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ESSAYS IN ECONOMICS OF MIGRATION

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Preface

I would like to thank my advisers at Bocconi University, Eliana La Ferrara and Alessandra Casarico, for their professional and personal support throughout the writing of this dissertation, for their insightful ideas, guidance, and encouragement. I also thank my external adviser Alberto Bisin for his help, interest, and stimulating follow-up. Participation to the Politis project has added important motivation to my work. Finally, I also thank all migrants, and people on the move, who I met during the four years of the PhD, and whose personal stories have served as a continuous inspiration for working in the area of migration.

Introduction

Recently, the migration phenomenon gained particular attention in political, social, and scientific discourse, posing new questions and requiring grounded responses to its various challenges. Involving numerous parties, such as sending, transit, and destination countries, as well as their populations, governments, and civic organisations, the topics of migration are highly interdisciplinary and profoundly human: in their essence, they are about people's lives. As such, they increasingly entail the attention of the Economics profession.

This thesis is devoted to studying three sets of questions related to the topic of international migration. The thesis opens with a chapter on the migration perspective of native populations, that is, the attitudes towards immigrants. The second chapter of the thesis focuses on the opposed angle of the phenomenon, which is the immigrants' life in a receiving society, and more specifically, immigrant's involvement into civic activities in the countries of destination. Finally, the last chapter highlights what particular policies countries should and can adopt in the wake of migration that becomes a global issue.

The conjecture of the first chapter of the thesis is that in relatively poor countries, attitudes towards immigrants can be affected by the feeling of relative deprivation that natives experience with respect to immigrants. I extend the existing theory of relative deprivation to the group-level, or collective comparisons, as opposed to previously used notion of individual deprivation, and show how, in the presence of such comparisons, natives may favor immigrants less, or more, depending on their perception of income disparities between immigrants and themselves. This extension offers an additional explanation to the findings of the literature, which suggest that in relatively poorer immigration countries attitudes towards immigrants are more negative than in richer countries; and also that in richer countries poorer natives are more hostile towards immigrants. This theory is applied to the case of a middle-income country, Ukraine, to confirm that the feeling of relative deprivation adversely affects the formation of attitudes, even when the potential endogeneity of relative deprivation is taken into account.

Furthermore, I find that the perception of relative deprivation matters only for those natives who subjectively underestimate their well-being, while for those who overestimate it, relative deprivation does not affect the attitudes' formation. Finally, when considering other forms of natives' perceived disadvantage, such as in terms of employment, access to education or medical facilities, I find that only perceived disadvantage in terms of obtaining medical aid may have an adverse impact on attitudes.

Looking at the immigrants themselves, the second chapter of the thesis focuses on the questions of assimilation of immigrants in the host society, as well as on the questions of potential transmission and persistence of behaviours and culture from which they originate. This part is fully empirical, and it uses the European Social Survey and the World Values Survey to investigate civic participation of immigrants from fifty-four countries of origin to twenty countries of the European Union. Three sets of issues are addressed here. First, the aim is to understanding what factors determine civic participation of immigrants at large. Second, the chapter seeks to shed light on differences and similarities between participation outcomes of immigrants and natives. The main question of culture assimilation is analysed within the traditional synthetic cohort methodology, and also by testing whether the levels of immigrants' civic participation depend on the levels of natives' civic participation in the same countries. In turn, culture transmission is considered by relating the levels of participation of non-migrants in countries of origin to participation outcomes of those who migrate. In addition, the effect of other country of origin and country of destination characteristics on immigrants' civic participation is investigated. The issue of immigrants' self-selection is addressed by matching immigrants to otherwise similar natives and compatriots who did not migrate. The analysis done in this chapter finds limited evidence for the transmission of participation culture across borders, although certain home country characteristics continue influencing participation behaviour of individuals after migration: it is those from industrialised, net immigration, culturally more homogeneous countries who tend to participate more. On the other hand, the culture of current place of residence matters most in that by observing higher (lower) participation patterns among natives, immigrants tend to participate more (less).

Lastly, having addressed the questions pertaining to individual behaviour in the natives' and immigrants' domains, the thesis turns to examining migration management policies set by the countries. In particular, the main idea of this chapter is to bring the transit migration countries into the picture, and to analyse how migration policies set by final destination countries are affected by the presence of the transit countries.

This chapter is theoretical in nature, but it also supplies case-studies evidence from transit migration countries such as Morocco and Ukraine. It shows that when the only migration management tool available to both final destination and transit countries is the entry-restriction border control policies, they can either rival or cooperate regarding the policies they set with respect to the sending country. When both direct and transit migration are among available feasible options for nationals of the sending country, both countries will race up in their border enforcement spending. However, when only transit migration is available, no unique migration management equilibrium between a final destination and a transit country exists. This case raises opportunities for cooperation between destination and transit countries, which, being not stable, suggest why migration policies are extremely complex.

Chapter 1

Attitudes towards Immigrants and Relative Deprivation: the Case of a Middle-Income Country Ukraine

1.1 Introduction

While Western European countries have a long-lasting academic, political, and social debate over the immigrants' impact upon labor markets, welfare state, political and social relations, these issues are still relatively new for other countries, such as Ukraine. This article offers an investigation of determinants of attitudes towards immigrants from Asia and Africa in the capital of Ukraine, Kyiv, and in particular, it studies the effect of relative deprivation on attitudes.

The past decade has witnessed an upsurge of interest in analyzing the determinants of attitudes towards immigrants. Previous empirical and theoretical research has shown that attitudes towards immigrants are strongly determined by sociological and psychological factors, among them racism and xenophobia, but also by the way the natives perceive the impact of the immigrants on the economy, in particular, on labor markets (wages and employment opportunities of natives), welfare state, public finance and efficiency (Dustmann and Preston, 2000; 2006).

The contribution of this paper to the literature on attitudes is two-fold. First, it offers an additional explanation to what determines a positive or a negative sentiment towards foreigners. It operates with a well-known concept of relative deprivation and relative satisfaction, which has been applied to studying migration decisions (Stark, 1984; Stark and Taylor, 1989; 1991), and attempts to understand whether it also affects attitudes towards immigrants. I employ the notion of individual-level relative deprivation (Yitzhaki, 1979) and of comparisons within reference groups (Ebert and Moyes, 2000; Bossert and D'Abrosio, 2006), and extend them to the collective level and to the comparisons made between different reference groups. The choice of collective-level comparisons is motivated by the literature which suggests that it is the feelings of group rather than individual disadvantage that empowers individuals to form an attitude towards it and to effectively deal with it (Smith and Ortiz, 2002).

Using the inter-reference group comparisons, rather than within-group comparisons, the paper offers a theoretical explanation for both across and within countries variation in attitudes towards foreigners that has been documented by other researchers. It suggests that in poorer countries natives are more likely, on average, to be more hostile towards foreigners, than in richer countries (an empirical finding of Brenner, Fertig, 2006), but also that in richer countries natives with lower incomes will be more hostile than natives with higher incomes (which is similar to Mayda, 2006; and O'Rourke and Sinnott, 2003, who suggest that in higher per capita GDP countries individuals with higher levels of skill are more likely to be pro-immigrant).

As such, this theory can be applied to studying migration attitudes in countries at different stages of demographic transition and development (Zelinsky, 1971): the "core" rich immigration countries such as the EU-15, "expanding core", such as most Eastern European countries, and "labor frontier" middle-income countries, such as Morocco or Turkey (De Haas, 2005), which only recently started witnessing immigration phenomenon. The latter countries, including also Ukraine, face similar problems of high income disparities among the natives, considerable poverty rates, and at the same time growing transit migration and immigration of individuals who take up various, not necessarily lowest-paid, positions. Thus, in fact, explaining attitudes through the prism of relative deprivation is suitable in such countries, since some natives can easily perceive being poorer than immigrants. These countries also find themselves in similar positions of facing immigration issues, forming their migration policies and objective opinions of the natives regarding immigrants. To the best of my knowledge, this is the first attempt to study the attitudes towards immigrants in such setting.

Thus, the second and main contribution of the paper is empirical. I test and confirm my theoretical suggestion that in a middle-income country like Ukraine the subjective feeling of relative deprivation perceived by the natives significantly affects the formation of attitudes towards immigrants.

The research builds up on the data of two surveys – a survey of natives of Kiev and a survey of both regular and irregular immigrants to Kiev, conducted in 2000-2001. The survey of natives offers a variety of questions on attitudes towards immigrants from Africa and Asia, or so-called non-traditional migrants (Braichevska et all, 2004), as opposed to more "traditional" immigrants from neighboring Russia, Moldova, or Byelorussia. This survey is also particularly suited for addressing the relative deprivation issue as it has specific questions that allow constructing the measures of relative deprivation. The survey of immigrants is a complementary one in a sense that it contains questions phrased in the same way as in the survey of natives, as well as additional information on many aspects of immigrants' life.

Since the perceived relative deprivation, just like attitudes, is a subjective notion, I control for potential endogeneity employing instrumental variables technique. The instruments for the subjective feeling of relative deprivation are constructed from the survey of immigrants, and reflect objective information regarding the economic disparities between the two population groups. The adverse impact of the perceived feeling of deprivation is robust to the instrumentalisation.

Further, I also find that it is objectively poorer individuals who are most concerned

with the feeling of relative deprivation, while for objectively richer individuals relative deprivation has little effect on attitudes.

Finally, broadening the notion of relative deprivation expressed in incomes, and additionally considering the perceived deprivation with respect to jobs, educational opportunities for children, and opportunities for receiving medical treatment of natives as compared to immigrants, I find some weak evidence that perceived disadvantage in access to medical aid plays a role in formation of attitudes, and that it is the relative deprivation with respect to incomes that has the most robust impact on attitudes.

The chapter is organized as follows. Section 1.2 offers a brief overview of the immigration situation in Kyiv. It is followed by a literature review (Section 1.3) of the research on attitudes towards immigrants and on relative deprivation. Section 1.4 offers theoretical background for the empirical part of the paper. The data used in the analysis are described in Section 1.5. Section 1.6 presents empirical results, and the last section concludes.

1.2 A Brief Overview of the Immigration Situation in Kyiv

Ukraine has recently become an example of a country that is on its transition path from an emigration to an immigration country. While it still has strong and persistent out-migration flows, in the past decade it also witnessed immigration, thus having to deal with the issues of in- and out- migration simultaneously. As a young independent country, it also is still in the process of defining its migration policy and priorities, as well as setting up migration legislation and practices.

Despite the fact that Kyiv, the capital of Ukraine, has long been considered as a multinational city, it also recently witnessed an arrival of what has been referred to as "non-traditional" migrants (Braichevska et al, 2004), that is, immigrants from African and Asian countries. During the Soviet times, foreigners from countries other than the Soviet Union republics were coming mainly within the frameworks of student and working arrangements between the Soviet Union and countries with pro-Soviet orientation, and were supposed to return to their home countries at the end of the programs. It was not until the independence in 1991 that other, new categories of immigrants, started arriving to Ukraine, such as workers, refugees, asylum seekers, irregular immigrants, from countries not traditional to Ukraine. Braichevska et al (2004) distinguish three periods of immigration from Asia and Africa to Kyiv: before 1991, between 1991 and 1998, and

after 1999.

Immigrants who arrived to Kyiv before 1991 account for approximately one fifth of all immigrants of the city. Primarily, they came as students or workers under the agreements between their countries and the Soviet Ukraine, and have stayed after the collapse of the Soviet Union.

The majority of immigrants arrived to Kyiv between 1991 and 1998. Three main reasons account for this increased inflow. First, most of the immigrants came to Ukraine legally in search of employment and better living conditions. Regardless of the economic hardships of the first years of independence, the market reforms and the democratization of civic life made Ukraine attractive for immigrants from Asia and Africa. Second, after the collapse of the Soviet Union, Ukraine found itself with a deteriorated border protection. This was due to the fact that internal borders between the Soviet republics were administrative, and non-protected. Immediately after the independence, eastern and northern borders of Ukraine remained open for foreigners. Delays in creation of the proper border controls, as well as deficiencies in the legislative framework, in the immigration policy and in visa regimes made Ukraine a large transit point for immigrants from Asia and Africa, mainly on their way to other European countries (Malynovsky, 2000). Finally, the arrival of immigrants to Ukraine was also related to external political factors, such as arrival of the new regimes of the Mujahiddin and the Taliban which did not favor its citizens who previously studied or worked in the Soviet Union. As a result, many former Afghan students stayed in Kyiv after completing their studies, and many more, including families with active women, left Afghanistan and moved to Ukraine as refugees (Braichevska et al, 2004, p.17). At the same time, military conflicts in Africa (Mozambique, Ethiopia, Angola and Congo) led to the outflow of refugees who were trying to reach Western European countries. Many of them turned to traffickers who used Ukraine as a transitory point on the way to Western Europe. Having not reached Western European countries, some of them finally settled in Kyiv.

The period of immigration to Ukraine that started after 1999 is characterized by a decreased inflow of foreigners, mainly due to significant improvements in the border controls, a new visa regime, and policies against illegal immigration. By the year 2001, approximately 15,000 immigrants from Asian and African countries were permanently residing in Kyiv, accounting for 0.6% of the total population of the city.

In these new and changing circumstances, Ukrainians experience a formation of an entirely new type of interpersonal relations with immigrants, as well as a formation of a set of complex attitudes towards them. However, to date, the public opinion about

immigrants is being formed by occasional anecdotal evidence from the media, while the governmental policy is still random, and the social discourse on this topic is scarce. In many instances, the attitudes of natives towards immigrants are formed on the basis of occasional personal contacts, but mostly on the basis of rumors and stereotypes. The survey data show that the majority of the respondents do not have an informed opinion on the number of immigrants in Kyiv and their characteristics, and many have never had an experience of dealing with immigrants. It seems important to understand what drives these initial sentiments towards immigrants, so that an appropriate governmental migration policy could be developed in the future.

It should also be mentioned that the case of Ukraine is specific in several aspects. Historically, its labour force is highly educated. According to the 2001 All-Ukraine Census, 28.2% of Ukrainians have higher (university) education, and 31.5% completed high school (minimum obligatory education is 8 years, a completed secondary school). While the distribution of labour force among different sectors of economy and skill categories was quite clear before 1991, the start of the transition period made factor allocations highly distorted (Konings et al, 2002). Privatisation of state-owned enterprises and liberalization of the private sector lead to massive job destructions and to creation of jobs that would require new types of skills. In this situation skilled and unskilled individuals found themselves competing for jobs, rather than complementing each other. For example, currently, in retailing sector, unskilled, and misplaced skilled individuals (former engineers, for instance) perform the same tasks and directly compete with each other. At the same time, the immigrants that Ukraine receives are highly educated too (see Appendix 1.B). However, they do not necessarily perform the jobs for which they were trained, either. In some sense, they compete with some both skilled and unskilled natives at the same time, and complement other skilled and unskilled natives. Also, working primarily in the private sector, or as self-employed, they sometimes earn more than natives, regardless of their skills.

These specificities of the transition period of Ukraine make predictions of some economic models with respect to the formation of attitudes, such as Heckscher-Ohlin model or factor-proportions-analysis model (Mayda, 2006; O'Rourke and Sinnott, 2004), not directly applicable to the case of Ukraine. This is because often skilled an unskilled individuals compete with each other, and because immigrants can become both substitutes and complements to the native's labour force, and it is difficult to distinguish clear groups of losers and winners from immigration among natives of Ukraine. The need to seek other explanatory factors to the formation of attitudes towards immigrants has

been the primary motivation for this paper.

1.3 Literature Review

There has been a growing interest in analyzing the determinants of attitudes towards immigrants lately. In this chapter, I provide a brief overview of this literature, as well as of the literature on relative deprivation.

An increasing negative public opinion towards immigrants as a result of the economic threats in 1890th in North America and in contemporary European countries is documented by Hatton and Williamson (2004). Dustmann and Preston (2000) disentangle three factors that underlie the attitudes towards immigrants: racial prejudice, labour market and welfare concerns. According to them, the latter two factors play a role in determining attitudes towards immigrants only among non-manual workers and more educated individuals while it is racial prejudice alone that drives attitudes of manual workers and less educated individuals. Likewise, Gang, Rivera-Batiz and Yun (2001) find that ethnic or racial prejudice negatively affect the attitudes of natives, and being a labor market competitor, currently or in the past, plays a significant role in explaining negative sentiment towards foreigners. In their 2006 paper, Dustmann and Preston also show the importance of efficiency considerations and public burden concerns in addition to the feeling of labor market competition in the formation of attitudes towards immigrants. In their turn, Bauer, Lofstrom, and Zimmermann (2000) find that natives in countries that receive mostly economic immigrants are more concerned about their impact on unemployment rates than in countries receiving non-economic immigrants.

One of the approaches has been to relate attitudes towards immigrants to a framework of the Heckscher-Ohlin theory, which predicts the groups of winners and looser from trade. For example, Mayda (2006) develops a model based on both the Heckscher-Ohlin and the Factor-proportions-analysis models to show how immigration influences natives' utilities through factor markets. According to her, the degree of production diversification and the skill composition of both natives and immigrants play a role in determining the attitudes towards immigrants. If immigrants are less skilled than natives, then their increased inflow may decrease the relative supply of skilled to unskilled workers, thus leading to the rise in the wages of skilled workers. If, on the contrary, immigrants are skilled, then skilled labour becomes abundant in the receiving country, consequently, the wages of skilled workers decline. These changes in factor prices (wages of skilled and unskilled workers) may have an impact on the attitudes of natives to im-

migrants. In particular, the theoretical prediction, supported by empirical evidence of Mayda (2006), is that "in countries characterized by high skill composition of natives relative to immigrants, skilled (unskilled) individuals should favour (oppose) immigration, while the opposite is true in countries with low relative skill composition of natives to immigrants." Similar conclusions are reached by O'Rourke and Sinnott (2004), and Scheve and Slaughter (2001).

At the same time, the evidence of the real impact of immigrants on the labor markets, for instance, is ambiguous. Borjas (2003) finds that "immigration has indeed harmed the employment opportunities of competing native workers", and Aydemir and Borjas (2007) confirm that increase in labor supply due to immigration has a negative impact on wages (even though the effect on wage structure is not unambiguous). On the other hand, Friedberg and Hunt (1995) offer a literature survey on the labor market effects of immigration and conclude that both empirical and theoretical research on this question gives contradictory answers. Depending on the underlying assumptions of a model (closed or open economy; complementarity or substitutability of the immigrant labor force as of a production factor, to name a few), immigration will have different effects on the labor market outcomes of natives.

In this context, it is apparent that it is the perceived, subjective, rather than objective, economic threats that play a role in the formation of attitudes. Public fears of the labour market competition, or of the downward change of wages due to immigration, for example, may lead to persistent stereotyping and negative perceptions of immigrants. In words of Card et al (2005), it may be the belief that immigrants may affect economic opportunities of natives, rather than the real situation, that leads to the opposition of immigration.

However realistic or unrealistic these sentiments may be, it is important to understand them because in the democratic states they determine political action and governmental policies, reflecting the individual preference of voters. For example, Hatton and Williamson (2004) stress that the voter attitude is influenced by the economic conditions and the quality of immigrants that changes. If economic interests of voters are altered by immigration, they may, correspondingly, support or oppose it (O'Rourke and Sinnott, 2004). Moreover, the sentiment towards immigrants may express itself not only in the voting preference for a specific policy of more, or of less immigration, but also in the voting preference for a particular party. In the words of Friedberg and Hunt (1995), "In Europe, for example, support has risen in recent years for virulently anti-immigrant political parties, such as the National Front in France, the National Alliance in Italy,

and the Republikaner in Germany" (p.24).

In this paper, I link the formation of attitudes towards immigrants to the comparisons made by natives regarding their own well-being and the well-being of immigrants. For this, the relative deprivation and relative satisfaction framework is chosen, as it allows using inter-group comparisons (natives versus immigrants) and operating with the notions of subjective feelings and perceptions.

The concept of relative deprivation has been formally stated by Runciman (1966) as a perception of being unfairly disadvantaged compared to other individuals as a result of not having something that others have, and wanting to have it. The twin concept, that of relative satisfaction (or relative gratification)[1], is based on the feelings of having, and in this sense it is closely related to the notion of utility (Yitzhaki, 1979). The underlying utility function, however, can have various forms, so that the utility of having can be positive or negative. What matters for the relative satisfaction, is the fact that an individual does possess some items (or income) that not necessarily every one else has.

Links between attitudes towards a particular reference group and the feelings of deprivation are widely researched in the field of psychology. For example, Pettigrew (2002) constructs a model that explains the determinants of blatant prejudice. Using Eurobarometer 1988 data, he finds that, after accounting for relative deprivation, there is no direct impact of family income or subjective social class on prejudice.

Another reason for choosing the relative deprivation framework is that it allows distinguishing between the feelings of individual and group deprivation. It has been proven that feelings of group, rather than individual relative deprivation are a better predictor of collective actions, and are more linked to the promotion of social change, than personal relative deprivation (Tougas and Beaton, 2002). Moreover, group deprivation can lead to political protest and active attempts to change the social system (Smith and Ortiz, 2002) - something to consider when predicting the voters' behavior and formation of the immigration policy.

1.4 Theoretical Framework

If the differences between natives and immigrants in terms of income exist and are strongly perceived by the natives, do these differences play a role in determining the

[1] In the economic theory, this concept is more known as relative satisfaction (Yitzhaki (1979), Hey and Lambert (1980)). In sociology, this concept is more known as relative gratification, or relative advantage (Pettigrew, 2002).

attitudes towards immigrants? In order to answer this question, a concept of relative deprivation is applied to studying the attitudes of natives towards immigrants.

