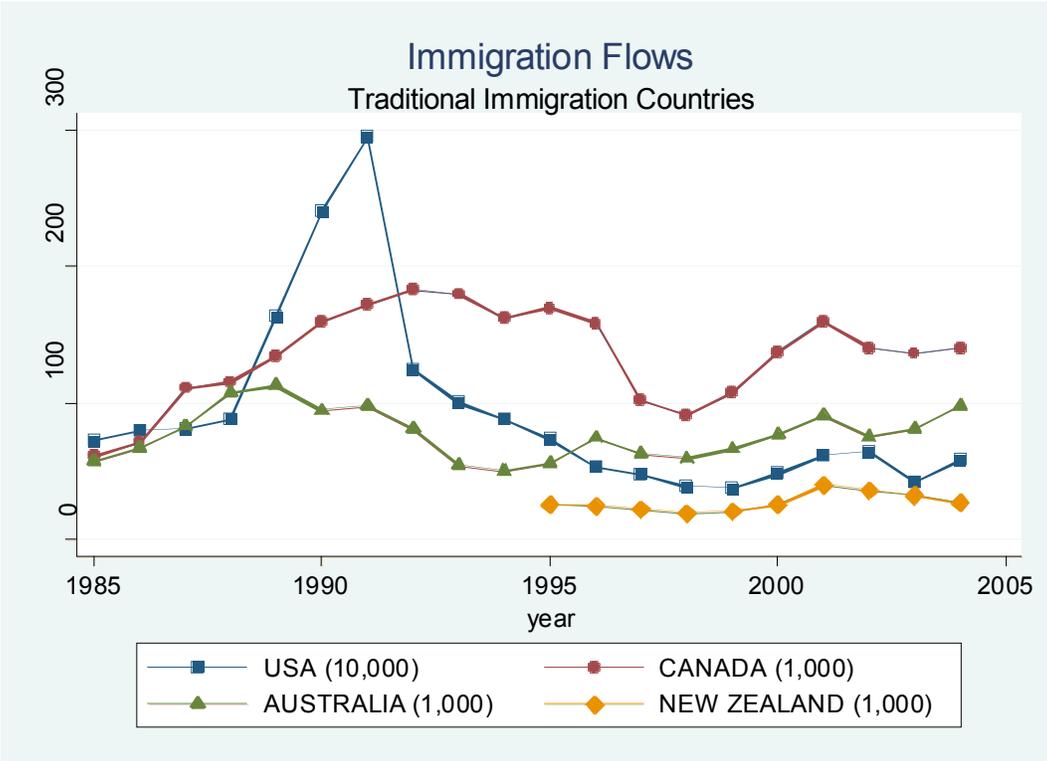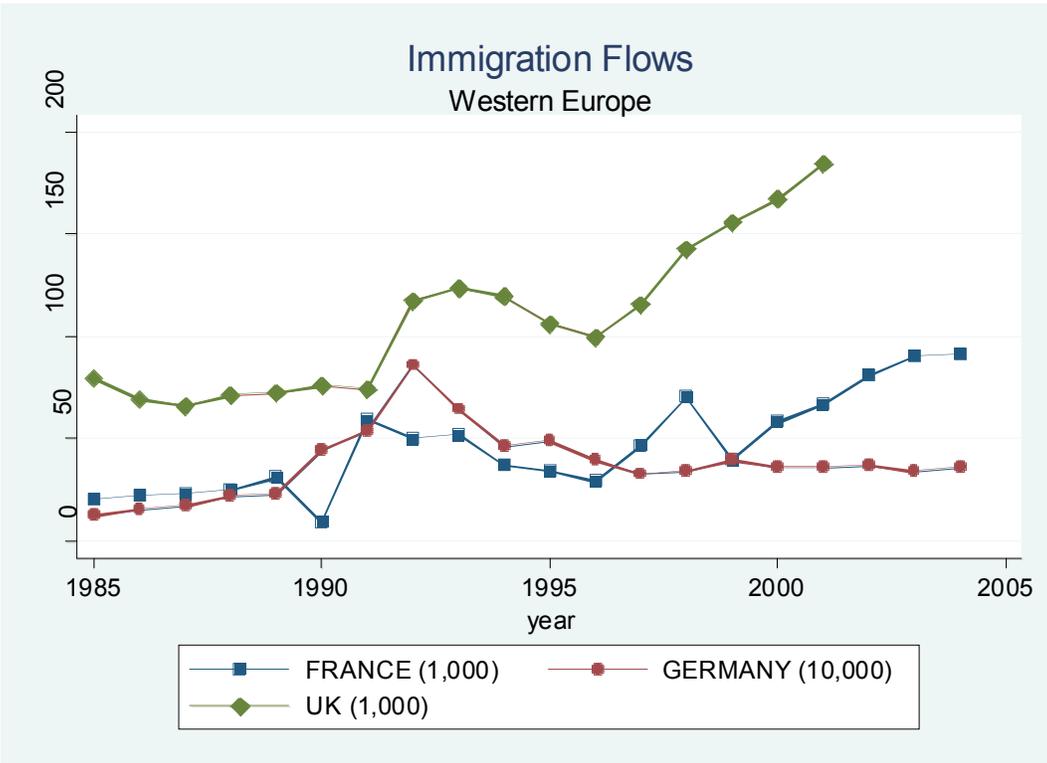
Figure 2