I make the following assumptions. First, individuals are concerned with their well-being, and derive their utility from their income and the feeling of relative valuation: $Ui[yi, RVi]$, where RVi is a feeling of either a relative satisfaction or a relative deprivation of an individual, whichever is the strongest. I assume that the more acute is the relative deprivation, the lower is the utility, while stronger feeling of relative satisfaction leads to higher utility. I also assume that the second derivative of utility with respect to relative valuation is negative, which is different from Stark (1984). The assumption of a negative second derivative is motivated by the observation that a stronger feeling of relative satisfaction, for example, can provide a feeling of pleasure of one's own position, and a pity for the disadvantaged, but on the other hand, an increasing feeling of relative advantage may lead not only to the diminishment of pleasure but almost to the negative feelings of gloating or disgust.

Second, the attitudes of individuals are a linear function of their utilities, $Ai = f(Ui)$, and lower values of an attitude mean that an attitude is rather negative than positive. An increase in the feeling of relative deprivation leads to less positive attitudes, while an individual is likely to have more positive attitude towards someone compared to whom he feels relatively satisfied.

The third assumption is that the mechanism of forming the attitudes works through the comparisons that individuals undertake. Thus, when forming attitudes toward and immigrant, a native makes a comparison between an immigrant group at large, and herself; or between her group of natives and the group of immigrants. Depending on whether a comparison is made on an individual, or on a societal level, as is formalized below, an individual may consequently feel relatively deprived (satisfied) in individual, or in collective terms. Thus, the utility can be derived based on an individual, or on a group relative deprivation (satisfaction), and the attitudes are formed correspondingly.

Both types of comparisons, on an individual level, and on a collective level, assume that there exist two reference groups for a native: a reference group of natives, and a reference group of immigrants. While Bossert and D'Abrosio (2006) operationalize various comparison groups for deprivation measurement as subgroups of the only reference group characterized by an income distribution, here I make a distinction between two reference groups, and characterize them by two distinct income distributions. This seems to be more appropriate as I speak about non-homogeneous groups, since natives and immigrants differ not only in the underlying distribution of incomes, but also in

many other characteristics, and when comparing themselves to other members of a reference groups of natives, natives rarely include immigrants in their natives' reference group. Thus, the formation of attitudes of an individual with the utility function as above comprises of the following elements.

There is a continuum of homogeneous natives N, who differ only in the incomes they have. Each income unit of natives can be represented by an income range, $[y, y + \Delta], \Delta y \longrightarrow 0$. There is also a continuum of immigrants, M, whose incomes are denoted in a similar way: $[y, y + \Delta], \Delta y \longrightarrow 0$. I explicitly do not make a difference in the notation of incomes, as what matters is the reference group, which in its turn is determined by an income distribution. As in Bossert, D'Ambrosio (2006), the reference group is defined independently of an income distribution, but once defined, it is characterized by some income distribution which influences the way an individual perceives her deprivation within this chosen reference group.

1.4.1 Individual-Level Comparisons

Consider first that a relevant reference group for a native, when assessing his or her degree of relative deprivation, is the group of all other natives. Suppose also that the cumulative income distribution of this reference group is characterized by the following function: $F(y) = \int_0^y f(z)dz$, so that $1 - F(y)$ is the relative frequency of individuals whose income is above y. Thus, within the group of natives, an individual's relative deprivation is an increasing function of the relative frequency of all natives whose income is higher than yi , and an individual's relative satisfaction is an increasing function of the relative frequency of all natives whose income is lower than yi (Yitzhaki (1979):

$$RD^n(y_i) = \int_{y_i}^{y^*} [1 - F(z)]\, dz, \quad RS^n(y_i) = \int_{y_0}^{y_i} [1 - F(z)]\, dz$$

The relative self-valuation within the reference group of natives is then:

$$RV^n = \begin{cases} RD^n, \ for \ \forall \ y > y_i \ ; \\ RS^n, \quad for \ \forall \ y < y_i \ ; \end{cases} \qquad \text{or,}$$

$$RV^n = \begin{cases} \int_{y_i}^{y^*} [1 - F(z)]\, dz, \ for \ \forall \ y > y_i \ ; \\ \int_{y_0}^{y_i} [1 - F(z)]\, dz, \ for \ \forall \ y < y_i \ ; \end{cases}$$

Consider now a formation of attitudes towards immigrants, say, through answering a question such as "What is your individual well-being as compared to immigrants?" A new reference group is now the group of immigrants, rather than of the natives. When comparisons are made on an individual level, a native takes immigrant's income

distribution as given and views her income as a part of this distribution (since the incomes are continuous, the presence of a native's income in this distribution has only a negligible impact on the change of the distribution). If the immigrant's reference group is characterized by an income distribution with the cumulative function $G(y) = \int_0^y g(x)dx$, her individual relative deprivation is now:

$RD^m(y_i) = \int_{y_i}^{y^*} [1 - G(x)]\, dx, \quad RS^m(y_i) = \int_{y_0}^{y_i} [1 - G(x)]\, dx,$

and $RV^m = \begin{cases} RD^m, \ for \ \forall \ y > y_i \ ; \\ RS^m, \quad for \ \forall \ y < y_i \ ; \end{cases}$ within the reference group of immigrants.

In principle, it is enough to introduce only such individual-level comparison in order for it to enter an individual's utility function as defined above. However, as a large literature in sociology suggests, more often than not there exists another type of comparison that individuals undertake when facing a different group: a feeling of societal, or group deprivation. This form of deprivation is formed when an individual answers the question such as "What is the well-being of natives as compared to immigrants?" (Walker and Smith, 2002). Framing the same problem in either personal or group terms can lead to different reactions. Personal relative deprivation results in personal enhancement strategies, while group relative deprivation leads to strategies that aim to improve the situation of the whole group (Runciman, 1966).

1.4.2 Group-Level Comparisons

Group relative deprivation is referred to comparisons made between oneself as a representative of a specific group and the members of another reference group (Tougas and Beaton, 2002), and can be viewed as a result of the generalization of experiences of personal relative deprivation (Pettigrew, 2002). When comparison is made on the societal level, inter-group comparison takes place, and the income distribution of natives is compared to the income distribution of immigrants.

Assume that such comparison works through an assessment of the difference between average income of a native's primary group as opposed to the average income of her secondary group[2]. Then, relative group valuation is a feeling of being group deprived, if the average income of the primary reference group is lower than the average income of the secondary reference group, or it is a feeling of being relatively group satisfied, if the reverse is true:

[2]For the definition and derivation of relative deprivation and satisfaction in a society see Yitzhaki (1979) and D'Ambrosio and Frick (2004).

$$RGV = \begin{cases} RGD, \ if \ \int_0^{y^*} zf(z)dz < \int_0^{y^*} xg(x)dx \\ RGS, \ if \ \int_0^{y^*} zf(z)dz > \int_0^{y^*} xg(x)dx \end{cases}$$

where RGD is a relative group deprivation perceived by an individual, and RGS is relative group satisfaction.

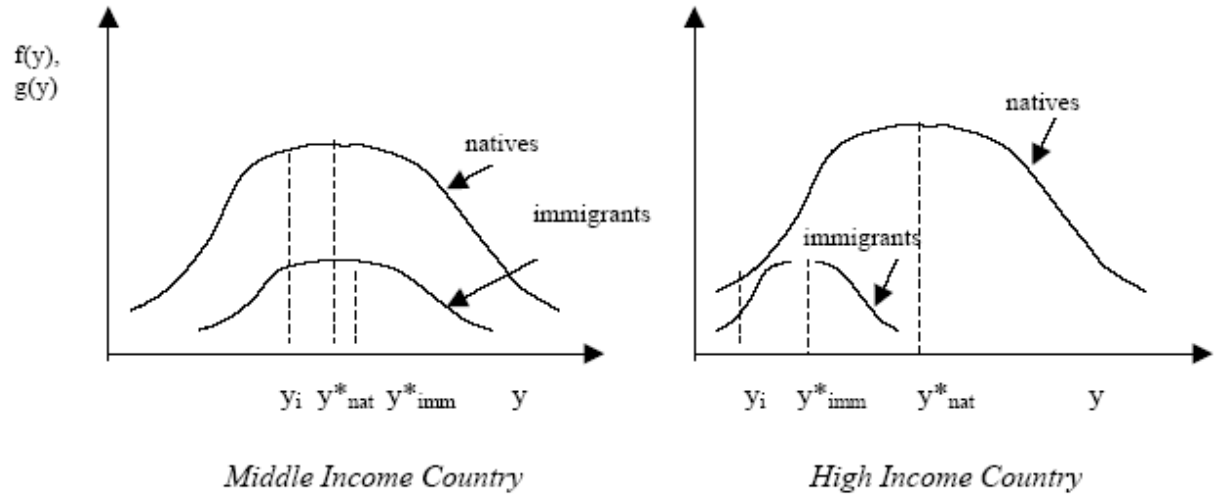
This formulation has some interesting empirical implications. Consider the case of two receiving countries, a rich country that has accomplished its migration transition path and is a net immigration country (such as, for instance, France), and a medium-income country that is simultaneously a sending and a receiving one (such as Ukraine or, for instance, Morocco).

In a medium-income country it is quite likely that an average income of immigrants is similar to the average income of natives (Figure 1.1). This is because there is a large proportion of natives who occupy relatively little-paid positions, as well as there is a considerable number of natives who are unemployed and/or may even live below the poverty line. Arriving immigrants may find themselves in a situation similar to many natives, if not in a better one. Thus, it is possible that the immigrants' average income is larger than the average income of natives. Even if this is not the case, natives may perceive that immigrants' incomes are higher, since the average incomes are similar and since natives may feel threaten by this proximity and similarity. As Runchiman (1966) explains, it does not matter whether the feeling of deprivation is real or perceived, what matters is the feeling (utility) that it invokes, and this utility will have a direct impact on the corresponding attitudes.

This deliberation suggests that in more rich countries, where immigrants join the lowest part of the income distribution, rather than match the existing distribution of natives, attitudes towards immigrants on average will be higher than in medium-income countries. This finding has been empirically confirmed by Brenner and Fertig (2006), even though they provide a different explanation to their results.

Even in rich countries, if natives form their feeling of relative deprivation within comparison, rather than reference groups, that is, when a population of natives itself can be sub-divided into groups within which income comparisons are made, there will be group of natives who can still can perceive relative deprivation with respect to immigrants. This is because it is plausible that natives at the lower part of the distribution will compare their incomes to the comparison group of natives of the lowest part of the natives' income distribution only, as well as to the reference group of immigrants. In fact, certain studies find that low-skilled low-educated natives have stronger anti-migration attitudes than other natives (Mayda, 2006; O'Rourke and Sinnott, 2004). They explain

Figure 1.1: Income Distributions of Immigrants and Natives



this finding suggesting that since immigrants are in their majority low-skilled as well, their presence increases competition for jobs and pushes down wages. The notion of relative deprivation and inter-group comparison offers an alternative explanation to the negative sentiment of the low-skilled individuals who are often low-paid as well.

1.5 The Data

Two individual-level data sets, obtained as a result of two surveys, are used for the empirical analysis. The surveys were conducted within the framework of the Comparative Urban Studies Project "Nontraditional Immigrants in Kyiv" in 2001–2002, with the support of the George F. Kennan Fund of the Woodrow Wilson International Center for Scholars' Kennan Institute, and with the assistance of the US-Ukraine Foundation and the Office of the United Nations High Commissioner for Refugees (UNHCR) in Ukraine.

1.5.1 Natives

The first data set comes from a survey of natives of Kyiv and covers 1,000 respondents. I use these data to extract the major part of information about the attitudes of natives towards immigrants. During the survey, natives of Kyiv were asked a variety of questions regarding their attitudes towards immigrants from Asia and Africa, allowing to

construct several variables measuring attitudes. In addition, the survey contains extensive information on social and economic characteristics of natives. Based on the principle of multilevel quota sampling, it represents well the adult population of Kyiv according to gender, age, level of education, as well as territorial features (Kyiv city districts). A detailed explanation of the multilevel quota division, as well as the sampling techniques, are provided in the Project Report "Nontraditional immigrants in Kyiv" (Braichevska et al, 2004).

Measuring Attitudes

To measure the attitudes, I rely on answers to several questions, which help revealing the sentiment towards immigrants. As in much of the previous empirical work (Dustmann and Preston, 2001; Dustmann and Preston, 2006; Fertig and Schmidt, 2002; Gang et al 2001), there is a set of questions concerning opinions about immigrants which can be grouped into several categories reflecting various concerns of natives. The precise wording of these questions is provided in Appendix 1.A. Of these questions, the following dependent variables were constructed. First, it is a variable called "Acceptance", which equals to one if an individual has answered "yes"[3] to at least one of the questions about readiness to accept immigrants either as members of a family, or as close friends, or as neighbors, or as micro-district residence, or as city residents. Second, it is a variable called "Positive Attitude", if an individual believes that residents of the city, on average, have a non-negative attitude towards foreigners. Finally, I construct a variable "Pro-Immigration Government", which equals one if natives believe that the government should help immigrants or treat them as natives.

Measuring Relative Deprivation

In the survey, natives were asked to assess their own material well-being, the material well-being of all natives of Kyiv, the well-being of immigrants, as well as opportunities for employment, education for children, and medical help for natives and of immigrants, on the scale from 1 to 5. Thus, with the data at hand it is possible to construct the measures of both individual and group relative deprivation of natives.

[3]The problem with creating dependent variables is that most of the questions contain three response options: "yes", "no" and "difficult to say". I estimated all models with omitted "difficult to say" responses, and also with "difficult to say" responses treated as "no" answers. Different treatment did not affect the results significantly. Eventually, I kept the binary variables with zeros standing for "no" and "difficult to say" responses.

First, group relative deprivation is constructed by subtracting the answers to the question "Estimate the financial status of non-traditional immigrants in Kyiv on the scale from 1 to 5, 1 meaning "poor", and 5 meaning "very well off"" from the answers to the question "Estimate the financial status of the residents of Kyiv on the scale from 1 to 5, 1 meaning "poor", and 5 meaning "very well off "". The resulting difference in answers, discretely distributed on a scale from –4 to +4 is treated as the "relative self-valuation" variable. While it may be interesting to work with this variable in itself, I turn it into a dummy variable of relative group deprivation, with one standing for the feeling of deprivation. The reason for not working with the relative self-valuation variable is that, since the reported financial status is subjective, I cannot effectively distinguish between the relative self-valuation coded as, for example, –2 and that coded as –1 by a native. As the scale of responses is not necessarily consistent across respondents, a single dummy capturing whether the person feels deprived or not seems to be more meaningful.

Further, I construct a dummy variable that reflects the difference in perceived employment opportunities for natives and for immigrants. Taking differences of the reported easiness of finding employment in Kyiv for natives and for immigrants estimated on the scale from 1 to 5 (5 meaning that the chances are high), I then construct a binary variable, "employment concerns". This variable equals 1 if natives believe that immigrants have more chances to find a job in the city than natives. In a similar way, I construct variables measuring perceived differences in opportunities for education of children, and medical help of natives and of immigrants, supposing that a natives feels deprived of, say, educational opportunities, if she feels that immigrants have more access to them than natives.

Other Independent Variables

In the estimations of attitudes, I use socio-economic variables standard to this type of research (Dustmann and Preston, 2001; Gang et al, 2001; Mayda, 2006). These include age, gender, education, and labor market variables. Table 1 contains their descriptive statistics.

Age is collapsed into 6 main categories: less than 20 years old, from 20 to29, from 30 to 39, from 40 to 49, from 50 to 59, and above 60. Two largest categories of respondents are aged between 30 and 49. Likewise, education is described by four categories (the highest educational attainment is reported): completed secondary school, completed high school, vocational training, and higher (university) education, of which I construct two dummies: university education and vocational training. The predominant majority

of respondents have either completed their secondary education, or vocational training (39.62%, 30.02% respectively). Women comprised 53.9% of the surveyed participants. Additionally, I generate dummy variables indicating whether a respondent is employed in private sector, in state sector (omitted category is student or military), or unemployed.

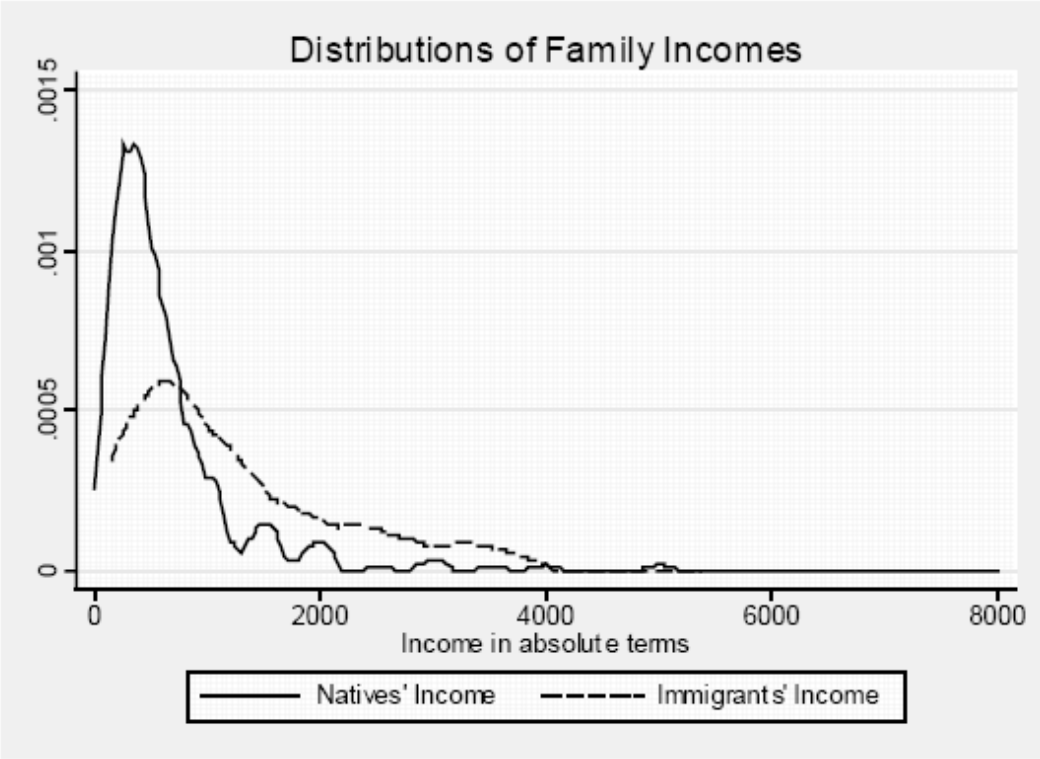
The survey also provides information on whether a native was born in Kyiv or has migrated to the city from either another town or village in Ukraine, or even from another former Soviet Union republic. I construct a variable equal to one if an individual has had migrated to Kyiv herself. More than 56% of the respondents were born in Kyiv, the rest have arrived to the city at various stages of their lifetimes. Even those respondents who were not born in Kiev are considered as "natives", since they are the nationals of Ukraine. Lastly, I also explore whether answers to the questions "Have you ever communicated with an immigrant", (as a measure of exposure to foreigners), and "In your opinion, what are the reasons that drive immigrants to Kyiv?" impact the attitudes. Coming to Kyiv for studying, in search of better life, and for transit, are among the most often named reasons.

Table 1.1 also includes the descriptive statistics of the sample of immigrants. Of note is that immigrants are on average younger than natives and there are more males among them. One of the particularities of natives of Ukraine and of immigrants from Asia and Africa is that both groups have high level of educational attainment. The survey of immigrants shows that, unlike in the United States, for example, where immigrants have lower educational attainment than natives (Borjas, Freeman and Katz, 1997), immigrants to Ukraine have higher educational attainment than natives, a result which is not surprising given the migration scenario of Ukraine described above. Further, immigrants are employed predominantly in the private sector, but there is also a significant proportion of unemployed immigrants.

[Insert Table 1.1 here]

The survey of natives does not contain information on household size; thus, only family incomes are used in the analysis. This is perhaps one of the main drawbacks of the analysis, because families of natives and of immigrants may differ in size, and the unavailability of data on personal income may hinder true income disparities. Also, it is not possible to apply equivalence scales to these data. The interpretation of the results is framed by these limitations. According to the descriptive statistics, families of immigrants on average have higher income than families of natives. Figure 1.2 also reveals that natives' income distribution has a long tail of few rich families, however, it is quite skewed to the left, suggesting that a large part of respondents had quite low

Figure 1.2: Distribution of Family Incomes: Natives and Immigrants



incomes. Immigrants' income distribution is quite similar to the one of natives, even though there are no very rich immigrants as compared to natives. However, there is a certain range where immigrants' distribution is higher than that of the natives. Despite comparisons based on family-income level, this graph gives an idea why as many as 0.413% of natives may feel deprived or feel that their income position is threatened. The next section sheds more light on similarities and differences between these two population groups.

1.5.2 Immigrants

The second survey used in the empirical analysis is also conducted in 2001, and covers 547 immigrants from 23 countries of Africa and Asia to Kyiv. The survey covers a lot of children as well, and, after constraining the sample to individuals of 14 years of age and above, only 397 respondents remain in the sample. Main socio-economic characteristics of immigrants are also summarized in Table 1.2 (for a more detailed comparison of natives and immigrants see Appendix 1.B). As described further, I use this sample to

construct instruments for the feeling of relative deprivation of natives.

[Insert Table 1.2 here]

The questionnaire for these data is designed in a similar way to the questionnaire for natives, and phrases some questions in exactly the same way. In particular, immigrants are asked in the same manner as natives to assess the well-being of immigrants and of natives in Kyiv. In what follows, I explore these complementary questions across the two data sets.