Figure 3

Figure 4
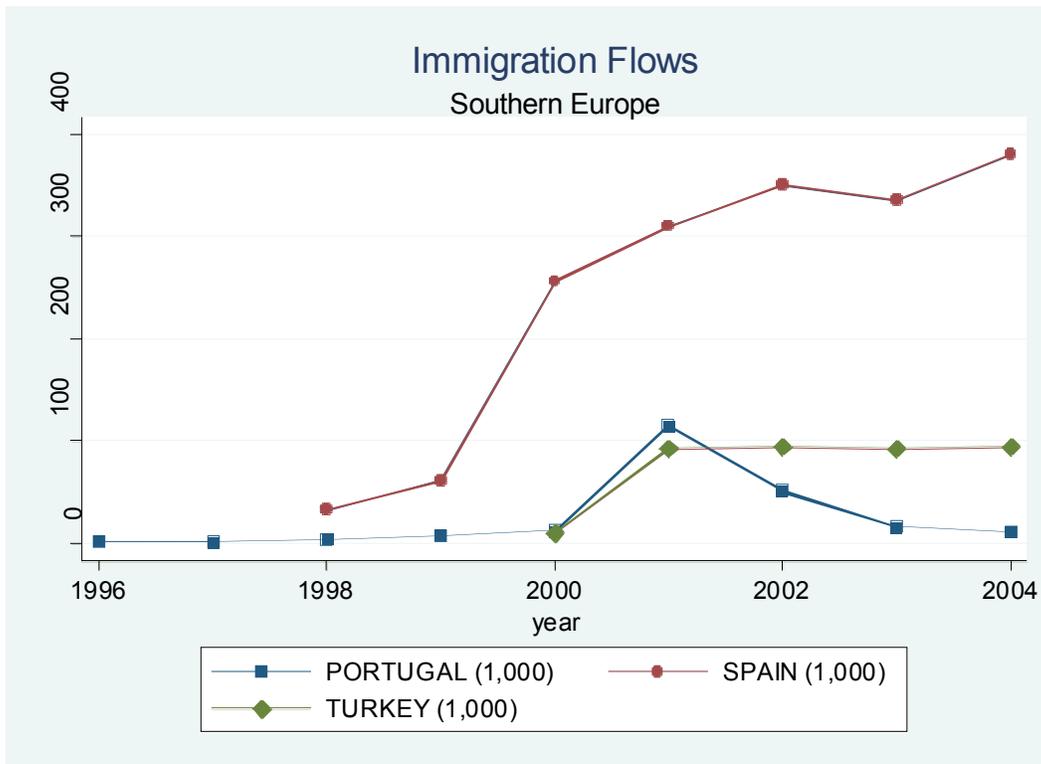
Figure 5

Co-Ethnic Stock and Migrant Flow
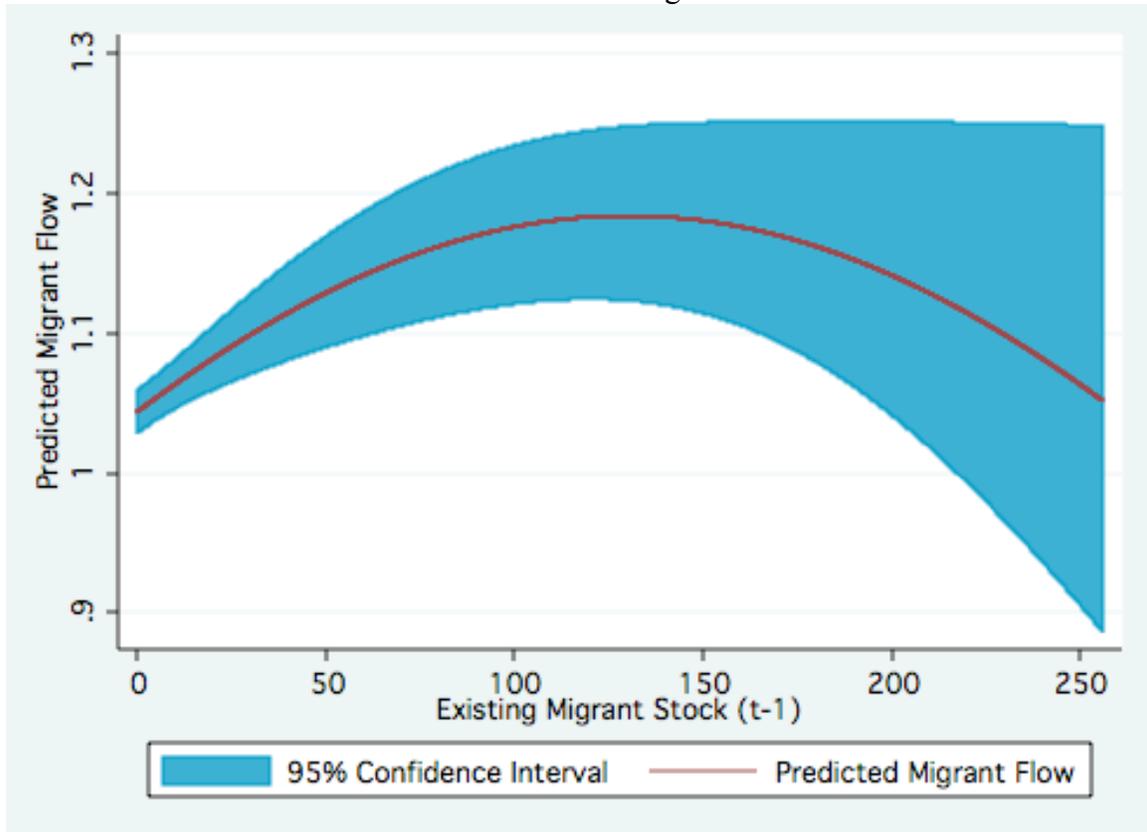
Predicted migrant flow based on a model similar to the model in column 1 of table 2 but with (migrant stock)^2 term included.

Table 1

Largest Immigrant Flows (percentage of total)
2000-2004

Destination Origin	Percentage of total	Destination Origin	Percentage of total
Australia		**Japan**	
New Zealand	21.17	Philippines	30.34
United Kingdom	19.92	China	30.13
China	13.28	Brazil	11.38
India	10.06	Korea, Rep.	8.12
South Africa	8.57	United States	7.57
Austria		**Netherlands**	
Germany	21.91	Germany	12.74
Turkey	18.42	Turkey	12.69
Bosnia and Herzegovina	10.18	United Kingdom	12.27
Macedonia, FYR	9.10	Morocco	11.04
Croatia	8.44	China	7.50
Belgium		**New Zealand**	
Algeria	14.64	United Kingdom	21.86
Greece	14.29	China	18.37
Congo, Rep.	14.11	India	17.25
France	9.90	South Africa	10.14
Netherlands	9.68	Fiji	8.02
Canada		**Norway**	
India	14.65	Sweden	17.14
Hong Kong, China	10.94	Iraq	12.28
China	8.50	Denmark	11.01
Poland	8.38	Somalia	9.07
Germany	8.08	Russian Federation	7.87
Denmark		**Poland**	
Iraq	16.21	Ukraine	34.06
Afghanistan	11.45	Belarus	9.76
Norway	10.34	Russian Federation	8.97
China	8.76	Vietnam	7.16
Iceland	7.99	Germany	7.13
Finland		**Portugal**	
Russian Federation	32.49	Ukraine	31.05
Estonia	17.34	Brazil	22.46
Sweden	10.26	Cape Verde	8.16
China	5.38	Angola	7.67
Thailand	4.65	Moldova	6.33
France		**Slovak Republic**	
Algeria	26.96	Ukraine	17.70