To start with, consider responses to the question "assess the well-being of immigrants in the city on the scale from 1 to 5" given by immigrants. While natives believe that immigrants are significantly better off financially than Kyivans (assessed well-being of immigrants is 3.106 versus 2.686 of the group of natives, given by natives), immigrants are convinced of the opposite. According to them, material well-being of natives is as high as 3.471 on a one to five scale, versus 2.466 of their own. At the same time, self-reported well-being is very similar for both natives and immigrants. Table 1.2 provides a comparison between assessed status of natives and immigrants. It is interesting to note that immigrants rank natives' chances to find employment much higher than their own, as well as much higher than natives do, while natives only slightly overestimate immigrants' employment opportunities, and rank them lower than their own. Immigrants also rank educational opportunities for children of natives as being much higher than educational opportunities for children of immigrants. Meanwhile, natives too believe that they are slightly more advantaged with respect to education, but also rank immigrants' chances for education higher than immigrants do themselves. Finally, while immigrants rank highly opportunities for receiving medical help both for the natives and for themselves, natives are less fervent believers that this is the case. Overall, immigrants tend to attribute higher rankings to natives within all four categories of concern, and natives tend to do the reverse. However, it is only within one category – material well-being – that natives also feel significantly disadvantaged as opposed to immigrants. The empirical analysis shows how these perceived disparities affect the formation of natives' attitudes, and whether incorporation of more objective information helps reducing the bias which may result from potential overestimations.

1.6 Estimation Strategy and Results

1.6.1 Single-Equation Probit Model

The attitudes that I are trying to capture are not observed. Instead, we have to reveal the attitudes, relying on the measures of individual opinions regarding several attitudinal questions. Similar approach has been widely used in the literature on attitudes: Dustmann and Preston (2001), Fertig and Schmidt (2002), Gang et al (1994), face similar problem of having to rely on a set of measures proxying latent attitudes rather than using an observed measure.

We observe a set of discrete (binary) responses to the set of questions regarding immigrants. Denoting by A the attitudes, and by A^* the corresponding latent, true, attitudes, $A = 1$ reveals a positive ("yes") answer to an attitudinal question, and $A = 0$, otherwise. Given this, the problem is formulated as a latent variable model.

$$A_i^* = \beta_1 + X_i\beta_1 + RD_i\beta_2 + e_i \tag{1.1}$$

where X is a vector of socio-economic characteristics of individuals, RD is a perception of relative deprivation, and e is a normally distributed random error with zero mean and unit variance. Natives will only respond positively to an attitudinal question if the expected benefits of such answer are positive. Hence, the probability that a native gives a positive answer is

$$Prob[A_i^* = 1] = Prob[X_i\beta_1 + RD_i\beta_2 + e_i > 0] \tag{1.2}$$

The chosen method of estimation is probit for three questions measuring the attitudes. Additionally, I employ OLS estimation for the first principal component (Appendix 1.C).

1.6.2 Further Probit Model Specification and Results

Table 1.3 contains estimation results for three attitudinal responses as well as the first principal component of these responses based on (1). This specification, in addition to the group relative deprivation, includes the variables measuring respondent's age, gender, education (a dummy for a professional education and a dummy for a college or a university education), dummies indicating whether an individual is employed in private or in state sector, and a dummy for being unemployed. I also include a dummy that

reflects whether an individual herself migrated to the city in the course of her lifetime (previous migration experience).

[Insert Table 1.3 here]

The table reports marginal effects and their robust standard errors, as well as robust OLS coefficients for the first principal component's regression. Even though each attitudinal question is believed to reflect the true attitudes, the variability in size and significance of estimated coefficients suggests that attitudes are a complex phenomenon, and that each of these questions captures only some specific aspect or side of them.

For example, readiness to accept immigrants or vote for a pro-immigration government tends to reduce with age, while there is no relationship between age and the belief that natives in general have a positive attitude towards immigrants. Gender does not seem to matter. Surprisingly, education does not play a significant role in explaining the attitudes, and neither does the employment status (the latter finding is consistent with the findings of Brenner and Fertig, 2006; and Fertig and Schmidt, 2001). Regarding the sector of employment, it is those employed in the state sector who tend to be more opposed to immigrants, even though there is a slight evidence that those employed in private sector tend to think that natives on average dislike immigrants. Further, those who have experienced migration to the city themselves are much more open to viewing immigrants positively and to accepting immigrants than those who were born in it, suggesting that these individuals may be familiar with the problems immigrants face when settling down, or that they are also more likely to be more open to new ideas and more tolerant than those born in the city. This is in line with the finding of Haubert and Fussell (2006) who find that people with a more cosmopolitan outlook and those who ever lived abroad have a higher opinion of immigrants. Finally, the feeling of relative group deprivation is significant and negative throughout, indicating that a perception of relative disadvantage in terms of incomes explains a significant part of a negative feeling towards the newcomers. This result is also confirmed for the first principal component's regression, which is a linear combination of optimally-weighted three variables in question.

It is worth mentioning that in this table I do not control for income as it is missing for almost one third of the respondents. However, income may be an important variable in this type of estimation. Income may reflect certain lifestyle, which in its turn may be correlated with the way immigrants are perceived. For example, individual's relative income status was found to have a strong association with pro-trade attitudes (Mayda and Rodrik, 2005), which may be related to pro-immigration attitudes too. I thus

estimate equation (1.1) for a sub-sample of those whose income is known, even though there may be some non-randomness among those who chose not to report their income, thus causing its own bias. The results are presented in Appendix 1.D. The marginal effect of (coefficient on) income variable is negligible in size and insignificant in all four equations, while other results are not affected either. While quite surprising, similar result is also reported by Pettigrew (2002) who finds no direct effect of income on prejudice after mediation by relative deprivation. Thus, in all further estimations I continue working with the full sample and omit the income variable.

[Insert Table 1.4 here]

Table 1.4 offers an extended specification. It additionally includes the variable "prior communication", which is a measure of exposure to immigrants and their lifestyle, and which is also believed to reduce the measurement error and / or the stereotype. I also add the variables that reflect the believed reasons for immigration: whether a native believes that immigrants come to study; to seek better life; or are in transit. While previous communication does not seem to affect the attitudes, the belief that immigrants come for studying makes natives more ready to accept immigrants into their lives. This belief does not affect other aspects of attitudes, however, but the significant coefficient on the first principal component suggests this belief is indeed important in the overall formation of attitudes. While other named reasons for immigrants' presence in Ukraine do not tend to affect attitudes, there is a slight evidence (column 4) that immigrants believed to be in transit would be less welcome than others. At the same time, the coefficient on the feeling of group relative deprivation, as well as on other variables, are almost unchanged.

1.6.3 Instrumenting Relative Deprivation

The attitudes that I are trying to measure not only are not observed, but also they are subjective. In the same way, the perception of relative deprivation is also a subjective notion, which may make this variable endogenous to attitudes. In an attempt to find a suitable instrument, I consider indicators of an objective well-being of natives, with the idea that such measures should have a direct implication for the degree of gravity of the subjective perception of deprivation, but not for the attitudes towards immigrants. Stated differently, I look for measures which would affect only the extent of the subjective feeling of relative deprivation but not the way immigrants are subjectively perceived. Such indicators are constructed from the survey of immigrants.

In particular, I construct three instruments. First, potentially the most objective measure of immigrants' well-being is the self-reported individual income. I use the

reported family income and divide it by the number of family members. The conjecture is that immigrants' income does not affect natives' attitudes directly, but rather works through the feeling of deprivation (or satisfaction) that it may invoke.

Second, to ensure that the self-reported income truly reflects the well-being of immigrants, and also to explore the rich data at hand, I construct an index showing whether immigrants have furniture, china, and home utensils (a sort of an "asset" index; with values from one to four, higher values indicating more modest possessions). The idea behind using this index is that it also may reflect the true well-being of immigrants, the one that may be visible to their landlords and their neighbours, and thus, correlated with the feeling of relative deprivation that they may have as a result. Again, the natives' attitudes themselves should not be related to the amount of things immigrants possess, rather, the relationship works through the perception of natives' advantage or disadvantage.

Finally, I construct an index reflecting where immigrants buy their food and clothing: in the shops (hinting at most expensive choices), organized markets (reasonable), unorganised flea markets (more basic), or whether they receive them through humanitarian aid. Higher values of this index indicate most affordable (cheapest) solutions. The choice of the most common shopping place that is observed by the natives should signal to them the true well-being of immigrants, thus affecting their perceived deprivation (satisfaction). However, the fact that immigrants shop at organized or flea markets should not by itself affect whether natives want to accept immigrants or be more pro-immigrant.

All three indices have quite low degree of correlation: -0.114 between income and a location choice for shopping; -0.038 between income and the amount of furniture; and only -0.0027 between location choice and the amount of furniture. Potentially, this is because even individuals with reasonable incomes may find it unaffordable to buy furniture. Also, they may not want to buy a lot of furniture, and likewise shop in non-expensive places for food and clothes, in order to save money (for example, to finance their private businesses or, for some, their future moves: 58,13% of immigrants responded they would try to move from Ukraine to another country). Thus, these indices offer some additional insight on the living conditions of immigrants.

It is important to stress once more that all three variables reflect more or less objective information about immigrants, in a sense that this information that can be screened and verified by the natives. To strengthen this idea, I also constructed indices of nutrition diversity, reflecting what types of products and with what frequency immigrants eat. While this index is quite similar to the asset index and the shopping place choice index

in that it reflects the true material well-being of immigrants, what immigrants eat is not directly observable by the natives. I found that such index has almost no correlation with the natives' perception of relative deprivation and fares poorly as an instrument. In a similar way, a measure of immigrants' well-being as assessed by immigrants themselves, rather than by natives, also works poorly as an instrument: it reflects immigrant's subjective thinking, not their objective well-being (although these two are correlates), and it cannot be effectively recognized by the natives.

To use these measures as instruments, I match natives and immigrants on the basis of age and area of living. Each native of a specific age and living in a specific area is thus assigned an average value of these indices, averages corresponding to the values of these variables for immigrants within the same age groups and areas of living.

Table 1.5 contains the two stage least squares estimates of the attitudinal responses.

[Insert Table 1.5 here]

The instruments fare well according to the test statistics: in all cases, Hausman test fails to reject the join null hypothesis of weak exogeneity and no measurement error in the relative deprivation variable, while Sargan test of overidentifying restrictions suggests that the excluded instruments are uncorrelated with the error term and correctly excluded from the estimated equation, and hence are valid. The coefficients on the feeling of group relative deprivation remain significant throughout. Moreover, the magnitude of coefficients increased, suggesting that a part of a positive bias has been eliminated through instrumentalization.

1.6.4 The Relevance of Relative Deprivation for Objectively Less Poor

One further question to address is whether the feeling of relative deprivation has the same impact on the formation of attitudes for richer and for poorer individuals. In the spirit of La Ferrara (2002), I divide the sample of natives into the sample of those who subjectively overestimate, and those who subjectively underestimate the degree of their feeling of deprivation. As a benchmark, I use the average value of natives' well-being as assessed by immigrants (that is, I average the response of immigrants to the question "estimate material well-being of natives on the scale from 1 to 5, 5 being the highest value"). Natives who consider their (group) well-being to be higher than that assessed by immigrants, are in a group of over-estimators of their well-being; while natives who consider their well-being to be lower or equal to what immigrants think are in a group

of under- or neutral estimators. I repeat my basic estimations such as (1) for the two sub-samples[4].

[Insert Table 1.6 here]

Table 1.6 summarizes the results (I continue instrumenting relative deprivation). Those who view themselves as more disadvantaged, form their attitude towards immigrants in a large part on the basis of their perceived deprivation. On the other hand, for those who overestimate the well-being of Kievans, the feeling of relative deprivation is of no relevance in the formation of attitudes towards immigrants. Potentially, these are also those individuals who view themselves as relatively more satisfied, rather than deprived, compared to immigrants. Yet, their perceived advantage does not translate into a more positive attitude towards the newcomers. This result is well-known in psychological research, which shows that while unfortunate tend to compare themselves with the more fortunate and form emotional reactions on the basis of such comparisons, individuals in more advantaged positions tend not to compare themselves with the disadvantaged and have a less pronounced sentiment with regard to their advantage (Leach et al, 2002).

1.6.5 Deprivation in Terms of Income, Employment, Medical Help and Education Opportunities

Finally, exploring the rich data at hand, I also consider other forms of deprivation, or rather, of disadvantage perceived by the natives. These are the perceived differences in employment opportunities, or chances to find a job; opportunities for obtaining medical help; and opportunities for education of children. These variables are constructed in the same way as the variable of group relative deprivation. In particular, natives were asked to assess, on the scale from 1 to 5, 5 being the highest, opportunities and easiness of finding employment separately for natives and for immigrants; as well as opportunities for education and for obtaining medical aid. If the difference between two responses is positive, natives feel relatively more advantaged; if the difference is negative, they feel relatively more deprived of these opportunities. As before, the conjecture is that those in a disadvantaged position may feel more hostile towards immigrants.

First, I estimate separately regressions in which only one form of deprivation at a time is included. Results of these estimations are presented in Table 1.7. In this table, each cell presents a marginal effect on a specific form of deprivation in a specific attitudinal equation. Neither potentially perceived deprivation in terms of employment

[4] Average well-being of natives as assessed by natives was also considered as an alternative benchmark. Similar findings are obtained and are available on request.

or in terms of education opportunities seems to affect the attitudes towards immigrants. This result is quite surprising, especially the former one, given the popular thinking that immigrants and natives may compete for the same jobs. This finding is in line, however, with the finding reported by Dustmann and Preston (2006), who show that natives may be more concerned with the overall public burden and efficiency considerations rather than narrowly specified labour market competition.

[Insert Table 1.7 here]

Additionally, referring once again to Table 2 of the descriptive analysis, I can see that, on average, natives perceive themselves as being relatively more advantaged in terms of both finding a job and having more access to education. As in the previous section, this is another confirmation of the fact that while the disadvantage translates into negative feelings, perceived advantage does not necessarily produce positive emotions. Lastly, education for children of both immigrants and natives is public (even though there are private schools), thus, potentially, there is little room for the perception of disadvantage for either group[5].

In contrast, even if on average natives believe that they have better opportunities for receiving medical aid, for those who perceive strongly their potential disadvantage, this feeling results in a more negative sentiment towards the newcomers. Potentially, this is because, unlike employment or education, medical provision may suffer most from congestion, thus, there is a competition for access to the medical services. While the medical aid is provided by the state, and is mostly free for basic treatment, more sophisticated treatment may require payment. Also, private hospitals are expensive and available only to the richest part of the population. Thus, in a way, perceived disadvantage in terms of opportunities for receiving medical aid may also additionally reflect the disadvantage in terms of incomes: if natives in need believe that immigrants are more able to pay for a private visit while they can not, the emotional reaction aggravates. Lastly, it may also reflect public burden concern of the natives.

Finally, I repeat the estimations and include all forms of disadvantage simultaneously, relative group deprivation being among them. Table 1.8 shows that, despite the significant correlation between these variables, group deprivation in terms of incomes has the strongest effect on attitudes. Perceived disadvantage in terms of medical help loses almost all its significance, but retains its negative sign.

[Table 1.8 about here]

[5]Here I speak about access to schooling provided by the state; immigrants, of course, may feel more disadvantaged because they may not speak the right language or have the right documents to ensure schooling.

1.7 Conclusions

This paper conjectures that a perceived feeling of relative deprivation is another important, and previously overlooked, factor that affects the formation of attitudes towards immigrants. Using inter-group comparisons and comparisons made on the collective level, I suggest that in middle-income countries, where income distributions of natives and immigrants are alike, potential group threats perceived by the natives may have an adverse effect on their perception of immigrants.

I test this conjecture on a data set of natives of Kyiv, the capital of Ukraine. My main and robust finding is that the perception of relative deprivation of natives with regard to immigrants indeed plays a negative role in the formation of attitudes. Unlike Western European countries, where the predominant majority of immigrants is placed at the bottom of income distribution, in Ukraine immigrants are relatively well-off, and their income distribution is similar to the natives of Kyiv. The perception of relative deprivation sensed by natives makes natives less eager to accept immigrants into their lives, strive for a pro-immigration government, or think positively about them. I find that this result is strong and robust even when I take potential endogeneity of relative deprivation into account, instrumenting it with objective measures of immigrants' well-being.

On the other hand, I also find that it is only those objectively disadvantaged natives who are most affected by relative deprivation and, as a result, have the most negative attitude towards immigrants. In contrast, objectively more advantaged are not concerned with the perceptions of deprivation, potentially because they, in fact, feel relatively satisfied compared to immigrants. However, for these individuals, the potential feeling of relative satisfaction does not lead to better attitudes towards the newcomers.

A closer look into the factors that form the feeling of relative deprivation of natives also reveals that natives occupied in the private sector do not, in fact, feel relatively deprived, while it is those in the state sector, where salaries are much lower as compared to the private sector, who feel disadvantaged in terms of income. These disadvantaged individuals seem to be less tolerant with respect to immigrants.

The changing face of the city is due to the arrival of immigrants, but also to the arrival of Ukrainians from other parts of the country or from abroad. It is these newly arrived natives who are most tolerant and willing to accept newcomers from Asia and Africa into their daily life. Potentially, this is due to the fact that these natives who themselves experienced relocation to Kyiv are also more open to ideas of movement in general.

Another finding of this paper is that the perception of lower employment prospects or education opportunities does not trigger the negative feeling towards immigrants. There is some evidence, however, that perceived disadvantage in terms of obtaining medical aid may adversely affect the way immigrants are viewed. Overall, it seems that for Kyivans it is more important not to feel disadvantaged in terms of their material well-being, rather than in terms of employment or education opportunities, when they think of their attitudes towards immigrants.

One of the potential drawbacks of this paper is that it does not address explicitly racial concerns of natives, which are known to be of significant importance for attitudes. However, since the survey of natives explicitly asked the questions on attitudes towards immigrants from Africa and Asia only, and the survey of immigrants was conducted among individuals from these regions, I suppose that the answers already incorporate the racial element into them.

Two final remarks deserve attention. First, this investigation of attitudes towards immigrants may be of interest to researchers studying attitudes towards immigrants in similar settings of middle-income countries (such as, for example, other Eastern European or North African countries). The results based on the case of Ukraine also present an interest in themselves, as they are placed in a context of a country which has only recently started its transition towards an immigration country (some scholars even refer to it as to a non-traditional immigration, such as Braichevska et al, 2004) . Thus, the results may be of use for those who are concerned with predicting future voting behavior in Ukraine regarding the immigration issues. Furthermore, since immigration is a new phenomenon in Ukraine, and there are still few institutional mechanisms to regulate or control it, understanding the attitudes towards immigrants may be important for designing a suitable immigration policy. There is a hope that as the overall well-being of natives increases, and as the private sector grows, Kyivans would grow more tolerant towards immigrants and will be more eager to accept them.

Lastly, the theoretical idea of this paper can also be applied to a broader case, and offer an explanation to cross-country differences in attitudes, as well as to why some natives even in the richest countries may have a negative sentiment towards immigrants. More research, involving more countries, is needed to confirm this idea.

Table 1.1: Descriptive Statistics of Socio-Economic Variables

Variable	Definition	Mean: Natives	St. Dev.: Natives	Mean: Migrants	St. Dev.: Migrants
Age	1: <=20, 2: 20 to29, 3: 30 to 39, 4: 40 to 49, 5: 50 to 59, 6: >= 60	3.632	1.474	2.811	1.026
Gender	1-female, 0-male	0.537	0.499	0.372	0.484
Vocational education	1 if got such education	0.298	0.457	0.209	0.407
University or college	1 if got such education	0.231	0.421	0.355	0.479
Occupation: private	1- yes, 0 - otherwise	0.346	0.475	0.499	0.500
Occupation: state	1- yes, 0 - otherwise	0.219	0.413	0.045	0.208
Unemployed	1- yes, 0 - otherwise	0.161	0.367	0.164	0.370
Migration experience	1 if born elsewhere and moved to Kyiv, 0-othws	0.443	0.496	-	-
Never communicated with an immigrant	1- true, 0 - otherwise	0.678	0.467	-	-
Believe that immigrants came to study	1- yes, 0 - otherwise	0.325	0.469	-	-
Believe that immigrants are in transit	1- yes, 0 – otherwise	0.288	0.453	-	-
Believe that immigrants came in search of better life	1- yes, 0 – otherwise	0.386	0.487	-	-
Family income, in Ukrainian hryvna	Total family income for the past month	684.321	619.045	1231.449	963.02
Perceived group (income) relative deprivation	1- yes, 0 - otherwise	0.413	0.492	-	-

Table 1.2: Well-being Assessments Provided by Immigrants and by Natives

	Of natives, assessed by natives	Of migrants, assessed by natives	Of natives, assessed by migrants	Of migrants, assessed by migrants
Material well-being	2.686 (1.026)	3.106 (1.225)	3.471 (0.914)	2.466 (1.026)
Employment opportunities	2.722 (1.069)	2.391 (1.140)	3.727 (0.93)	2.309 (0.392)
Educational opportunities	2.785 (1.077)	2.638 (1.190)	4.147 (0.714)	1.667 (0.522)
Opportunities for medical aid	2.888 (1.046)	2.510 (1.108)	3.924 (0.967)	3.016 (0.507)

Table 1.3: Basic Estimation Results.

	(1) Readiness to accept	(2) Pro-immigration government	(3) Attitudes are positive	(4) PCA first component
Age: 20-29	-0.026	-0.023	-0.004	-0.016
	(0.073)	(0.052)	(0.030)	(0.185)
Age: 30-39	-0.036	-0.087*	-0.000	-0.167
	(0.072)	(0.046)	(0.031)	(0.178)
Age: 40-49	-0.137**	-0.083*	-0.013	-0.247
	(0.069)	(0.047)	(0.028)	(0.179)
Age: 50-59	-0.098	-0.094**	-0.008	-0.282*
	(0.071)	(0.043)	(0.028)	(0.186)
Age: over 60	-0.200***	-0.099**	-0.016	-0.412**
	(0.063)	(0.042)	(0.025)	(0.182)
Vocational education	-0.036	-0.022	-0.009	-0.108
	(0.040)	(0.024)	(0.024)	(0.090)
University education	-0.014	0.025	-0.010	0.011
	(0.060)	(0.024)	(0.011)	(0.097)
Female	-0.012	-0.015	0.002	-0.066
	(0.033)	(0.028)	(0.010)	(0.076)
Private sector	-0.051	0.013	-0.034**	-0.094
	(0.061)	(0.041)	(0.017)	(0.108)
State sector	-0.099*	-0.043	-0.027*	-0.272***
	(0.051)	(0.034)	(0.014)	(0.104)
Unemployed	-0.040	0.022	-0.013	-0.029
	(0.068)	(0.030)	(0.020)	(0.122)
Migration Experience	0.103**	0.002	0.046***	0.209***
	(0.046)	(0.037)	(0.013)	(0.078)
Group RD	-0.124***	-0.102***	-0.037**	-0.462***
	(0.035)	(0.032)	(0.014)	(0.077)
Constant				0.581***
				(0.150)
Observations	997	997	997	997
Pseudo R-sq	0.032	0.035	0.043	0.062[a]

Reported are marginal effects of probit estimation and robust standard errors in parentheses, columns 1-3. Coefficients and robust standard errors in the last column. * significant at 10%; ** significant at 5%; *** significant at 1%

a) R-squared

Table 1.4: Extended Specification

	(1) Readiness to accept	(2) Pro-immigration government	(3) Attitudes are positive	(4) PCA first component
Age: 20-29	-0.022	-0.019	-0.004	-0.015
	-0.073	-0.052	-0.03	-0.176
Age: 30-39	-0.029	-0.084*	-0.002	-0.148
	-0.072	-0.046	-0.03	-0.174
Age: 40-49	-0.130*	-0.080*	-0.014	-0.225
	-0.069	-0.048	-0.027	-0.174
Age: 50-59	-0.08*	-0.082*	-0.008	-0.223
	-0.052	-0.045	-0.028	-0.179
Age: over 60	-0.192***	-0.090**	-0.017	-0.386**
	-0.063	-0.043	-0.025	-0.176
Vocational education	-0.031	-0.018	-0.008	-0.089
	(0.043)	(0.024)	(0.023)	(0.090)
University education	-0.009	0.028	-0.009	0.031
	(0.062)	(0.023)	(0.011)	(0.097)
Female	-0.020	-0.022	0.001	-0.093
	(0.033)	(0.028)	(0.011)	(0.076)
Private sector	-0.050	0.011	-0.035**	-0.083
	(0.061)	(0.039)	(0.017)	(0.108)
State sector	-0.097*	-0.045	-0.027**	-0.261**
	(0.050)	(0.032)	(0.014)	(0.103)
Unemployed	-0.036	0.024	-0.013	-0.012
	(0.069)	(0.028)	(0.020)	(0.122)
Migration experiences	0.095**	-0.004	0.045***	0.181**
	(0.046)	(0.038)	(0.013)	(0.077)
Group RD	-0.120***	-0.099***	-0.036***	-0.440***
	(0.033)	(0.028)	(0.014)	(0.077)
Prior communication	0.007	0.029	0.006	0.053
	(0.028)	(0.028)	(0.018)	(0.081)
Reason: study	0.071*	0.066	0.009	0.219***
	(0.043)	(0.043)	(0.018)	(0.081)
Reason: transit	-0.053	-0.030	0.001	-0.140*
	(0.037)	(0.037)	(0.013)	(0.083)
Reason: well-being	-0.040	-0.025	-0.006	-0.119
	(0.059)	(0.018)	(0.013)	(0.077)
Constant				0.575***
				(0.156)
Observations	997	997	997	997
Pseudo R-sq	0.034	0.041	0.044	0.077[a]

Reported are marginal effects of probit estimation and robust standard errors in parentheses, columns 1-3. Coefficients and robust standard errors in the last column. * significant at 10%; ** significant at 5%; *** significant at 1%

a) R-squared

Table 1.5: Instrumenting Relative Deprivation

A. First-Stage Regression (Dependent Variable: Relative Deprivation)

	Coefficients	Robust Standard Errors
Age: 20-29	0.069	0.069
Age: 30-39	0.087	0.068
Age: 40-49	0.073	0.068
Age: 50-59	0.006	0.069
Age: over 60	0.147**	0.071
Vocational education	0.044	0.037
University education	0.006	0.042
Female	0.038	0.031
Private sector	-0.074*	0.044
State sector	0.035	0.043
Unemployed	0.042	0.051
Migration experiences	0.039	0.032
Instruments:		
Place of shopping	-0.065**	0.035
Index of furniture and other possessions	-0.044*	0.027
Immigrants' self-reported income	1.1e-3***	9,4e-5
Constant	0.327**	0.150

N. Obs: 997; Uncentered R2 = 0.442; F-test of excluded instruments: F(3,984)= 10.34; Prob > F = 0.000.

B. Second-Stage Results

	(1) Readiness to accept	**(2) Pro-immigration government**	**(3) Attitudes are positive**	**(4) PCA first component**
Group RD	-1.073***	-0.645***	-0.270**	-2.720***
	(0.263)	(0.192)	(0.115)	(0.645)
Individual controls	Yes	Yes	Yes	Yes
No. obs.	997	997	977	977
Hausman (p-value)	0.918	0.674	0.278	0.167
Sargan (p-value)	0.525	0.108	0.407	0.830

Robust standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 1.6: The Relevance of Relative Deprivation for Richer and for Poorer Natives

	(1) Readiness to accept	(2) Pro-immigration government	(3) Attitudes are positive	(4) PCA first component
Group RD: over estimators	-0.282	0.076	0.305	-0.435
	(0.493)	(0.375)	(0.228)	(0.311)
No. obs.	234	234	234	234
R-sq	0.024	0.085	0.067	0.087
Individual controls	Yes	Yes	Yes	Yes
Group RD: under estimators and neutral	-0.636***	-0.243**	-0.033*	-0.069**
	(0.202)	(0.133)	(0.018)	(0.031)
No. obs.	766	766	766	766
R-sq	0.031	0.155	0.042	0.050
Individual controls	Yes	Yes	Yes	Yes

Reported are 2SLS coefficients and robust standard errors. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 1.7: Disadvantage in Terms of Income, Employment, Medical Help and Education Opportunities

	(1) Readiness to accept	(2) Pro-immigration government	(3) Attitudes are positive	(4) PCA first component
Work RD	-0.009	-0.026	-0.015	-0.087
	(0.032)	(0.026)	(0.015)	(0.076)
Medical RD	-0.085***	-0.054**	-0.004	-0.204***
	(0.032)	(0.026)	(0.014)	(0.075)
Education RD	-0.026	-0.034	0.005	-0.080
	(0.032)	(0.026)	(0.014)	(0.075)

Each cell represents a separate regression. All regressions contain individual level controls, but only results for the variables of interest are reported. Marginal effects of probit estimation and robust standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Pseudo R-squared and other statistics available upon request.

Table 1.8: Probit Results for All Types of Disadvantage

	(1) Readiness to accept	(2) Pro-immigration government	(3) Attitudes are positive	(4) PCA first component
Group Income RD	-0.120***	-0.095***	-0.040***	-0.388***
	(0.037)	(0.033)	(0.013)	(0.076)
Work RD	0.041	0.006	-0.015	-0.003
	(0.042)	(0.032)	(0.020)	(0.088)
Medical RD	-0.095*	-0.036	0.003	-0.185**
	(0.046)	(0.032)	(0.015)	(0.090)
Education RD	0.049	0.014	0.023	0.072
	(0.046)	(0.026)	(0.016)	(0.095)
Individual controls	Yes	Yes	Yes	Yes
Constant				0.606***
				(0.163)
Observations	997	997	997	997
Pseudo R-sq	0.039	0.043	0.049	0.067

Marginal effects in parentheses, columns 1-4. Coefficients in the last column* significant at 10%; ** significant at 5%; *** significant at 1%.

1.A Precise Wording of Questions about Attitudes Towards Immigrants

Acceptance questions:

1. Would you agree to accept immigrants as members of your family?

2. Would you agree to accept immigrants as your friends?

3. Would you agree to accept immigrants as your neighbours?

4. Would you agree to accept immigrants as your work colleagues?

5. Would you agree to accept immigrants as residents of the city area in which you live?

6. Would you agree to accept immigrants as residents of your city?

Responses: a) yes
b) no
c) difficult to say

Government action:

7. In your opinion, what should the government do with respect to immigration to the city?

Responses: a) should do nothing particular regarding immigrants
b) should secure equal treatment for natives and for immigrants
c) should provide more help
d) should stop immigration
e) should expel immigrants from the country
f) difficult to say

Overall attitudes:

8. In your opinion, do citizens of Kyiv show a good attitude towards immigrants from Asia and Africa?

Response: a) yes
b) no
c) difficult to say

1.B. Comparative Descriptive Statistics: Natives versus Immigrants

Age. Percentage of sampled individuals by the age groups:

	Natives	Immigrants
Less than 20	6.92	7.30
20-29	18.46	31.23
30-39	22.37	42.57
40-49	23.47	13.35
50-59	14.34	3.02
60 and above	14.44	2.52
Total	100% (997 obs)	100% (397 obs)

Education. Percentage of sampled individuals by education groups:

		Immigrants		
	Natives	Education outside Ukraine	Education in Ukraine	Highest attained level of education (in Ukraine and outside)
1: completed secondary school	7.06	7.26	2.41	5.25
2: completed high school	39.62	51.74	22.89	37.01
3: vocational training	30.04	13.88	23.49	20.21
4: higher (university) education	23.29	27.13	51.20	37.53
Total	100 (992 obs)	100 (317 obs)	100 (166 obs)	100 (381 obs)

1.C. Principal Component Analysis

Component	Eigenvalue	Difference	Proportion	Cumulative
1	1.40893	0.48669	0.4696	0.4696
2	0.92223	0.25340	0.3074	0.7771
3	0.66884	0.2229	1.0000	

1.D. Probit Estimation of Attitudinal Responses: Income Incorporated

	(1) Acceptance	(2) Pro-Immigrant Government	(3) Attitudes are positive	(4) PCA
Age	-0.045***	-0.012	-0.002	-0.062*
	(0.015)	(0.011)	(0.007)	(0.035)
Vocational education	-0.032	-0.003	-0.027	-0.093
	(0.046)	(0.037)	(0.019)	(0.108)
University education	-0.011	0.012	0.016	0.087
	(0.053)	(0.042)	(0.025)	(0.128)
Female	-0.036	-0.019	-0.000	-0.121
	(0.039)	(0.031)	(0.017)	(0.094)
Private Sector	-0.068	0.005	-0.015	-0.138
	(0.060)	(0.046)	(0.025)	(0.146)
State Sector	-0.130**	-0.041	-0.013	-0.280**
	(0.052)	(0.041)	(0.021)	(0.125)
Unemployed	-0.069	0.028	-0.003	-0.067
	(0.064)	(0.054)	(0.027)	(0.162)
Migration Experience	0.090**	-0.019	0.054***	0.154
	(0.040)	(0.031)	(0.019)	(0.095)
Group RD	-0.128***	-0.115***	-0.045***	-0.474***
	(0.040)	(0.030)	(0.017)	(0.093)
Total Family Income	-6,9e-6	-2,1e-5	-3,6e-5	-1,5e-5
	(2,7e-5)	(1,9e-5)	(2,1e-5)	(5,6e-5)
Constant				0.620***
				(0.209)
Observations	680	680	680	680
R-sq				0.06

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Chapter 2

Civic Participation of Immigrants: Culture Transmission and Assimilation

2.1 Introduction

The immigrant population in Europe has been steadily increasing in the past decades and most probably will continue increasing in the future. Consequently, already today, first and second generation immigrants constitute large and growing percentages of young generations in Europe, with the total number of third-country nationals living in the 25 EU Member States in 2005 estimated to be 11,44% of the total population (UN Statistics, 2005). The arrival and the continuing stay of immigrants, their families, the growth and diversification of both first and second generation of immigrants, raises questions about their involvement in processes affecting their lives and the lives of native residents, that is, about immigrants' engagement into civic activities.

While certain aspects of immigrants' life are well documented in the literature, such as immigrants' labour market assimilation (Borjas, 1995; Chiswick, 1978; Uhlendorff and Zimmermann, 2006), participation to welfare programs (Borjas, 2002; Borjas and Hilton, 1996; Riphahn, 1999), and fertility adjustment (Blau, 1991; Fernandez and Fogli, 2005), this paper sheds light on yet another aspect of immigrants' behaviour in a receiving society: civic participation. Focusing on first generation immigrants only, it offers an empirical investigation of determinants of civic participation of immigrants; differences in propensity to participate between immigrants and natives; and whether culture transmission and/or culture assimilation of immigrants with respect to participation take place.

With the notable exception of works by Dustmann (1996), who analyses the perceived feeling of national identity of immigrants, and by De Palo, Faini, and Venturini (2007), who study social interactions of immigrants, little is known about immigrants' social assimilation. The latter, however, may have important implications for both the cultural assimilation at large, and also for immigrants' economic integration, as well as the permanency of settlement intentions, all of which are currently hotly debated topics. This paper addresses a particular type of assimilation, assimilation with respect to civic participation, in a two-fold way. I use a traditional immigrant assimilation hypothesis, which predicts that the growth of civic involvement between two points in time should be greater for immigrants who have spent less time in the country at the beginning of period in consideration (Borjas, 1995). The synthetic cohort methodology is applied, allowing to disentangle the effects of years since migration, age at migration, ageing, and cohort effects. The positive effect of the years since migration on participation outcomes serves as potential evidence in support of assimilation hypothesis. In addition, I test whether the participation culture of the receiving society matters for determining im-

migrants' participation outcomes, conjecturing that positive impact of overall natives' rate of participation can serve as another piece of evidence in favour of assimilation hypothesis. While recent literature has shown the way immigrants are perceived by host societies (for example, Dusmann and Preston, 2000; Mayda, 2005 study attitudes towards immigrants), little is still known about the way immigrants perceive host societies, and whether certain behavioural patterns of a receiving society have an impact on the behaviour of immigrants.

Further, of interest is also to learn which effect has the strongest impact: the observed outcomes of natives, that is, the society in which an immigrant currently lives, or the observed outcomes of home country fellows back at home, that is, the society from which an immigrant originates? If an immigrant comes from a country where civic participation levels are high, would these participation levels and practices translate into her higher participation abroad? In other words, is there culture transmission in terms of participation? This is an important question in view of the research on economics and culture (such as Fernandez, 2007), ethnic capital and intergenerational transmission of culture (such as Borjas, 1992; Bisin and Verdier, 2001), since, once transmitted across boarders, the culture of civic participation may persist across generations.

Methodologically, the research is close to the literature on immigrants' participation to welfare programs, as well as to the literature on the fertility adjustment of migrant women. At the same time, a methodological novelty of this paper is to address the issue of immigrants' self-selection and to reduce potential bias that may stem from it by employing a matching technique, whereby matching immigrants to otherwise similar natives and compatriots who did not migrate. An advantage of such matching is that no assumption is put on whether immigrants are self-selected from a lower or from an upper part of the participation outcomes' distribution; rather, each immigrant is compared to a non-immigrant who, given other than the fact of migration characteristics, has the same probability to participate civically.

This paper also goes deeper into the analysis of other home and host country effects, in addition to examining the impact of the average rates of civic participation in these societies. To complement the existing research of studying the overall effect of the country of origin (for instance, Bueker, 2005) I disentangle various home and host country effects that may determine participation outcomes, such as the degree of civic freedoms and democratic development, GDP per capita, industrialization, literacy, level of migration and religious fragmentation of both reference societies.

In order to address these questions, I work with the European Social Survey (ESS),

which provides extensive information on roughly 75,000 individuals (over the years 2002 to 2005) residing in 25 European Union countries. Of them, roughly six and a half thousands are foreign-born. The database contains information on socio-economic characteristics of individuals, as well as on various forms of their civic involvement. I use these data to construct a sample of roughly four thousand immigrants from fifty-four countries of origin in twenty European countries. The major drawback of this study is that the European Social Survey does not specifically target immigrant groups and is conducted with the registered population. Thus, there is an issue of representability of immigrants, as they appear in the sample only if they were registered at the time of the survey. There could also be a selection bias in favour of well-educated and well-integrated immigrants, as there were no interview translations. As these factors are also correlated with civic participation (see below), the results may rather overestimate immigrant participation. The results of the study should be interpreted bearing in mind this limitation. On the other hand, ESS is one of the very few datasets which covers this many countries of origin and of destination, and which also contains a variety of questions on civic participation phrased in the same way across countries.

In addition, to study the impact of the source country characteristics on current levels of immigrants' activism, I employ the World Values Survey, constructing from it average participation rates in fifty-four countries of origin of immigrants to the EU. Further, I complement these data with the statistics of the UN Population Division, World Bank Development Indicators, and CIRI database, to construct other country characteristics.

While the focus of this paper is on civic participation, there is no unique definition of civic activism (for a review of definitions and types of activities considered as civic activism, see Vogel and Triandafyllidou, 2006). For the purposes of this paper, I focus on active civic participation which implies political and social participation that goes beyond voting and gives voice to societal concerns, but that does not include civil activities (such as participation in sports clubs or hobby groups). In order to account for various possible types of participation, I focus on traditional forms of civic participation but also include those that are available to immigrants regardless of their citizenship and legal status, as the latter may restrict involvement into certain activities. Throughout the paper, by active civic participation, I mean membership in trade unions and political parties, unpaid work for a party or any other organization or association, signing petitions, boycotting certain products, and participation to lawful demonstrations. The choice of types of civic activities considered in this paper is also framed by the data availability. Inclusion of certain activities, such as signing petitions and boycotting

products, is motivated by the fact that in the absence or limitation of voting rights immigrants may voice their concerns through mentioned actions. Voting is excluded from the analysis, as it is still very much restricted for non-citizens, and voting procedures differ greatly between the EU countries. Furthermore, since voting may be mandatory in either a destination or an origin country, including it into the analysis would obscure the analysis of transmission of voluntary behaviours. Participation in trade unions is included, as recently trade unions became centers of help to immigrants, and participation to them is not limited neither by citizenship nor by the legality of the immigration status (Danese, 2001). Moreover, participation to trade unions gives immigrants "intermediate political rights" (Kosic and Tryandafyllidou, 2006), and is sometimes refereed to as to the "cradle of immigrants' political participation" (Martiniello, 2005).

The study finds limited evidence for the culture transmission hypothesis, although certain country characteristics do influence participation outcomes of immigrants: it is those from industrialized, net immigration, culturally more homogeneous countries who tend to participate more. On the other hand, there is a strong support for the culture assimilation with respect to participation hypothesis: while destination country characteristics have no significant impact on participation, it is by observing what natives do that immigrants tend to do the same.

The chapter is organized as follows. Section 2.2 lays down the background and develops the connection of this paper with the existing literature. Section 2.3 describes the data used for the analysis. In Section 2.4 I elaborate on the estimation procedure and present the main results of this study. Section 2.5 provides robustness check for these results, employing alternative estimation techniques and propensity score matching to deal with selection bias. Finally, in Section 2.6, the role of various country effects is examined, and Section 2.7 concludes.

2.2 Background and Related Literature

The analysis of this paper, both in terms of developing the idea and in terms of methodology, is related to the following strands of literature: on immigrants' involvement into civic activities and their political incorporation, on participation and social assimilation, on culture transmission, on immigrants' participation to welfare programs, and also on the fertility choices of immigrants. Much of the research on immigrants' participation has been done in the field of sociology and political economy. However, to the best of my knowledge, no research has been done on civic participation of immigrants using the

economic tools of analysis, and this paper is trying to fill the gap.

In terms of developing the ideas, this paper is motivated by a growing interest of policy-makers in immigrants' involvement into civic activities. Several academic and public policy-oriented projects both in the USA and in Europe stimulated the research debate in the area. For example, Civic Participation Initiative sponsored by the Washington Area Partnership for Immigrants conducted an extensive study on immigrants' civic participation in Washington in 2002 (ASDC report, 2002). In Europe, the most recent initiative has been a multi-faceted research conducted under the umbrella of the EC project "POLITIS: Building Europe with New Citizens? An Inquiry into Civic Participation of Naturalized Citizens and Foreign Residents in 25 Countries" (see Cyrus et al, 2006). POLITIS working paper series (for instance, Vogel and Triandafyllidou, 2005) address numerous challenges of understanding civic participation of immigrants, its determinants, barriers to participation, activation mechanism of immigrant's participation, as well as differences between natives and immigrants regarding participation.

Further, Danese (2001) explores weaknesses and strengths of immigrant's associations; Fennema and Tillie (1999) analyse differences in political participation and political trust between various ethnic groups in Amsterdam. Bueker (2005) investigates home country effects on acquisition of citizenship and on voting of ten immigration groups in the United States. Applying multivariate analysis, she finds strong evidence in support of the hypothesis that country of origin effects matter for the propensity of political incorporation, all other individual socio-economic factors taken into account. Bueker tests five hypotheses concerning voting and naturalization patterns: reversibility (which implies that difficulties associated with return migration would encourage higher rates of naturalization among certain immigrant groups), translation (political practises at the origin impact political behaviour at destination), mobilization (certain groups will exercise their political rights more fully in wake of highly developed ethnic communities), assimilation and gender diversity hypotheses. The difference of my study is that, apart from analysing civic participation beyond voting and aside naturalization, I delve deeper into the translation hypothesis, analysing how specific country characteristics, such as the average participation rates, home country institutions, to name a few (rather than the overall country effects captured by country dummies) transmit their effect across borders.