Morocco	25.90	Poland	14.61
Turkey	10.14	Germany	11.45
Tunisia	9.67	Vietnam	6.99
Congo, Rep.	3.67	Austria	6.38
Germany		**Turkey**	
Poland	24.88	Bulgaria	56.79
Turkey	14.10	Azerbaijan	13.82
Russian Federation	9.17	Russian Federation	8.21
Macedonia, FYR	7.33	Iran, Islamic Rep.	8.11
Italy	7.10	Greece	6.72
Hungary		**Spain**	
Romania	61.03	Ecuador	21.40
Ukraine	14.74	Romania	14.04
Macedonia, FYR	6.12	Morocco	13.45
China	3.46	Colombia	11.00
Germany	2.81	Argentina	6.50
Italy		**United Kingdom**	
Romania	21.55	Australia	16.27
Albania	18.14	China	10.52
Morocco	13.22	India	9.41
China	7.13	France	8.77
Poland	6.43	Germany	7.80
		United States	
		Mexico	32.36
		India	11.04
		China	9.27
		Philippines	9.09
		Vietnam	5.43

Table 2
Migration into 26 OECD Countries

	Non-Interactive Model		Interactive Model — Setting Migrant Stock (t-1) at							
			0.00		*0.50*		*2.00*		*5.00*	
Country-Pair Characteristics (t-1)										
Migrant Stock (000s)	0.0008	**								
	0.0002									
Log(Distance (000s))	-0.0300	**	-0.0191	**	-0.0153	**	-0.0041		0.01838	
	0.0030		0.00287		0.00355		0.01022		0.02535	
No Common Language	-0.0290	**	-0.0258	**	-0.0212	**	-0.0073		0.02057	
	0.0108		0.0100		0.0105		0.0150		0.02899	
No Colonial Relationship	-0.0695	**	-0.0788	**	-0.0723	**	-0.0530	**	-0.0142	
	0.0172		0.0176		0.0177		0.0202		0.03137	
Income Ratio	-0.0339	**	-0.0214	**	-0.0148		0.0048		0.04417	
	0.0120		0.0099		0.0107		0.0166		0.03345	
Destination Characteristics (t-1)										
Unemployment	-0.8612	**	-0.8434	**	-0.8392	**	-0.8265	**	-0.8011	**
	0.1201		0.1195		0.1193		0.1193		0.12052	
Govn't Expenditure	1.5910	**	1.6060	**	1.6058	**	1.6052	**	1.60403	**
	0.3312		0.3259		0.3263		0.3274		0.33032	
Extreme Right Support	-0.0648	**	-0.0583	**	-0.0535	**	-0.0390		-0.0102	
	0.0250		0.0247		0.0247		0.0265		0.03562	
Voting Rights	-0.0070		-0.0225		-0.0172		-0.0011		0.03106	
	0.0110		0.0217		0.0115		0.0145		0.0276	
Citizenship at Birth	-0.0340		-0.0347		-0.0291		-0.0123		0.02129	
	0.1384		0.1396		0.1395		0.1394		0.14066	
Origin Characteristics (t-1)										
Economic Growth	-0.0854	**	-0.0677	**	-0.0671	**	-0.0655	**	-0.0622	
	0.0244		0.0230		0.0232		0.0289		0.05127	
Ratio of Pop 15-64	0.0013	**	0.0011	**	0.0062	**	0.0213	**	0.05169	**
	0.0005		0.0004		0.0026		0.0104		0.02596	
Polity Score	0.0007	**	0.0007	**	0.0058	**	0.0213	**	0.05223	**
	0.0002		0.0002		0.0027		0.0106		0.02651	
Civil War	-0.0036	*	-0.0060	**	-0.0006		0.0156		0.04811	*
	0.0020		0.0018		0.0033		0.0107		0.02627	
Control Variables (t-1)										
Actual Immigration	-0.0228	**								
	0.0040									
View of Immigration	-0.0090	**								
	0.0039									
Log(Population) in	-0.0045	**								
	0.0012									
F-Statistic	7.6000	**								
Observations	32,574									