There is a large literature that provides analysis of individual participation in various social activities and groups mainly relating it to the notion of social capital. The pioneering works of Putnam (1993, 1995), which document the declining participation of

Americans in civic life, have become standard references for social scientists, including the economists. Alesina and La Ferrara (2000) analyse various forms of participation of Americans. They construct a model that shows how a larger degree of heterogeneity in communities leads to lower social interaction. Using survey data on group membership in the US, they find strong empirical evidence that higher income inequality, racial, and, to a lesser extent, ethnic, fragmentation in the US localities lead to lower engagement into group activities. Helliwell (1996) addresses the question of differences in social capital between American and Canadian provinces, investigating the extent to which immigration is responsive to higher degrees of trust and income equality. My paper builds up on this literature, contributing the distinction between natives and immigrants with respect to participation, while focusing only on civic engagement.

This paper is also closely related to the literature on social assimilation of immigrants. In particular, one of the first attempts to study social assimilation is the work by Dustmann (1996), who analyses immigrants' perception of national identity. While touching upon similar issues, I work with the real actions of individuals, such as membership or participation to demonstrations, rather than subjective measures of assimilation. Another closely related work is by De Palo, Faini, and Venturini (2007), who analyze the extent of social interactions of immigrants, such as the frequency of communication with neighbours and friends.

My analysis of immigrants' participation also touches the literature on culture transmission in general, both across generations and across nations. Transmission across generations is studied by Borjas (1992(a)) who finds that the skills of individuals depend on the skills of the parents and also on the average level of skills of the parents' generation ethnic group, that is, that "ethnic transmission" takes place. Bisin and Verdier (2001) develop a theoretical model of intergenerational culture transmission, in which the acquisition of culture-specific preferences by children depends on culture and social environment in which they live, as well as on the decisions of parents to bring up (culture-) specific qualities in their children. Fernandez and Fogli (2002) consider preference transmission across generations in showing that men whose mothers worked and were educated tend to marry educated women and women who also work. Their 2005 paper addresses culture transmission both across generations and nations, showing how work and fertility behaviour of second generation immigrant women in the US is affected by the work and fertility behaviour of women in the generation of their mothers in their countries of origin. Borjas (1992(b)) shows theoretically and empirically that the national origin of immigrants matters for the welfare recipiency, by analysing how

economic characteristics of home country economies affect welfare recipiency of immigrants in the US. Current paper develops an important parallel with this literature by suggesting the ways in which home country participation rates as well as other home country characteristics influence immigrants' participation.

In terms of methodology, my treatment of civic participation follows closely the research on immigrants' participation to welfare programs and also on the fertility choices of immigrants.

For example, immigrants' participation to means-tested entitlement programs in the US is investigated by Borjas and Hilton (1996). They find that immigrants are more likely to receive welfare benefits than natives and that immigrants receive benefits for longer periods of time. Differences in socio-economic characteristics between the two groups account only for a part of the difference in receiving welfare benefits. Their analysis reveals that cohort, assimilation, and ageing effects matter for participation in the entitlement program. Moreover, participation of newly arriving immigrants is determined by the participation of immigrants of the previous waves, or networks. The research by Riphahn (1999) confirms that age, assimilation, and cohort effects in a large part determine welfare benefits receipt by German guest workers. She also shows the importance of the country of origin for the social assistance receipt.

Along similar lines, Blau (1991) considers fertility choices of immigrant women and fertility assimilation. She analyses immigrant women from high-fertility countries and finds selectivity of women with respect to fertility. Using the framework of Borjas (1987), she shows how, again, cohort effects and the length of residence, as well as the home country characteristics such as the home country average fertility levels, play an important role for fertility choices. Blau also distinguishes between assimilation and disruption hypothesis and finds that both are at work. Fertility of immigrant women is initially disrupted by migration but then it takes up, however, it does not reach the levels of fertility of the source countries. In comparison, Mayer and Riphahn (1999) use count data models to confirm that among immigrants to Germany, it is the assimilation fertility model that is at work. Fernandez and Fogli (2005) continue the analysis of culture transmission for fertility and working hours choices, and find that home country fertility rates and labour market outcomes for women continue determining corresponding outcomes for second- generation immigrant women.

This paper is most similar methodologically to Borjas and Hilton (1996), Blau (1991), and Fernandez and Fogli (2005), as it follows the logic of modelling participation to the welfare state and the fertility choices of immigrants. Likewise, it distinguishes between

various effects that are at work, including assimilation, cohort, and ageing effects of immigration, and shows how both home and host country effects determine participation outcomes of immigrants. In addition, it adds to the existing literature by examining yet another aspect of immigrants' life in the host society and of immigrants' behaviour – their civic involvement.

2.3 The Data

This study uses the data from the European Social Survey (ESS), rounds one and two, and the World Values Survey (WVS), round four, which are publicly available.

To start with, I use the ESS data for the years 2002/2003 and 2004/2005. The ESS is a survey that collects individual-level data in most European Union countries every two years[1].

It contains the main questionnaire with the same questions asked in each round, as well as rotating modules. The survey covers a wide range of socio-economic questions, including questions on participation in various types of activities.

In this paper, I work with the main questionnaire of the survey (even though a rotating module of the first round contains more questions on civic participation, I am unable to use it, as it is not repeated in the second round). The ESS1 covers 22 countries and 42,359 individuals, of which 4,085 are born outside of country of current residence. Similarly, the ESS2 covers 24 countries and 45,681 individuals, of which 3,924 are foreign-born. The ESS provides information on the individual's country of birth, as well as on the amount of time spent in the country for foreign-born, allowing to distinguish between natives and immigrants.

The sample constructed from the ESS includes both first-generation immigrants and natives. First, both rounds of the ESS are merged and data on males and females who are 14-70 years old are kept. Foreign-born whose country of origin is not specified, whose both parents are born in the destination country, and individuals from the countries of origin that are represented by less than 5 foreign-born in a destination country, are excluded from this sample. The resulting sample includes immigrants from fifty-four countries of origin. Second, the sample is "synchronized" to include only those countries for which the data are available in both rounds (time variability will be needed, as described further). Thus, Italy, Iceland, Israel, Ukraine, Estonia and Slovakia, for which

[1]For detailed information about the data see the ESS documentation available at www.europeansocialsurvey.org and also Card, Dustmann and Preston (2005).

the data are available only in one of the two rounds, are excluded from the sample. In fact, leaving these countries out helps refining the pool of immigrants: for example, over 90% of foreign-born in Estonia and Ukraine are Russians, and they arguably can be considered as international migrants (having mostly moved during the Soviet Union times, they accomplished migration of internal character). Thus, there are 20 countries in the final sample: Austria, Belgium, Switzerland, Czech Republic, Germany, Denmark, Spain, Finland, France, Great Britain, Greece, Hungary, Ireland, Luxembourg, the Netherlands, Norway, Poland, Portugal, Sweden, and Slovenia. This sample contains 3,889 immigrants, of whom 1,856 were interviewed in ESS Round 1, and 2,033 in ESS Round 2; as well as 62,233 natives.

From the ESS rounds, all further data on socio-economic characteristics of individuals, as well as the area characteristics, are constructed. Full summary statistics and description of variables are provided in the Appendix, Tables 2A and 2B.

The dependent variable called "civic participation" takes value one if an individual has reported to have participated in at least one of the following activities in the past 12 months: trade unions (active membership), party (active membership), work for a party, work for a similar organization or association, signing petitions, boycotting products, or participating to lawful demonstrations. It takes a value zero otherwise. This variable is used for the main analysis throughout the paper. In addition, dummy variables for each type of participation were constructed, for example, membership in a trade union is a dummy variable equal to 1 if an individual has been an active trade union member for the past 12 months, and zero otherwise. These dependent variables are used only in the first section of the empirical analysis. It is important to stress that only active membership in trade unions and in parties is considered: the survey question allows for responses "being a member", "being an active member", and "not a member". Using only active membership immediately allows focusing on individual actions and choices, while using "being a member" category may artificially increase the pool of "activists" by including those who are members as a result of an institutional setup in a specific country or a sector.

Table 2.1 summarizes percentages of immigrants involved into various types of civic activities. As can be seen, 48.14% of 3,878 immigrants are engaged civically in some way. Most of those who participate civically do it in a form of signing petitions (48.31% of all civically active), becoming a member of a trade union (39.96%), boycotting certain products (37.96%), or working for some organization or association (23.49%). Additionally, Tables 2C and 2D of the Appendix shed light on the overlap of various forms of

the participation. There are few individuals who report to be involved in a particular activity and only in it: for example, of those who work for a party, only 8.05% are not involved in any other activity under consideration, while this number is the highest for trade union membership: 51.34%. The biggest overlap is of working in parties and participating in public demonstrations with signing petitions: it is 60.69% and 60.89% correspondingly. Still, out of those who sign petitions there are 30.17% who are not involved civically in any other way.

[Table 2.1 about here]

Further, the average values for these variables are constructed from the ESS separately for immigrants and for natives, by country: the rate of trade union membership, the rate of party membership, etc, and the rate of civic participation in general. To draw the parallel with the participation rates of natives in host countries, Table BF of the Appendix focuses on a destination country. From this table, Sweden and Norway are the countries with highest civic participation rates of natives. At the same time, immigrants in these countries are also the most active as compared to immigrants in other European countries . Countries with lowest participation rates of natives are Greece, Portugal, and Hungary; and also in Hungary there are the lowest participation rates of immigrants. Figure 2E of the Appendix illustrates a high degree of positive correlation between participation of natives and immigrants by country.

In addition, the World Values Survey (WVS) is used to construct home country participation rates for immigrants. The WVS is conducted in four waves since 1981 and covers more than 80 countries. I work with the last round of the WVS (years 1999-2002). WVS contains the same set of questions on participation and civic involvement of various types as the ESS, allowing to create synchronized measures of participation in countries that are home countries to immigrants from ESS. Table 2G of the Appendix provides summary stati'stics of participation rates with the focus on the source country. Out of 54 emigration countries in the sample the lowest rates of civic participation of non-migrants in origin countries are in Turkey (0.186), while the highest are, again, in Sweden (0.945). At the same time, comparing the behaviour of immigrants and their country nationals at home, it is difficult to see immediately whether there is a selection of immigrants in terms of participation. For example, immigrants from Turkey are much more active than their country nationals (rate of civic participation is 0.460), as well as Moroccans (0.481 abroad versus 0.211 at home), while immigrants from Russia and Albania, who are among the largest immigration groups in the sample, are less active than their country nationals.

2.4 Empirical Strategy and Results

2.4.1 Determinants of Civic Participation. Home or Host Culture?

I start the empirical analysis by exploring what determines civic participation and its various forms, and to what extent home countries' participation cultures affect participation of those who migrated.

First, the following model is estimated:

$$Particip_{ijk} = b_0 + b_1 X_i + b_2 HomeParticip_k + e_{ijk} \tag{2.1}$$

where $Particip_{ijk}$ is a measure of civic participation coded on a 0-1 basis of an individual i residing in country j who migrated from country k. X_i is a set of individual socio-economic characteristics, and HomeParticipk is the average participation rate in the home country. Probit estimation is chosen because of the dichotomous nature of the dependent variable.

Individual socio-economic characteristics considered are the number of members in a household, age, age squared, gender, years of completed education, whether an individual is married, been divorced, individual income, being an employee and being unemployed. A prior expectation would be that the level of civic engagement increases with age but at a decreasing rate, and that the larger number of years of schooling would enhance participation. The latter is due to the fact that individuals with more education are more likely to have stronger interest in and knowledge about the working of civic society, as well as about their rights and opportunities for participation (Bueker, 2005).

Individual income is expected to have positive impact on participation, as it may serve as a resource for participation. Also, higher income may signify that an immigrant has a more stable position in a society and can also devote more time to participation. Likewise, employees would be expected to participate more than self-employed and employed in family business (with respect to trade union membership, though, higher participation of employees would be for the reason of a more immediate access to these structures). Unemployed immigrants would be expected to have less resources to devote to participation.

Two area characteristics are also included, as it has been shown that area heterogeneity and neighbourhoods play an important role in determining certain behavioural outcomes (Alesina and La Ferrara, 2000; Borjas, 1992). These are mean area income

(calculated on a regional rather than country basis), and a dummy equal to one if an immigrant lives in urban rather than rural area.

Table 2.2 summarizes estimation results. All specifications include correction of standard errors for clustering at the country of origin level, since the major variable of interest varies with the country of origin only[2].

[Insert Table 2.2 about here]

Column one contains marginal effects of the baseline specification. As expected, propensity to participate rises with age but at a decreasing rate, as well as with the number of completed years of schooling. There is some weak evidence that females tend to participate less than males. Those with higher incomes are more likely to be civically involved in some way. Potential endogeneity problem with the income variable is most likely not to be too severe, as I consider the types of participation of political and civic rather than directly economic character, and also because there may be not only "individual", but also "social" benefits from such involvement (La Ferrara, 2002; Narayan and Pritchett, 1999). Working as employees (versus self-employed and employed in family business) leads to more participation, while unemployed are less civically active. In line with previous studies (such as Dustmann, 1996), being married has a negative impact on participation, as it arguably makes it less stimulating for an immigrant to plunge into a life of a receiving society and to assimilate. However, this result is not robust as will be shown further. Living in urban areas seems to present better opportunities for civic engagement too, while mean area income does not seem to play a role.

The main variable of my interest, home country rate of civic participation, exhibits a positive statistically significant effect on civic participation of those who migrated. Starting at the sample mean and using the corresponding coefficient from probit estimation, I calculate that an increase in the level of home country participation rate (across countries) by one standard deviation is associated with an increase in the probability of civic participation in a destination country by 2.61 percentage points, which also accounts for approximately 13% of the variation in home country participation across countries of origin. This suggests that participation culture of a home country is transmitted in the form of higher civic participation abroad. This is also in line with the idea that high culture of civic involvement at home generates experiences that can be built on and can be considered as a resource that determines further participation (Vogel and Triandafyllidou, 2006).

Additionally, to disentangle the home country effect for different forms of participa-

[2] Alternatively, clustering at the country of destination was also applied, for overall similar results.

tion, Table 2.3 shows the same regression estimated separately for each form of participation. Here, dependent variables are coded on a zero-one basis if an individual takes part in a certain activity (such as trade union membership, working for an organization, etc); independent variables of interest are corresponding rates of participation in the same activities in home countries. The most robust effect that holds almost for all types of participation is that of education and income, and it is those more educated and more well-off who tend to participate more in all types of activities, except trade unions. For trade union outcomes, it is being an employee (versus self-employed or working for a family business) and employed, as well as a relatively older male, that increases the probability of becoming of trade union member. Unemployment status also precludes from becoming a party member and from signing petitions.

[Insert Table 2.3 about here]

As to the home country effect, it matters for certain types of participation, but not for all. Moreover, home participating culture may have positive as well as negative impact on different forms of participation of immigrants. For example, those who come from strong cultures of trade unions, boycotting products and signing petitions, tend to carry higher participation propensities in these activities across borders. However, there is a mild evidence that working for a party at home translates even into negative propensity to work for a party abroad. Explanations for the negative impact of home practises may be found in Bueker (2005), who argues that unpleasant previous experiences that resulted in disappointments or fear of governmental structures and processes do translate into lower participation, while positive experiences do not necessarily result in more participation. This is the case of working for a party, which also might have been imposed in certain countries of origin (such as the countries of former Communist Block) rather than stemmed from a voluntary choice, hence, as a result, party work is renounced in the immigration country. At the same time, either a direct experience of growing up in a culture with high rates of party membership, demonstrating, and participating to other organizations, or looking backwards and observing high participation in such activities at home, does not significantly affect participation of immigrants in these activities abroad. The insignificant home country effect for organizational participation may be due to the fact that many immigrants are involved in migrants' associations of various types (see POLITIS Reports 2006), while this form of civic involvement is irrelevant for them back at home. Some of the insignificant results here, however, may also technically stem from the fact that dependent variables (such as party membership) contain too many zeros (only 2.36% of respondents are party members). Thus, for a more meaningful

analysis, I continue working with the measure of civic participation that equals to one if an individual undertakes at least one of the activities.

In the next columns of Table 2.2 I explore other specifications of equation (2.1). In column 2, three more variables are added: language proficiency (a dummy equal to one if an individual mentions any official language of a country of residence, or English, among languages spoken at home), a dummy equal to one for individuals who have one of the parents being a national of the country of residence, and a dummy equal to one if an immigrant has the citizenship of the country of residence. From column 2, there is little evidence that language ability enhances participation, even though this may be due to the data sampling and the fact that interviewees were able to answer the questionnaire without the help of an interpreter, thus possessing at least a minimum knowledge of the country of residence language. On the other hand, naturalization clearly improves participation outcomes. This is in line with the idea that acquiring citizenship "relaxes the constraints" by which immigrants are bound, allowing them to become full-fledged members of the hosting society (for example, in Estonia, membership to political parties is restricted only to nationals of Estonia, while in Austria third-country nationals may participate to demonstrations, but not organize them; Cyrus et al, 2006). At the same time, being a citizen may additionally suggest that an individual has spent a significant amount of time in the country, gained a permanent view on her stay, and thus became aware of and interested in opportunities for civic engagement[3].

Column 3 explores whether educational attainment of parents and of the partner may play a role (Fernandez and Fogli, 2005), but there is no evidence for that. The degree of home country civic participation is robust to both these specifications.

In column 4, I include more labour market individual characteristics. These are total hours worked per week including the overtime (I expect that those who work longer hours would have less time to devote to civic engagement), the skill level, and the sector in which an individual works. Four broad occupational categories are distinguished: manufacturing and construction, agriculture, trade and services, and caring for individuals (the latter being among the top occupation for migrant women). Excluded category

[3]The importance of naturalization is well documented in the labour economics literature. Chiswick (1978) pioneers the area of research on naturalization's implication for immigrant assimilation in terms of earnings, finding that American naturalized foreign-born males earn more than non- naturalized, but that the effect of naturalization becomes smaller once years since migration are taken into account. More recently, Bratsberg, Ragan, and Nasir (2002) find that naturalization accelerates the process of assimilation in terms of earnings, and has an impact beyond and above mere "length of stay" effect. Significant impact of naturalization remains even when they control for individual unobserved characteristics that may lead to self-selection of the most able towards acquiring citizenship.

is all other occupations (such as governmental workers, teachers and medical doctors). These variables are constructed from the ESS survey question on individual's occupation, which is coded based on ISO standard for occupations. From the same question I construct variables for being a skilled or an unskilled worker (I also experimented with constructing variables such as "white collar" and "blue collar"; "management", "non-profit sector" etc for similar results). Overall, there is no evidence that skilled or unskilled workers differ significantly in their degree of civic involvement. At the same time, there is a clear distinction by sectors. Those working in agriculture and trade and services participate significantly less, perhaps, due to rather limited opportunities for collective action as compared to those who work in other sectors, but also due to a lower degree of unionisation of these sectors. However, there is no evidence that those involved in construction and manufacturing, where unionisation is higher, or caring for other people, exhibit more civic participation than others.

Finally, in the last column of Table 2.2 I add a second variable of interest, the host country rate of civic participation, and estimate the following specification:

$$Particip_{ijk} = b_0 + b_1 X_i + b_2 HomeParticip_k + b_3 HostParticip_j + e_{ijk} \tag{2.2}$$

where all variables are like in (2.1), and, additionally, $HostParticip_j$ is the level of civic participation of natives in the destination country.

Is it the home or the host culture of participation that affects individual participation of immigrants? From the last column of Table 2.2 I find evidence in support of a hypothesis that higher participation outcomes of natives translate into higher participation outcomes of immigrants too, with the marginal effect of host country participation rate having the largest magnitude in this specification. The host country effect is stronger and larger that the home one. Using the estimated probit coefficients from this regression, I compute that, starting from the sample mean, an increase of one standard deviation in home participation rate (across countries of origin) leads to 2.49 percentage points increase in the probability of civic involvement, while an increase of one standard deviation in host country participation rate (across countries of destination) is associated with a 20.91 percentage points increase in the probability of civic involvement, that is, more than an eight-fold effect. To appreciate the size of this effect even more, compare it to acquisition of citizenship: naturalization increases the probability of civic involvement by 9.43 percentage points, which is one of the most sizeable effects, but which is still twice as small as the effect of the destination country's participation culture.

At this point I find no evidence that the host country participating culture crowds out the home effect. A transnational mechanism seems to be in place, according to which immigrants develop various forms of belonging, identities, and transmigrants' community building, relating both to the home and host societies (see literature on transnationalism, such as Glick Schiller, Basch, Blanc-Szanton, 1992).

The next question to ask is whether the length of stay, as well as the age at migration and migration cohorts matter. The following section addresses these questions.

2.4.2 Immigrants Compared to Natives. Assimilation versus Culture Transmission

In this section I address the differences between immigrants and natives with respect to participation. Also, I evaluate the importance of age, cohort, and assimilation effects for immigrants' participation.

To start with, Table 2.4, columns 1-2 offer a comparison of participation outcomes of natives (column 1) and of immigrants (column 2), where for comparability only individual and area characteristics are included. These are the same as in Table 2.2 column 5, with additionally included dummy variables for religion denomination[4].

First, note some differences in the impact of individual characteristics on natives and on immigrants when determining participation. As expected, immigrants' years of schooling have a slightly lower effect on participation than the years of schooling of natives, differences being due to the country-specific aspects of schooling (Chiswick, 1978). With respect to income, the positive effect is twice as high for natives as for immigrants. The probability of being civically inactive is almost twice as high for unemployed immigrants as for unemployed natives, suggesting that unemployment spells have more severe overall implication for immigrants than for natives. The number of household members does not seem to play a role for immigrants' participation, while its increasing number impedes participation of natives. Of note is a lower propensity to participate among both Catholic natives and immigrants, while there is no strong evidence for participation differences among other denominations: natives with Orthodox denomination tend to be slightly more civically active, but it is immigrants with Protestant denomination who exhibit more participation. There is no evidence that Muslims, Jews, and other

[4]Home country average participation rate is not included for natives, as it would result in a reflection problem (Manski, 1993). For comparability, in Table 3 column 2 only, both home and host participation variables are omitted for immigrants too.

Christians participate significantly differently from an average immigrant or native. Furthermore, there are some differences by the employment sector: immigrants employed in agriculture are twice less likely to be civically involved than natives, who are also less prone to participate if they are working in this sector. At the same time, while immigrants in manufacturing and construction do not differ with respect to participation from the average, natives in these sectors are less active as well. Finally, if for natives participation outcomes do not seem to depend on the area of residence, immigrants in urban areas are more active that those in the rural ones.

[insert Table 2.4 about here]

I now complete the analysis by including lengths of stay and cohort effects for immigrants. Traditionally, the immigrant assimilation hypothesis has been investigated by considering whether the years since migration variable, or duration in the destination, matter for the immigrants' adjustment. Most commonly, this has been done within the synthetic cohorts framework, originally proposed by Borjas (1985). Several studies (Blau, 1991; Borjas, 1996; Riphahn 1999) employed this methodology to identify separately age at migration, cohort, and overall assimilation effects, and showed that these effects have a strong prediction power for immigrant's performance in the receiving country. The data at hand, which is a succession of cross-sections (two waves of the ESS survey: 2002-2003, and 2004-2005) allow constructing a synthetic panel and capture the impact of age at migration, cohort effect (year of migration), and the assimilation effect (length of stay), in addition to the age variable. It should be noted that this methodology is superior to the use of simple cross section methodology (such as in Chiswick, 1978), as it reduces the bias due to the static nature of a cross section. However, it has been recognized that the synthetic cohort approach also has its limitations in that it may contain survivor bias. Most recent studies have been relying on superior longitudinal data which allow overcoming the problem of survivors bias and cohort heterogeneity (for example, Hu, 2000). But even the longitudinal data are unable to overcome all problems, for example, to account for structural change in migration absorption (Beenstock, Chiswick and Paltiel, 2005). It has been also recognized that tests of assimilation with any data (cross-section, synthetic cohort, or panel), may not be ideal (Ibid). I proceed with the synthetic cohort approach bearing in mind above-mentioned limitations when interpreting the results.

Column 3 of Table 2.4 contains main results of this study. The length of stay in the country clearly plays a significant role in determining participation: those who have stayed more than five years in a country have an unambiguous inclination towards civic

involvement. This is a much expected result, as more time spent in a destination country allows learning more about the opportunities for civic participation, receiving information about and participating to networks of natives and immigrants, acquiring more social capital (Liang, 1994; Van Londen and Phalet, 2006), and developing a perspective of staying in a host country. The negative sign of the immigration year suggests that more recently arriving cohorts are less active, thus implying a declining "quality" (Borjas, 1996) of immigrants with respect to participation. This may also be an indirect evidence of the fact that recent arrivals are more due to economic rather than political reasons and are of a temporary rather than permanent character. At the same time, there is no evidence that age at migration significantly matters for participation: those who migrated in childhood or adolescence are neither more nor less active than those migrated at a later stage. In line with previous studies, such as Dustmann (1994), Chiswick (1991), language is also playing an important role in predicting immigrants' outcomes in the destination country.

Finally, all these effects taken into account, the insignificant coefficient of the home country average participation suggests that culture transmission is not robust to the inclusion of these effects, while culture assimilation with respect to participation, as suggested by the coefficients on the years in the host country and host country average participation, takes place. Host country participation is also jointly significant with the length of stay variables (joint significant test's statistic chi(10) = 66.93, Prob>chi2 = 0.000)[5]. The impact of the host culture is stronger and more robust than the impact of the home participating culture. The effect of an increase of one standard deviation of the host country's participation rate (calculated starting from the sample mean and using coefficients of probit estimation such as in Table 2.4 column 3) on the probability of immigrants' participation equals 15.79 percentage points. As expected, it is smaller than the effect I obtained when time and cohort effects were not taken into account, but still very sizeable. This effect compares only to the 17.3 percentage point decrease in probability of being civically active for immigrants who become employed in agricultural sector and to 10.8 percentage point decrease for immigrants who become unemployed. Those who work as employees, ceteris paribus, have a 8.5 percentage points higher probability of becoming civically involved than those who work in family business or who are self-employed; an effect half the size of the effect of the host country's participation

[5]I also considered a specification in which interaction terms between home, host culture and length of stay and age at migration were included, to get an indication of the speed of assimilation. In such specification, interaction terms are insignificant, but independent terms have the same signs and similar magnitudes. Results are available upon request.

culture. Citizenship acquisition raises the probability of civic participation by 6.4 percentage points, an effect almost two and a half times smaller than the host country's participation influence. In practical terms, the effect of one standard deviation increase in the host country participation rate (across host countries) equal to 15.79 percentage points increase in the probability of civic involvement means that, for example, an immigrant who chooses to go to France rather than to Hungary will have about 15 percentage points higher probability of engaging civically [6]. As another example, if among sampled 62234 natives 6223 more individuals were involved civically across all sampled countries, the probability of civic engagement for any immigrant, ceteris paribus, would have been 10.21 percentage points higher.

2.5 Robustness

In this section I explore further the robustness of the obtained results. I perform a sensitivity analysis under which certain immigrant groups are excluded from estimations; employ an alternative estimation technique; and address the issue of immigrants' self-selection and reference groups. Lastly, I address the concern of capturing the effect of institutions rather than of individual behaviours, by considering other forms of participation and other types of social capital. Tables 2.5 and 2.6 contain this section's results.

2.5.1 Omitting Certain Groups of Immigrants

One of the very interesting, but also problematic features of my sample is the fact that foreign-born individuals come from all over the world. Thus, I am comparing participation rates of Canadians and Moroccans, Swiss and Ukrainians, to name just a few groups. While distinguishing different migration patterns and migration histories is beyond the scope of this study, in this section I am attempting to insure comparability of immigrants and see whether previous results hold if certain immigrant groups are omitted. I considered one at a time exclusion of the following immigrant groups: those born in the EU countries and residing in the EU countries different from the country of birth; nationals of geographically European countries; nationals from post-communist regime countries; immigrants from predominantly non-Christian cultures. I also tried excluding those immigrants who came to live in a country more than 20 years ago, obtaining quite

[6] France has the rate of natives' civic participation which is close to the mean rate across countries; Hungary is about one standard deviation apart.

comparable results. In Table 2.5 column 1 I present a probit estimation based on the sample where the omitted immigrant group is the one from industrialized countries: the EU-15, Switzerland, USA, Canada, New Zealand, and Japan. The resulting immigrant sample consists of 1,738 individuals. While most of the coefficients have magnitudes and signs as before, variables "being an employee" and "working in trade or services" lose significance. As before, culture assimilation, as captured by the length of stay and participation outcomes of natives, matters significantly for participation of immigrants.

[insert Table 2.5 about here]

2.5.2 Alternative Estimation Technique: Using Count Data Model

In the previous sections I worked with the dependent variable coded on a zero-one basis, where one meant involvement in any type of civic activity versus zero for non-involvement. Here, the idea is to consider an integer dependent variable, which is a count of the number of civic activities an individual undertakes (the distribution of the number of activities is summarized in Table A6). I fit the Poisson maximum-likelihood regression for the specification such as the one in the previous section (see Mayer and Riphahn (1999) for similar applications and elaboration on potential caveat[7].Table 2.5 column 2 contains regression results, as well as the Pearson goodness-of-fit statistics for this estimation which suggests that using Poisson model is justified. Comparing these results to Table 3 column 3 I see that, overall, there is a strong affinity between them, although the coefficients from the Poisson regression and the marginal effects from probit estimation are not directly comparable. Language variable gains significance, and host country participation continues playing an important role in predicting civic participation outcomes of immigrants.

2.5.3 Accounting for Immigrants' Self-Selection: Matching on Propensity Score

Up till now I have been working with average participation rates by country of origin and by country of destination. A major objection to this is that the average level of observed compatriots' participation back at home, as well of the natives in general, may be of limited relevance for immigrants. As immigrants may be self-selected in terms

[7]Ordered probit was also considered, for almost identical results which are available on request.

of participation, their reference group is most probably that part of the society from which they originate rather than the home society at large. In the same fashion, a reference group may be a part of the host society, rather than the whole society. Thus, the major robustness check concerns with the issue of representability of an immigrant's reference group. The idea here is to construct relevant reference participation rates for each immigrant, by groups of similar compatriots and of similar natives, rather than by country of origin and a host country as a whole. Thus, for example, if an immigrant is an educated female in her fifties, an ideal reference group would be a pool of educated females in their fifties back at home. In addition to being more appropriate, consideration of participating rates based on reference groups also increases variation of the variable in question.

Appropriate reference groups of compatriots who did not migrate are created by matching immigrants (of the ESS) to the compatriots (from the WVS) with similar characteristics. The match is performed on the propensity scores, using the matching method standard in the evaluation literature. The idea behind matching is the comparison of outcomes (in this case, civic participation) of treated and control groups (in this case, migrants and non-migrants), who are as similar as possible. But since matching individuals on n-dimensional vector of characteristics is hardly feasible for large n, characteristics of individuals of each group are summarized into a single-index variable, called propensity score, and matching is performed on this variable (Becker and Ichino, 2002[8]). An advantage of using matching as a solution for self-selection problem is that there is no assumption put on whether migrants are self-selected from the lower or from the higher end of the participation outcomes distribution.

First, for each country of origin, emigrants (from the ESS) and non-emigrants (from the WVS) are pooled together, and a conditional probability (propensity score) of receiving a treatment (immigration) given pre-treatment characteristics is calculated. The sample is further split into equally spaced intervals of the propensity score, and within each interval it is ensured that the average propensity score of treated and control units do not differ. Also, within each interval, it is tested that the means of each characteristic do not differ between treated and control units, that is, a necessary condition for the balancing hypothesis is ensured[9] (for details of the methodology, see Becker and Ichino, 2002; Rosenbaum and Rubin, 1983; and Imbens, 2000). Once the most comparable sam-

[8] I also work with pscore.ado program for Stata written by Becker and Ichino.

[9] Technically, reference groups created in this way contain individuals with different characteristics but with the same or close values of the propensity scores, rather than individuals with exactly the same characteristics.

ple counterparts are selected from the group of non-emigrants for each emigrant, average participation rates are calculated by groups of non-emigrants with similar characteristics. In practical terms this amounts to calculating averages by blocks, or intervals, within which the average propensity score of treated and control units do not differ.

Matching migrants, for whom the data come from the ESS, to their compatriots, the data for whom come from the WVS, requires a lot of prior data refining and ensuring data comparability. For example, the WVS contains information on educational attainment, which is coded differently from the educational attainment reported in the ESS. Thus, for comparability, two variables were constructed: a dummy equal to one if an individual had any amount of schooling not higher than completed high school, and a dummy equal to one if an individual received any amount of university or college education (educational group being left out is individuals with vocational training). Also, to ensure that a match is found for all migrants, three age groups were created: individuals below twenty-five years of age, from twenty-five to forty-five, and above forty-five (other alternative groups were considered, but the best matches are found if the sample is split into these three age groups). Unfortunately, ESS contains almost no information on pre-migration characteristics, thus making impossible the match of individuals from rural/urban areas or on income/social class characteristics (matching on current incomes does not seem to be appropriate). Finally, as there are fifty-four countries of origin in the sample, various propensity score specifications were tried, with the idea that the balancing property should uniformly hold for the same propensity score specification across all countries. Given these data and comparability limitations, the estimated propensity score specification is quite parsimonious, and includes only age, gender, and education parameters. Other individual characteristics, such as marital status, were considered in the specification, but they fail to produce propensity scores satisfying the balancing property in all countries of the sample. For an example of propensity score estimation and average participation rates of non-emigrants calculated within propensity score blocks, see Appendix, Table 2H.

As a result of matching, each immigrant was assigned a specific reference participation rate of compatriots, depending on his or her individual characteristics. To appreciate the difference, if previously used value of home participation average was 0.444 for all Albanian immigrants, matching resulted in assigning four different values to four groups of Albanian immigrants, ranging from 0.297 to 0.578, depending on their age, gender, and education.

In the same fashion, each immigrant was matched to similar natives in destination

countries and participation rates by groups of similar immigrants/natives were constructed. For comparability, the propensity score specification was chosen to be the same as in the emigrants/non-leavers match, and included age, gender, and education parameters.

Table 2.5 column 3 presents estimation results. Here, home and host participation rates are those calculated based on the propensity score matching. As these variables have been generated through regression analysis (propensity score specification), for this regression bootstrapping is applied in order to ensure proper inferences and to cope with the generated regressors' problem; hence, bootstrapped standard errors are reported. The results presented in previous sections stand to this robustness check: recalculated coefficients are all very similar to those observed before. Home country participation rates remain insignificant. Host participation rates continue playing an important role in determining participation outcomes of immigrants. The coefficient on this variable is smaller in magnitude than before, which is not a very much expected result, however, its significance and the same sign point out to its robustness to the use of this alternative technique.

2.5.4 Other Types of Participation and Social Capital

As a very last step, I also consider culture transmission and assimilation in other forms, such as participation to sports, cultural, and religious organizations, as well as transmission of trust. This is similar to the literature on social capital (Alesina and La Ferrara, 2000), and allows to additionally confirm, or reject, the fact that I am capturing not the effect of institutions that are in place, but true individual behaviours.

In the same spirit as with previous dependent variables, I construct a variable "sport" equal to one if an individual belongs to, is a member of, or voluntarily works for a sports organization. I construct a similar variable "culture" for participation to cultural, human rights, ecology organizations, peace movements, or social clubs; and a variable "religion" for participation to religious activities. I also construct a variable "trust", which equals to one if an individual believes that most people in the society can be trusted. As before, I construct corresponding averages by home and by host country (for natives of the host country), to assess the impact of these home and host culture effects on individual outcomes.

Table 2.6 contains results of a regression otherwise similar to Table 2.4, column 3. It is of interest to note how the effect of certain personal characteristics changes depending on the activity in question. For example, elder individuals tend to participate less to

sports or cultural organizations, in contrast to their higher tendency to participate to civic activities. There is a strong association between participation to religious activities and the religious belonging of an individual, which is much less pronounced for other forms of participation. Regarding the type of occupation, those in manufacturing tend to participate relatively less in sports and cultural organizations, which is also the case for carers, but the latter tend to be more involved in religious organizations.

[insert Table 2.5 about here]

The effect of the main variables of interest is intact for these other, civil, forms of participation: while the home effect is not robust, the host effect plays an important role in determining civil participation. This is an important confirmation of the previous finding, as civil activities are relatively freer from institutional frameworks that may be in place, and participation to them is neither framed by institutional structures, nor by income redistribution concerns.

Of notable exception is the home country effect that is carried through by the "trust" variable, which is another proxy for the measure of social capital. One can conclude that for this type of social capital, the one that measures own perception and attitudes towards others, rather than an activity, the transnationalism mechanism is definitely at work.

2.6 Home and Host Country Effects

Finally, in this section I investigate how other country effects may influence individual participation outcomes, as well as address another critique of the previous analysis regarding the inclusion of participation rates by country into regressions. The concern is that, included in the individual-level regressions, these rates require the relationship between the home and the host country effects and the individual participation outcomes be linear, and may not only reflect the true effect of home and host participation culture, but rather pick up all other unobservable country characteristics. On the other hand, however, including only dummies for the countries of origin does not allow distinguishing between various country effects. For example, in addition to participating culture and previous civic experiences, country dummies may also capture the "reversibility" of migration: if re-migration is complicated for political, geographical, or other reasons, this may have an impact on integration decision of individuals (Bueker, 2005). In order to investigate country effects in depth, the following solution can be implemented: first use country dummies in estimations, and then regress the coefficients obtained on

country dummies on home country indicators (Fernandez and Fogli, 2005; Blau, 1991). The analysis in this paper is complicated by the fact that there are two reference countries: home and host, while the proposed two-steps procedure can be used to analyse the country effects of one set of countries at a time. Thus, I first proceed with the analysis of home country effects, and then repeat the procedure for a similar analysis of host-country effects. The two-step estimation is performed as follows. First, estimate a model such as:

$$Particip_{ijk} = b_0 + b_1 X_i + b_2 d_j + b_3 d_k + e_{ijk} \tag{2.3}$$

where d_k is a dummy for a country of origin; d_j is a country of destination, other variables are like in (2.1). And second, estimate

$$b_{3k} = a + d_1 HomeParticip_k + d_2 Y_k + e_k \tag{2.4}$$

where b_{3k} is a vector of home country dummy coefficients obtained in the previous step, and Y_k is a set of other potentially relevant country characteristics.

To start with, of interest is to include only the civic participation rates by country of origin in the second stage, in order to understand how much of the variation in the overall home country effects is explained by the civic participation rates. Further, of interest is also to include other potentially important country characteristics and see whether they have any impact on the participation outcomes of immigrants. In particular, I control for the GDP per capita, secondary school enrolment rates[10], migration rates (net migration rates per 1000 of population, average 2000-2005), and whether the sending country is industrialized or not (similar characteristics are considered in Blau, 1991). Also, I control for religious diversity of a country by including an index of religious fragmentation (Alesina and La Ferrara (2000) show that participation in social activities is lower in more fragmented racial and ethnic communities; Bisin, Topa, and Verdier (2004), focus on the importance of religion as a transmitted feature). Lastly, previous research has shown the value of institutions and political practises of societies with respect to participation. For example, Finifter and Finifter (1989) argue that higher rates of participation are found among those immigrants who had previous exposure to democratic systems, while Fennema and Tillie (1999) suggest that bad previous experiences may generate lack of trust in the government and impede participation even after

[10]I also considered literacy rates for similar results. Even though I am aware of the recently proposed measures of labour force quality based on the international mathematics and science scores (Hanushek and Kimko, 2000), I am unable to use them as they are not available for all countries of the sample.

migration. Thus, I also include an empowerment rights index, which is an aggregate index of freedom of movement, freedom of speech, degree of protection of workers' rights, political participation, and freedom of religion indicators (I tried to include these indices separately, but due to high degree of collinearity between them most of the coefficients are rendered insignificant). For data definitions and sources, see Table 2B[11].

The starting point is Table 2.7, with the decomposition of home country effects. Results for the equation (2.3) are in panel A. After controlling for all individual characteristics and for the country of residence, for certain countries, though not for all, countries' effect continues bearing importance in determining immigrants' participation (panel A). Only some origin-specific dummies are significant, but all of them are significant jointly.

[insert Table 2.7 about here]

Panel B contains results for the second step of the estimation, (2.4). To cope with the small sample size problem and its implication for inferences, standard errors were bootstrapped using normal approximation method; number of bootstrap replications being 1000. In the first column, only the host country average participation rates are included in estimation. The coefficient of home participation is highly significant, and pseudo R2 for this regression is 0.14, suggesting that a relatively high proportion of the variation in the home country dummy coefficients is explained by home participation rates (for similar inferences, see Fernandez and Fogli, 2005). This also serves as a justification for including average participation rates into the individual regressions of the previous sections. Figure 2J of the Appendix provides a regression fit corresponding to column 1 of Panel B, showing which countries lie above and below the regression line, and which ones fit into the 95% confidence interval of this estimation. Low home country participation has especially severe implications for participation of immigrants from countries such as Ukraine, Albania, Russia, while high participation rates in countries such as Finland and Switzerland translate into higher participation abroad. It also provides a mild evidence to the hypothesis that culture transmission make take place for some countries, but not for all.

In column 2, other country characteristics are included. Overall fit highly improves. There is little evidence, however, to the fact that civic freedoms at home, higher enrolment rates or higher GDP per capita improve participation outcomes. In contrast, it is revealed that most active immigrants come from industrialized countries which are

[11] Only most recent values of home country variables are used. Ideally, I should have used the values at the time of migration, but collecting such data is complicated as immigrants come from 54 countries at different times, and much of the data would be missing.

also immigration countries (with positive migration rates). Coming from a country with high religious fragmentation has a negative impact on participation outcomes.

In trying to understand further these results, I analysed correlation between country variables, and found that civic freedoms variable is highly correlated with the variable "industrialized", and with GDP per capita. All in all, the "absence" of the significant coefficient on home country participation rates is a result in itself, as it suggests that culture transmission in terms of participation is not happening. At the same time, other country of origin characteristics continue determining participation outcomes of migrants, and most participating are those from industrialized immigration societies (which are more likely also those with higher GDP per capita and higher respect for civic freedoms), and which are not highly fragmentised religiously.

The same analysis is repeated for the destination country effects. I estimate:

$$Particip_{ijk} = b_0 + b_1 X_i + b_2 d_j + b_3 d_k + e_{ijk} \tag{2.5}$$

where d_k is a dummy for a country of origin; d_j is a dummy for a country of destination, other variables are like in (2.1). And further, estimate

$$b_{2j} = a + d_1 HostParticip_j + d_2 Y_j + e_j \tag{2.6}$$

In parallel with (2.3), vector Y_j is a vector of host country characteristics, which include GDP per capita, migration rates (net migration rates per 1000 of population, average 2000-2005), religious diversity, and empowerment rights index. In this estimation, secondary school enrolment and a dummy for whether a country is industrialized are omitted because of the lack of cross-country variation in these indicators.