*$p<0.10$ **$p<0.05$

Cell entries are OLS estimates with Newey-West standard errors (adjusted for 5 lags)

Table 3
Migration into EU-15 Countries

		Interactive Model Setting Log(Migrant Stock (t-1)) at							
	Migrant Stock (000s)	*0.00*		*0.50*		*2.00*		*5.00*	
Country-Pair Characteristics (t-1)	Log(Distance (000s))	-0.0111	**	-0.0108	**	-0.0100		-0.0083	
		0.0031		0.0053		0.0166		0.0406	
	No Common Language	-0.0242	**	-0.0224	**	-0.0172		-0.0067	
		0.0088		0.0100		0.0197		0.0445	
	No Colonial Relationship	-0.0829	**	-0.0812	**	-0.0762	**	-0.0662	
		0.0175		0.0181		0.0245		0.0461	
	Income Ratio	-0.0308	**	-0.0292	**	-0.0246		-0.0154	
		0.0134		0.0146		0.0261		0.0568	
Destination Characteristics (t-1)	Unemployment	-0.7163	**	-0.7143	**	-0.7085	**	-0.6969	**
		0.1634		0.1638		0.1655		0.1713	
	Govn't Expenditure	-0.2381		-0.2394		-0.2433		-0.2510	
		0.2376		0.2379		0.2392		0.2434	
	Extreme Right Support	-0.0112		-0.0073		0.0045		0.0281	
		0.0427		0.0425		0.0458		0.0642	
	Voting Rights	-0.0093		-0.0079		-0.0039		0.0043	
		0.0131		0.0130		0.0200		0.0439	
	Citizenship at Birth	-0.0309		-0.0293		-0.0243		-0.0143	
		0.1373		0.1372		0.1377		0.1422	
Origin Characteristics (t-1)	Economic Growth	-0.0569	**	-0.0639	**	-0.0848	**	-0.1268	*
		0.0232		0.0247		0.0378		0.0762	
	Ratio of Pop 15-64	0.0020	**	0.0036		0.0085		0.0181	
		0.0005		0.0042		0.0169		0.0423	
	Polity Score	0.0004		0.0019		0.0066		0.0160	
		0.0002		0.0043		0.0173		0.0434	
	Civil War	-0.0050	**	-0.0031		0.0027		0.0143	
		0.0016		0.0049		0.0176		0.0432	
	F-Statistic	4.98	**						
	Observations	18,666							

*p<0.10 **p<0.05

Cell entries are OLS estimates with Newey-West standard errors (adjusted for 5 lags)

Table 4
Social Networks and Finding Housing: Migrants to Germany

Finding Housing: Migrants to Germany

	Accurate housing information (before migrating) *logit model*	Ease in finding housing (relative to expectations) *ordered logit model*
Log(Migrant Stock)	0.2536**	0.0485
	(0.0798)	(0.0647)
Family in Germany	0.0048	0.3267**
	(0.1849)	(0.1011)
Male	-0.0259	-0.1532*
	(0.1652)	(0.0891)
Age at migration	-0.0046	0.02429**
	(0.0049)	(0.0063)
Log(Distance)	0.1473	0.0582
	(0.1009)	(0.0927)
Colonial Relationship	1.5044	0.62596**
	(1.3733)	(0.2570)
Common Language	-1.7125	0.0626
	(1.38523)	(0.2844)
Constant	-1.0030	
	(0.9549)	
Cut 1		0.6531
Cut 2		2.3776
Wald χ^2	57.98**	4561.29**

N=825 *p<0.10 **p<0.05
Robust standard errors, clustered by country of origin, are in parentheses.
Model includes a set of year dummy variables.