[insert Table 2.8 about here]

Results are presented in Table 2.8. In a similar fashion, many but not all country dummy coefficients are significant (panel A), and all are significant jointly, suggesting that host country setting also impacts participation outcomes of immigrants (see also Figure 2J for the regression fit). Panel B, column 1, shows that the host country culture of participation matters for participation of immigrants. The coefficient on the observed natives participation is significant and very large in magnitude. In addition, this variable alone explains 86% of the variation in the host country dummy coefficient, suggesting that immigrants do pick up on the participating culture of the society in which they live. Likewise, it is the sole significant variable in a regression where other country variables are included (column 2). This coefficient stays robust to the inclusion of the host country

degree of civic freedoms, suggesting that for immigrants, observed behaviour of natives is more important than the regime lived through. Neither civic freedoms in the receiving countries, nor GDP per capita, degree of religious fragmentation or net migration seem to influence the behaviour of immigrants, rather, the effect of these variables, if any, works through the civic behaviour of natives – and by observing what natives do, immigrants tend to do the same.

2.7 Conclusions

Various studies recently have shown that the quality of public life and the strength of democracy depend on the strength of the civic involvement, but also that the participation of individuals in the life of their communities has been decreasing over the past. At the same time, as the proportion of immigrants is growing, it is the immigrants who increasingly determine the scope, shape, and directions of the civic life of receiving communities. In addition, it is also the electorate that is becoming less representative of native population (Kollwelter, 2005).

Thus, the research on civic participation of immigrants bears twofold importance. On the one hand, it can help understanding how current civic participation of immigrants might predispose the future civic and political life of Europe. On the other hand, it can suggest the degree of current immigrants' integration, civic assimilation, development of civic solidarity and interconnectedness between natives and immigrants.

To the best of my knowledge, this paper is the first attempt to empirically assess civic participation outcomes of immigrants, and to understand what cultural mechanisms are at work during the formation of civic participation outcomes. Methodologically standing in line with the literature on the processes of culture transmission and immigrants' assimilation in terms of working hours, wages, and fertility, this paper broadens our understanding of yet another type of immigrants' behaviour in receiving societies – their civic involvement. The major findings can be summarized as follows.

First, of note is the fact that factors determining participation vary depending on the type of civic engagement. While, for example, trade union membership, signing petitions and boycotting products abroad is positively linked to the level of similar activities at home, it is not the case for other forms of participation. Moreover, higher levels of involvement with parties in home countries may translate into lower propensity to participate in parties abroad, suggesting that potential negative experiences with these structures in home societies discourage further participation in them after migration.

Second, when compared to natives, civic participation outcomes of immigrants are determined by rather similar factors. The main difference is that unemployment has twice as negative effect on immigrants as on natives when it comes to participation, while income increase for immigrants has twice as lower impact on participation as income increase for natives. Immigrants' years of schooling have a slightly lower effect on participation than the years of schooling of natives, too.

There is a strong evidence that naturalization enhances overall propensity to participate civically. Citizenship acquisition relaxes participation constrains, offers more possibilities and opportunities for involvement, and at the same time signifies that an immigrant spent a considerable amount of time in a country, developed a prospect of staying in it, and acquired social capital necessary for participation. Indeed, another strong finding is that regardless of the age at migration, the longer an individual stays in a country, the more he or she is prone to be civically involved.

When delving deeper into testing culture transmission and culture assimilation hypothesis, I find only limited evidence in support of the hypothesis of culture transmission in terms of participation, with mild evidence that culture transmission may happen for some countries of origin, but not for all. Much stronger and much more robust is the effect of participation assimilation, which takes place along with the overall assimilation of immigrants. One notable exception is such aspect of social capital as trust, which has transnationalism features: it is shaped both by the trust levels in receiving and in sending societies.

On the other hand, the limited effect of the home country participation rates for current immigrant's participation does not signify that home country does not play any role in determining participation outcomes. To the contrary, there is evidence that it is those from industrialized, net immigration countries, where the degree of religious fragmentation is low, and, potentially, civic freedoms are more respected, who tend to be more civically active. Thus, an interesting conclusion is that, while participating culture per se is not translated across borders, it is the experience of living in a less (more) economically and democratically advanced country, which potentially generates lower (higher) trust in the working of the civic society and leads to lower (higher) active civic engagement at home, that is carried across the borders. In contrast, it is the behaviour of natives, rather than economic and political regime lived through, that seems to have the strongest impact on immigrants' participation. It is by observing by what natives do, that immigrants tend to do the same.

Table 2.1: Types of Participation, Immigrants

Type of participation	% of immigrants involved
Civic participation	48.14
of which	
trade union membership	39.96
party membership	4.91
working for a political party or an action group	7.56
working for another similar organization or association	23.49
signing petition	48.31
taking part in a lawful demonstration	19.62
boycotting certain products	37.96

Table 2.2: Determinants of Civic Participation: Basic Probit Analysis

Dep. Var: Civic Participation	(1)	(2)	(3)	(4)	(5)
Age	0.015***	0.017***	0.024***	0.022***	0.024***
	(0.005)	(0.005)	(0.007)	(0.005)	(0.006)
Age squared	-0.000***	-0.000***	-0.000***	-0.000***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Number of people in a HH	0.016*	0.015	0.014	0.015	0.015
	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)
Years of schooling	0.022***	0.021***	0.019***	0.019***	0.016***
	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)
Female	-0.038	-0.045**	-0.074***	-0.032	-0.028
	(0.023)	(0.022)	(0.025)	(0.022)	(0.022)
Married	-0.077***	-0.070**	-0.192***	-0.056*	-0.047*
	(0.030)	(0.032)	(0.054)	(0.030)	(0.026)
Divorced or separated	-0.033	-0.033	-0.048	-0.035	-0.058
	(0.043)	(0.043)	(0.093)	(0.045)	(0.041)
Income	0.014**	0.012**	0.010	0.007	0.005
	(0.006)	(0.005)	(0.008)	(0.006)	(0.006)
Employee	0.070***	0.075***	0.151***	0.038	0.046*
	(0.026)	(0.026)	(0.032)	(0.025)	(0.026)
Unemployed	-0.109***	-0.112***	-0.110**	-0.130***	-0.141***
	(0.039)	(0.039)	(0.043)	(0.043)	(0.045)
Mean area income	0.058***	0.070***	0.076***	0.069***	-0.030
	(0.016)	(0.016)	(0.015)	(0.017)	(0.018)
Living in an urban area	0.024	0.028	0.007	0.036*	0.035*
	(0.021)	(0.020)	(0.026)	(0.021)	(0.019)
Home civic participation rate	0.127*	0.169**	0.160*	0.138*	0.121*
	(0.069)	(0.076)	(0.083)	(0.074)	(0.065)
Language ability		-0.003	0.054	0.011	0.049
		(0.031)	(0.039)	(0.036)	(0.031)
Parents born in country		0.029	0.063	0.022	0.031
		(0.036)	(0.044)	(0.040)	(0.040)
Citizen		0.139***	0.153***	0.131***	0.094***
		(0.027)	(0.036)	(0.027)	(0.021)
Total hours worked (week)				-0.001	-0.000
				(0.001)	(0.001)
Manufacturing/Construction				-0.104	-0.095
				(0.093)	(0.097)
Agriculture				-0.216***	-0.212**
				(0.084)	(0.084)
Trade/Services				-0.063*	-0.077**
				(0.033)	(0.034)
Carer				-0.029	-0.035
				(0.040)	(0.039)
Skilled worker				0.082	0.072
				(0.088)	(0.091)
Unskilled worker				0.074	0.071
				(0.099)	(0.104)
Partner's education			0.015(0.013)		
Father's education			-0.018(0.011)		
Mother's education			0.007(0.012)		
Host Civic Participation					1.180***
					(0.132)
Wald(df) chi2 / PseudoR	(13)247.96/0.08	(16)297.53/0.09	(19)300.35/0.11	(23)386.86/0.09	24(830)/0.13
Observations	2961	2956	1729	2624	2624

Reported are marginal effects of probit estimations, standard errors in parentheses; standard errors adjusted for clustering at the country of origin and robust to heteroscedasticity. Significance at: * 10%; ** 5%; *** 1%.

Table 2.3: Determinants of Various Types of Participation

Dep. Var:	(1) TU Member	(2) Party Member	(3) Work for Party	(4) Work for an Association	(5) Signing Petitions	(6) Demonst-rations	(7) Boycotting Products
Age	0.031***	-0.000	0.002	0.001	0.002	-0.002	0.006
	(0.006)	(0.002)	(0.002)	(0.004)	(0.003)	(0.003)	(0.004)
Age squared	-0.000***	0.000	-0.000	0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HH members	0.009	-0.003	-0.000	0.004	0.001	0.005	-0.003
	(0.007)	(0.002)	(0.003)	(0.005)	(0.007)	(0.005)	(0.005)
Education	0.001	0.001	0.002***	0.011***	0.016***	0.005***	0.015***
	(0.003)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)
Female	-0.073***	-0.010	0.002	0.009	0.031	-0.017	0.012
	(0.016)	(0.007)	(0.008)	(0.014)	(0.019)	(0.013)	(0.015)
Married	-0.005	-0.001	-0.011	-0.022	-0.033	-0.028	-0.073***
	(0.026)	(0.008)	(0.009)	(0.017)	(0.021)	(0.021)	(0.017)
Divorced	0.035	0.005	0.007	-0.013	0.049	0.014	0.010
	(0.033)	(0.011)	(0.011)	(0.022)	(0.031)	(0.022)	(0.029)
Income	0.009	0.002***	0.005***	0.012***	0.017***	0.006**	0.016***
	(0.007)	(0.001)	(0.001)	(0.003)	(0.005)	(0.002)	(0.004)
Employee	0.181***	-0.010	-0.010	-0.005	-0.011	0.020	-0.011
	(0.024)	(0.008)	(0.011)	(0.015)	(0.017)	(0.012)	(0.015)
Unemployed	-0.093***	-0.018***	0.003	-0.005	-0.062**	-0.012	-0.039
	(0.026)	(0.005)	(0.017)	(0.025)	(0.031)	(0.018)	(0.024)
Home TU membership	0.334*						
	(0.190)						
Home Party membership		-0.065					
		(0.063)					
Home Working for a Party			-0.201*				
			(0.111)				
Home Working for organizations				-0.083			
				(0.073)			
Home Signing Petitions					0.234***		
					(0.046)		
Home Demonstrating						0.036	
						(0.043)	
Home Boycotting Products							0.613***
							(0.175)
Wald(df) chi2	(11)234.49	(11) 45.99	(11) 53.20	(11) 103.75	(11)200.07	(11)45.83	(11)417.44
PseudoR	0.087	0.049	0.037	0.058	0.077	0.025	0.085
Observations	2961	2707	2737	2734	2930	2933	2928

Table 2.4: Immigrants versus Natives. Culture Transmission or Assimilation?

Dep. Var: Civic Participation	(1) Natives		(2) Immigrants		(3) Immigrants: Assimilation Characteristics	
Individual characteristics						
Number of hh members	-0.010**	(0.005)	0.012	(0.010)	0.008	(0.010)
Age	0.019***	(0.002)	0.016***	(0.006)	0.015**	(0.008)
Age squared	-0.000***	(0.000)	-0.000***	(0.000)	-0.000***	(0.000)
Years of schooling	0.022***	(0.002)	0.017***	(0.003)	0.019***	(0.003)
Female	-0.044***	(0.015)	-0.039*	(0.021)	-0.034	(0.023)
Married	0.016**	(0.008)	-0.048	(0.031)	-0.040	(0.034)
Divorced/separated	0.034***	(0.012)	-0.042	(0.041)	-0.054	(0.038)
Income	0.025***	(0.006)	0.013**	(0.005)	0.010**	(0.005)
Employee	0.075***	(0.017)	0.078**	(0.031)	0.085***	(0.031)
Unemployed	-0.060***	(0.023)	-0.119***	(0.040)	-0.108***	(0.039)
Protestant	0.018	(0.012)	0.071*	(0.037)	0.074*	(0.041)
Catholic	-0.055**	(0.025)	-0.036*	(0.020)	-0.038*	(0.022)
Eastern Orthodox	0.051*	(0.028)	-0.024	(0.034)	-0.004	(0.033)
Muslim	0.044	(0.043)	-0.032	(0.035)	-0.024	(0.044)
Jew	-0.005	(0.091)	0.019	(0.179)	-0.005	(0.177)
Other Christian	0.031	(0.028)	-0.045	(0.047)	-0.026	(0.044)
Skilled worker	0.031	(0.022)	0.047	(0.088)	0.075	(0.094)
Unskilled worker	0.033	(0.029)	0.025	(0.101)	0.047	(0.107)
Manufacturing/construction	-0.074***	(0.020)	-0.066	(0.090)	-0.078	(0.095)
Agriculture	-0.088***	(0.026)	-0.194***	(0.072)	-0.173**	(0.075)
Trade/services	-0.065***	(0.010)	-0.062*	(0.033)	-0.066**	(0.033)
Carer	-0.034	(0.021)	-0.009	(0.038)	-0.009	(0.036)
Area characteristics						
Mean area income	-0.002	(0.013)	-0.004	(0.040)	-0.004	(0.039)
Living in urban area	0.004	(0.012)	0.027*	(0.014)	0.035**	(0.014)
Immigrant characteristics						
Years since migration: < 2					0.166	(0.203)
Years since migration: 2-5					0.246	(0.168)
Years since migration: 6-10					0.254*	(0.135)
Years since migration: 11-20					0.188*	(0.105)
Immigration year					-0.022**	(0.009)
Age at migration: <15					-0.231	(0.164)
Age at migration: 15-25					-0.165	(0.130)
Age at migration: 26-35					-0.132	(0.113)
Age at migration: 36-45					-0.096	(0.087)
Language ability					0.040*	(0.024)
Citizen					0.064***	(0.022)
Home civic participation rate					0.082	(0.063)
Host civic participation rate					0.883***	(0.338)
Wald(df) chi2 / PseudoR	(24) 8618.12 / 0.152		(24) 367.88 / 0.091		(37) 3935.45/ 0.144	
Observations	48559		2961		2939	

Marginal effects of probit estimations are reported. Robust standard errors in parentheses, adjusted for clustering at the country of birth (for immigrants). Significance at: * 10%; ** 5%; *** 1%.

Table 2.5: Robustness

	(1) Non-Industrialized		(2) Poisson		(3) PS Matching	
Individual characteristics						
Number of hh members	-0.005	(0.012)	0.002	(0.023)	0.012	(0.011)
Age	0.014	(0.012)	0.044**	(0.018)	0.013*	(0.007)
Age squared	-0.000***	(0.000)	-0.001***	(0.000)	-0.000***	(0.000)
Years of schooling	0.023***	(0.005)	0.047***	(0.005)	0.017***	(0.003)
Female	-0.046	(0.030)	-0.046	(0.060)	-0.031	(0.023)
Married	-0.043	(0.048)	-0.068	(0.077)	-0.052*	(0.032)
Divorced/separated	-0.081**	(0.041)	0.055	(0.086)	-0.048	(0.039)
Income	0.015**	(0.007)	0.039***	(0.012)	0.008	(0.005)
Employee	0.074	(0.057)	0.178***	(0.064)	0.076***	(0.029)
Unemployed	-0.120***	(0.046)	-0.282**	(0.121)	-0.106***	(0.037)
Protestant	0.017	(0.073)	-0.022	(0.063)	0.061*	(0.037)
Catholic	-0.022	(0.033)	-0.149***	(0.043)	-0.047**	(0.022)
Eastern Orthodox	-0.006	(0.054)	0.008	(0.096)	-0.092*	(0.048)
Muslim	0.000	(0.058)	-0.041	(0.110)	-0.056	(0.048)
Jew	0.329	(0.223)	-0.297	(0.237)	0.042	(0.186)
Other Christian	-0.095	(0.076)	0.032	(0.084)	-0.023	(0.049)
Skilled worker	0.156	(0.125)	-0.091	(0.223)	0.105	(0.094)
Unskilled worker	0.137	(0.146)	-0.117	(0.236)	0.090	(0.108)
Manufacturing/construction	-0.131	(0.131)	0.008	(0.229)	-0.108	(0.097)
Agriculture	-0.256***	(0.059)	-0.452*	(0.261)	-0.189***	(0.071)
Trade/services	-0.046	(0.044)	-0.080	(0.072)	-0.064**	(0.030)
Carer	-0.034	(0.062)	0.000	(0.111)	-0.020	(0.033)
Area characteristics						
Living in urban area	0.040	(0.028)	0.063	(0.045)	0.032*	(0.017)
Mean area income	-0.035	(0.022)	-0.155	(0.094)	-0.016	(0.017)
Immigrant characteristics						
Years since migration: < 2	0.548*	(0.398)	0.008	(0.392)	0.175	(0.196)
Years since migration: 2-5	0.603***	(0.116)	0.615**	(0.295)	0.246	(0.161)
Years since migration: 6-10	0.525***	(0.117)	0.524**	(0.257)	0.242*	(0.132)
Years since migration: 11-20	0.384***	(0.119)	0.504***	(0.184)	0.183*	(0.100)
Immigration year	-0.042***	(0.007)	-0.038**	(0.016)	-0.023**	(0.009)
Age at migration: <15	-0.418***	(0.128)	0.010	(0.376)	-0.272	(0.171)
Age at migration: 15-25	-0.256	(0.291)	-0.096	(0.266)	-0.204	(0.130)
Age at migration: 26-35	-0.227	(0.201)	-0.070	(0.215)	-0.182	(0.111)
Age at migration: 36-45	-0.081	(0.090)	0.070	(0.173)	-0.128	(0.088)
Language ability	0.067	(0.049)	0.205***	(0.071)	0.012	(0.030)
Citizen	0.106***	(0.031)	0.112**	(0.054)	0.064***	(0.021)
Home country participation	0.002	(0.104)	0.158	(0.154)	0.102	(0.074)
Host country participation	0.963***	(0.173)	3.546***	(1.138)	0.826***	(0.117)
Constant			72.087**	(0.385)		
Pseudo R-sq	0.180				0.139	
Wald, Pearson /Prob > chi2	chi2(37)= 285.93	0.000	chi2(2886)= 3883.003	0.000	chi2(37) =4231.14	0.000
Observations	1302		2939		2933	

Marginal effects of probit estimations are reported in column 1 and 3. Coefficients in column 2. Robust standard errors in parentheses, adjusted for clustering at the country of birth, column 1-2. Bootstrapped standard errors in column 3, number of replications: 1000. Significance at: * 10%; ** 5%; *** 1%.

Table 2.6: Robustness: Other Forms of Participation

	(1) Sports		(2) Culture		(3) Religion		(4) Trust	
Individual characteristics								
Number of hh members	-0.001	(0.003)	-0.000	(0.004)	-0.000	(0.002)	0.007	(0.008)
Age	-0.008***	(0.003)	-0.015***	(0.003)	-0.006	(0.008)	0.005	(0.007)
Age squared	-0.000***	(0.000)	-0.000**	(0.000)	-0.000	(0.000)	0.000	(0.000)
Years of schooling	0.004***	(0.001)	0.009***	(0.002)	0.004***	(0.001)	0.011***	(0.003)
Female	-0.025***	(0.009)	0.012	(0.009)	-0.007	(0.005)	0.013	(0.020)
Married	0.010	(0.012)	0.017	(0.016)	0.012	(0.008)	-0.012	(0.026)
Divorced/separated	0.003	(0.013)	0.019	(0.021)	0.012	(0.014)	-0.026	(0.036)
Income	0.004*	(0.002)	0.001	(0.003)	-0.003**	(0.001)	0.008	(0.006)
Employee	-0.007	(0.013)	0.017	(0.013)	-0.005	(0.007)	-0.016	(0.021)
Unemployed	-0.020**	(0.010)	-0.019	(0.014)	-0.003	(0.010)	-0.056*	(0.032)
Protestant	-0.016	(0.012)	-0.010	(0.013)	0.099***	(0.031)	0.047	(0.052)
Catholic	0.009	(0.011)	0.003	(0.012)	0.057***	(0.013)	-0.010	(0.020)
Eastern Orthodox	-0.002	(0.022)	0.009	(0.029)	0.086*	(0.044)	0.099**	(0.044)
Muslim	-0.028**	(0.012)	-0.028**	(0.013)	0.081***	(0.028)	-0.039	(0.036)
Jew	-0.025	(0.043)	-0.012	(0.071)	0.135	(0.180)	-0.146	(0.129)
Other Christian	0.008	(0.018)	0.015	(0.016)	0.177***	(0.048)	-0.033	(0.042)
Skilled worker	0.125	(0.084)	0.047	(0.047)	0.004	(0.020)	-0.037	(0.068)
Unskilled worker	0.176*	(0.105)	0.126**	(0.060)	0.016	(0.026)	-0.079	(0.067)
Manufacturing/construction	-0.121**	(0.048)	-0.074**	(0.032)	-0.009	(0.017)	-0.006	(0.068)
Agriculture	-0.034*	(0.021)	-0.020	(0.039)	0.003	(0.031)	0.141	(0.094)
Trade/services	-0.001	(0.010)	-0.019	(0.013)	-0.002	(0.009)	-0.029	(0.029)
Carer	-0.045***	(0.009)	-0.030***	(0.010)	0.046**	(0.020)	-0.041	(0.028)
Area characteristics								
Living in urban area	-0.008	(0.006)	0.002	(0.011)	-0.002	(0.005)	0.033	(0.021)
Mean area income	-0.010	(0.006)	-0.027***	(0.005)	-0.000	(0.003)	-0.001	(0.010)
Immigrant characteristics								
Years since migration: < 2	0.952***	(0.007)	0.937***	(0.008)	0.875***	(0.172)	-0.037	(0.136)
Years since migration: 2-5	0.990***	(0.005)	0.987***	(0.005)	0.833***	(0.141)	-0.046	(0.109)
Years since migration: 6-10	0.975***	(0.018)	0.974***	(0.015)	0.681***	(0.167)	-0.025	(0.101)
Years since migration: 11-20	0.710***	(0.089)	0.769***	(0.092)	0.242**	(0.102)	-0.040	(0.068)
Immigration year	-0.035***	(0.003)	-0.047***	(0.005)	-0.015***	(0.003)	0.007	(0.006)
Age at migration: <15	-0.887***	(0.049)	-0.952***	(0.032)	-0.733***	(0.114)	0.141	(0.123)
Age at migration: 15-25	-0.190***	(0.019)	-0.240***	(0.026)	-0.085***	(0.015)	0.079	(0.097)
Age at migration: 26-35	-0.164***	(0.016)	-0.201***	(0.023)	-0.068***	(0.013)	0.131	(0.090)
Age at migration: 36-45	-0.075***	(0.008)	-0.089***	(0.011)	-0.030***	(0.005)	0.031	(0.069)
Language ability	0.023**	(0.011)	0.023*	(0.012)	-0.001	(0.008)	0.007	(0.033)
Citizen	-0.004	(0.009)	-0.008	(0.010)	0.005	(0.006)	-0.008	(0.019)
Home country effect	-0.011	(0.043)	-0.029	(0.040)	0.010	(0.016)	0.283***	(0.076)
Host country effect	0.568***	(0.062)	0.901***	(0.051)	0.475***	(0.059)	0.484***	(0.101)
Pseudo R-sq	0.208		0.235		0.237		0.074	
Wald, Pearson /Prob > chi2	chi2(37)= 2550.36	0.000	chi2(37)= 1513.81	0.000	chi2(37)= 2598.5	0.000	chi2(37)= 1151.04	0.000
Observations	2939		2939		2939		2939	

Marginal effects of probit estimations are reported in column 1 and 3. Coefficients in column 2. Robust standard errors in parentheses, adjusted for clustering at the country of birth, column 1-2. Bootstrapped standard errors in column 3, number of replications: 1000. Significance at: * 10%; ** 5%; *** 1%.

Table 2.7: Home Country Effects

Panel A. First Stage Regression

	Coefficients	***St.Errors***		***Coefficients***	***St.Errors***
AL	-1.146	(0.787)	HU	-0.772	(0.790)
AM	-0.270	(0.873)	IE	-0.818	(0.795)
AR	-0.979	(0.844)	IN	-1.375*	(0.798)
AT	-0.992	(0.783)	IS	-1.227	(0.931)
AU	-1.061	(0.888)	IT	-0.935	(0.764)
BA	-1.036	(0.771)	JP	-1.287	(0.909)
BD	-1.452	(0.913)	LV	-0.808	(0.938)
BE	-0.827	(0.771)	MA	-0.914	(0.772)
BG	-1.288	(0.849)	NL	-0.868	(0.774)
BR	-0.776	(0.811)	NO	-1.212	(0.816)
CA	-0.942	(0.842)	NZ	-0.380	(1.033)
CH	-0.319	(0.854)	PE	-0.882	(0.846)
CL	-0.800	(0.810)	PH	-1.245	(0.801)
CN	-1.902**	(0.851)	PL	-1.249	(0.767)
CO	-1.308	(0.835)	PT	-0.685	(0.765)
CS	-0.661	(0.788)	RO	-1.135	(0.776)
CZ	-0.800	(0.799)	RU	-1.424*	(0.771)
DE	-0.800	(0.759)	SE	-1.024	(0.796)
DK	-0.863	(0.792)	SI	-0.368	(0.909)
EE	-1.366	(0.847)	SK	-1.035	(0.800)
ES	-0.647	(0.778)	TR	-1.008	(0.764)
FI	-0.467	(0.787)	UA	-1.380*	(0.826)
FR	-0.727	(0.764)	UG	-1.199	(0.887)
GB	-0.749	(0.764)	US	-1.151	(0.791)
GE	-0.771	(0.814)	VN	-1.579**	(0.796)
GR	-0.902	(0.817)	ZA	-0.818	(0.831)
HR	-1.213	(0.779)	Const:	-1.273*	(0.750)
Observations	2956		Pseudo R2	0.122	

Omitted group: Latvia. Significant at 10%; ** significant at 5%; *** significant at 1%

Panel B. Second Stage Regression

	(1)		(2)	
Home participation rate	0.705***	(0.217)	-0.503	(0.429)
Empowerment rights index			0.044	(0.030)
GDP per capita			0.000	(0.000)
School enrolment rates			-0.001	(0.002)
1 if industrialized			0.374*	(0.224)
Religious fragmentation			-0.397*	(0.208)
Migration rate			0.033*	(0.018)
Constant	-0.926***	(0.134)	-1.075***	(0.301)
Observations	54		54	
R-squared	0.14		0.70	

Bootstrapped standard errors, number of replications 1000

Table 2.8: Destination Country Effects

Panel A. First Stage Regression

	Coefficients	***St.Errors***		***Coefficients***	***St.Errors***
AT	0.804**	(0.395)	GR	-0.319	(0.397)
BE	0.915**	(0.396)	HU	-0.195	(0.455)
CH	0.711*	(0.390)	IE	0.795**	(0.399)
DE	0.439	(0.390)	LU	0.869**	(0.389)
CZ	0.275	(0.410)	NL	0.572	(0.398)
DK	1.219***	(0.420)	NO	1.320***	(0.406)
ES	0.467	(0.412)	PT	-0.043	(0.476)
FI	1.162***	(0.430)	SE	1.521***	(0.394)
FR	1.010**	(0.403)	SI	0.339	(0.417)
GB	0.559	(0.400)	Constant	-2.643***	(0.472)
Observations	2956		Pseudo R2	0.13	

Omitted group: Poland (has the smallest number of immigrants).

Panel B. Second Stage Regression

	(1)		(2)	
Host participation rate	2.267***	(0.183)	2.258***	(0.415)
Empowerment rights index			0.008	(0.044)
GDP per capita			-0.000	(0.000)
Religious fragmentation			-0.086	(0.390)
Migration rate			0.003	(0.028)
Constant	-0.613***	(0.120)	-0.630	(0.503)
Observations	19		19	
R-squared	0.86		0.87	

Bootstrapped standard errors, number of replications 1000

2.A Variables' Definition and Data Sources

TU member: equals 1 if an individual is an active member of a trade union, 0 otherwise.

PARTY member: equals 1 if an individual is an active member of a political party, 0 otherwise.

Work for Party, Work for an Association, Signing Petitions, Demonstrations, Boycotting Products: equals 1 if an individual undertook one of these activities in the past 12 month

Civic Participation: equals one if a least one of the previous variables equals one.

Age: age of individuals, from 15 to 70

Age squared

Gender: dummy equal to 1 if male, 2 if female

Education: years of completed schooling

Income: levels of income on a scale from 1 to 12

Married: dummy equal to 1 if married, 0 otherwise

Divorced: dummy equal to 1 if divorced or separated, 0 otherwise

Employee: dummy equal to 1 if employed, 0 if self-employed, working in family business

Unemployed: dummy equal to 1 if actively or inactively unemployed in the last 7 days

Skilled worker: dummy equal to 1 if an individual reports working in occupations coded 6000-8000, ISO standard

Unskilled worker: dummy equal to 1 if an individual reports working in occupations coded 9000-es, ISO standard

Protestant: dummy equal to 1 if Protestant, 0 otherwise

Catholic: dummy equal to 1 if Catholic, 0 otherwise

Jewish: dummy equal to 1 if Jewish, 0 otherwise

Muslim: dummy equal to 1 if Muslim, 0 otherwise

Other Christian: dummy equal to 1 if belongs to other religion (excluded: other religions)

Years since migration: >2: for immigrants, length of stay in a country: less than two years

Years since migration: 2-5: 2 to 5 years

Years since migration: 6-10: 6 to 10 years

Years since migration: 11-20: 11 to 20 years (omitted category: over 20 years)

Immigr_year: arrival year, cohort effects

Language proficiency: dummy equal to 1 if an individual speaks any official language of a country of residence at home (two mentioned languages are reported)

Citizen: dummy equal to 1 if an immigrant has a citizenship of the country of residence

Parent_born_cntr: dummy equal to one if one of the parents is born in the country of residence

Age at migration: a set of dummies indicating the age of an individual at the time of migration

Urban: dummy equal to 1 if an individual lives in a big city or on the outskirts of a big city

Mean income area: average level of income by area of residence

Host Participation Rate: average level of civic participation, by host country, calculated separately for immigrants and natives. Source: ESS.

Home Participation Rate: average level of civic participation in the source country; for immigrants. Source: WVS.

GDP: GDP per capita values, 2003. World Bank Development Indicators. 2006

Enrolment: Secondary school enrollment, (% gross). World Bank Development Indicators. 2006.

Migration rate: net migration rates per 1000 of population, average 2000-2005. Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, Trends in Total Migrant Stock: The 2005 Revision.

Religious Fragmentation: index constructed using the following formula:

$$Religion_i = 1 - \sum_k s_{ki}^2$$

where s is a share of k major religion denominations in country i (Alesina and La Ferrara, 2000)

Source of the information on percentages of religious denominations: CIA World Factbook. 2006.

Empowerment Rights Index: an aggregate index of freedom of movement, freedom of speech, degree of protection of workers' rights, political participation, and freedom of religion indicators. Range: 0 (no government respect for these five rights) to 10 (full government respect for these five rights). Source: Cingranelli-Richards (CIRI) Human Rights Database. www.ciri. binghamton.edu. Details of construction are in David, Gelleny, and Sacko, 2001.

Table 2.B: Descriptive Statistics

Variable	Mean		Std.Dev.		Obs	
	Immigrants	**Natives**	**Immigrants**	**Natives**	**Immigrants**	**Natives**
Dependent Variable						
CIVIC_PARTIC	0.489	0.547	0.500	0.498	3878	62234
Individual characteristics						
Number of hh members	2.969	2.935	1.482	1.429	3876	62215
Age	42.44	42.722	13.96	15.279	3837	62234
Age squared	1996.2	2058.609	1226.922	1319.837	3837	62234
Gender (1-m, 2-f)	1.537	1.521	0.498	0.499	3878	62202
Years of schooling	12.178	12.122	4.271	3.756	3813	61622
Income	6.849	6.335	2.457	2.523	2996	48910
Married	0.595	0.528	0.4908	0.499	3878	62234
Divorced	0.113	0.086	0.317	0.281	3878	62234
Employee	0.775	0.742	0.418	0.437	3878	62234
Unemployed	0.074	0.061	0.261	0.241	3878	62234
Protestant	0.074	0.144	0.262	0.351	3878	62234
Catholic	0.3061	0.329	0.461	0.470	3878	62234
Jewish	0.004	0.001	0.060	0.022	3878	62234
Muslim	0.087	0.004	0.282	0.064	3878	62234
Eastern Orthodox	0.073	0. 055	0.261	0.227	3878	62233
Other religion	0.405	0.449	0.491	0.497	3878	62233
Skilled worker	0.209	0.216	0.406	0.411	3878	62233
Unskilled worker	0.254	0.216	0.435	0.412	3878	62233
Manufacturing/construction	0.460	0.409	0.498	0.491	3878	62233
Agriculture	0.021	0.041	0.143	0.199	3878	62233
Trade/services	0.127	0.134	0.333	0.340	3878	62233
Carer	0.072	0.027	0 .258	0.161	3878	62233
Total hours worked	39.451	40.054	15.137	14.867	3288	52257
Additional Immigrants' Characteristics						
Length of stay	3.954	-	1.136	-	3854	-
Cohort: arrival time	1982.27	-	14.27	-	3850	-
Age at migration	15.34	-	15.53	-	3878	
Parent born in host country	0.108	-	0.310	-	3878	-
Citizen	0.418	-	0.493	-	3871	-
Language proficiency	0.845	-	0.362	-	3878	-
Area Characteristics						
Urban	0.450	0.308	0.492	0.462	3878	62234
Mean income area	7.149	6.424	1.297	1.394	3878	62234
Institutional and Cultural Proxies						
Home country civic participation	0.499	0.547	0.205	0.498	3878	62234
GDP per capita	6516.89	27638.83	8543.63	13169.23	3850	62233
Secondary school enrolment	101.185	-	25.31	-	3878	-
Net migration rate	1.159	2.943	3.148	2.816	3878	62233
Religious fragmentation	0.352	0.367	0.232	0.221	3819	62233
Empowerment right index	7.830	8.779	2.547	1.633	3761	62233

Table 2.C: Percentage of Various Types of Activities, Immigrants and Natives

		TU member	**Party member**	**Work for party**	**Work for other orgntn**	**Signing Petitions**	**Public Demonstration**	**Boycott Products**
% of individuals involved in this activity	im	19.07	3.40	3.72	10.66	21.45	9.17	16.55
	nat	23.73	4.98	4.89	15.19	24.72	8.14	16.61
out of those involved in this activity, % for whom this is the only type of civic involvement	im	51.34	17.45	8.05	19.48	30.17	17.02	29.18
	nat	43.62	17.49	7.82	19.47	27.12	17.13	22.13

Table 2.D: Overlap of Various Types of Activities, Immigrants

	TU member, %	**Party member, %**	**Work for party, %**	**Work for other orgntn, %**	**Signing Petitions, %**	**Public Demonstration, %**	**Boycotting Products, %**
TU member	–	6.63	7.05	17.47	28.91	14.99	22.58
Party member	37.58	–	42.57	36.49	43.62	30.20	27.03
Work for party	36.21	39.13	–	56.65	60.69	47.13	41.86
Work for other orgntn	31.33	11.14	19.68	–	52.73	27.97	37.65
Signing Petitions	25.67	7.12	10.50	26.10	–	26.00	40.32
Public Demonstration	31.24	11.08	19.16	32.48	60.89	–	40.61
Boycotting Products	26.07	5.79	9.35	24.16	52.21	22.47	–

Comment: The table reads horizontally. For example, of all party members, 37.58% are also trade union members, and 27.03% are boycotting certain products. However, of all those who are boycotting products, only 5.79% are party members.

Table 2.E: Number of Civic Involvements, Immigrants

Number of involvements per person	Frequency	Percent	Cumulative
0	2,011	51.86	51.86
1	1,013	26.12	77.98
2	441	11.37	89.35
3	247	6.37	95.72
4	114	2.94	98.66
5	31	0.80	99.46
6	16	0.41	99.87
7	5	0.13	100.00
Total	3,878	100.00	

Table 2.F: Destination Country Summary Statistics

Country	Obs Total	Obs by Group		TU Memb. Rates		Party Memb. Rates		Work for Party Rates		Work for Org Rates		Signing Petition Rates		Demonstration Rates		Boycotting Rates		Civic Particip. Rates	
		Nat	Imm	Nat	Imm	Nat	Imm	Nat	Imm	Nat	Imm	Nat	Imm	Nat	Imm	Nat	Imm	Nat	Imm
Austria	4511	3709	268	0.217	0.133	0.116	0.035	0.103	0.034	0.204	0.129	0.275	0.244	0.091	0.118	0.221	0.231	0.608	0.506
Belgium	3671	2929	203	0.341	0.239	0.065	0.050	0.047	0.069	0.208	0.148	0.302	0.276	0.077	0.108	0.116	0.173	0.653	0.559
Switzerland	4169	2972	565	0.150	0.092	0.080	0.021	0.084	0.035	0.177	0.090	0.440	0.304	0.087	0.094	0.326	0.250	0.656	0.511
Czech Rep.	4386	3504	98	0.094	0.109	0.033	0.042	0.035	0.061	0.098	0.115	0.144	0.156	0.038	0.082	0.086	0.096	0.340	0.336
Germany	5785	4685	321	0.140	0.090	0.032	0.008	0.040	0.009	0.213	0.081	0.349	0.171	0.117	0.072	0.249	0.134	0.607	0.351
Denmark	2990	2512	76	0.710	0.491	0.062	0.018	0.045	0.067	0.217	0.160	0.305	0.203	0.072	0.080	0.271	0.267	0.867	0.652
Spain	3386	2684	112	0.086	0.034	0.037	0.007	0.074	0.036	0.180	0.144	0.271	0.125	0.286	0.188	0.125	0.107	0.502	0.345
Finland	4022	3446	48	0.537	0.338	0.058	0.029	0.038	0.021	0.308	0.146	0.266	0.188	0.020	0.083	0.298	0.292	0.797	0.603
France	3291	2611	124	0.074	0.084	0.017	0.037	0.044	0.089	0.175	0.202	0.357	0.331	0.160	0.138	0.299	0.333	0.563	0.550
Great Britain	3931	2993	154	0.187	0.104	0.017	0.022	0.026	0.045	0.089	0.110	0.409	0.327	0.044	0.078	0.245	0.240	0.593	0.444
Greece	4968	3619	287	0.112	0.072	0.063	0.029	0.065	0.007	0.065	0.018	0.047	0.014	0.056	0.007	0.080	0.021	0.282	0.126
Hungary	3183	2757	39	0.103	0.065	0.011	0.022	0.019	0.026	0.024	0.000	0.051	0.051	0.028	0.000	0.049	0.053	0.205	0.152
Ireland	4329	3573	153	0.213	0.186	0.049	0.025	0.047	0.054	0.135	0.155	0.256	0.324	0.063	0.107	0.121	0.250	0.495	0.553
Luxembourg	3184	1964	778	0.317	0.228	0.111	0.011	0.054	0.018	0.258	0.110	0.282	0.191	0.214	0.111	0.162	0.131	0.679	0.484
Netherlands	4235	3429	147	0.230	0.171	0.050	0.029	0.036	0.048	0.213	0.116	0.241	0.286	0.036	0.082	0.105	0.153	0.533	0.463
Norway	3796	3162	133	0.506	0.385	0.082	0.036	0.092	0.158	0.268	0.286	0.400	0.398	0.097	0.203	0.230	0.316	0.797	0.733
Poland	3826	3436	15	0.084	0.105	0.014	0.000	0.029	0.000	0.061	0.000	0.088	0.067	0.016	0.000	0.049	0.000	0.228	0.211
Portugal	3554	2786	43	0.096	0.081	0.035	0.010	0.029	0.000	0.041	0.000	0.061	0.000	0.041	0.023	0.027	0.047	0.207	0.152
Sweden	3937	3093	244	0.638	0.591	0.069	0.053	0.043	0.025	0.263	0.160	0.482	0.434	0.066	0.094	0.365	0.311	0.879	0.807
Slovenia	2960	2370	70	0.231	0.326	0.038	0.021	0.035	0.029	0.017	0.029	0.098	0.074	0.023	0.029	0.038	0.059	0.358	0.368
Total	78114	62234	3878	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Average	3906	3112	194	0.253	0.196	0.052	0.025	0.049	0.042	0.161	0.110	0.256	0.208	0.082	0.085	0.173	0.173	0.542	0.445
Std.Dev	697.76	595.42	187.93	0.196	0.155	0.030	0.014	0.023	0.036	0.089	0.074	0.134	0.127	0.069	0.055	0.107	0.107	0.215	0.191
Max	5785	4685	778	0.710	0.591	0.116	0.053	0.103	0.158	0.308	0.286	0.482	0.434	0.286	0.203	0.365	0.333	0.879	0.807
Min	2960	1964	15	0.074	0.034	0.011	0.000	0.019	0.000	0.017	0.000	0.047	0.000	0.016	0.000	0.027	0.000	0.205	0.126

Table 2.G: Source Country Summary Statistics (ESS rounds pooled and WVS)

Country	Obs		TU Memb. Rates		Party Memb. Rates		Work for Party Rates		Work for Org Rates		Signing Petition Rates		Demonstration Rates		Boycotting Rates		Civic Particip. Rates	
	ESS	WVS	Imm	Home	Imm	Home	Imm	Home	Imm	Home	Imm	Home	Imm	Home	Imm	Home	Imm	Home
AL	166	1000	0.082	0.094	0.028	0.145	0.011	0.114	0.028	0.405	0.036	0.152	0.017	0.193	0.037	0.037	0.161	0.404
AM	12	2000	0.089	0.013	0.029	0.012	0.018	N/a	0.042	N/a	0.067	0.173	0.026	0.275	0.058	0.116	0.204	0.372
AR	19	1280	0.054	0.025	0.014	0.045	0.041	0.030	0.136	0.159	0.194	0.215	0.158	0.128	0.169	0.018	0.410	0.295
AT	57	1522	0.144	0.189	0.021	0.118	0.034	0.034	0.099	0.201	0.275	0.552	0.094	0.157	0.219	0.093	0.498	0.653
AU	13	2048	0.117	0.119	0.024	0.026	0.037	N/a	0.101	N/a	0.262	0.786	0.075	0.180	0.198	0.213	0.412	0.813
BA	140	1200	0.302	0.068	0.029	0.071	0.041	0.031	0.112	0.101	0.238	0.207	0.088	0.086	0.194	0.063	0.535	0.323
BD	9	1499	0.168	0.148	0.025	0.235	0.044	0.229	0.130	0.577	0.316	0.130	0.098	0.063	0.236	0.053	0.498	0.382
BE	124	1912	0.209	0.158	0.015	0.070	0.027	0.029	0.115	0.253	0.211	0.709	0.109	0.389	0.150	0.115	0.483	0.775
BG	26	1000	0.103	0.071	0.026	0.047	0.016	0.037	0.046	0.097	0.090	0.102	0.036	0.148	0.088	0.033	0.248	0.265
BR	51	1149	0.115	0.097	0.018	0.072	0.020	N/a	0.058	N/a	0.130	0.466	0.062	0.247	0.126	0.062	0.318	0.584
CA	20	1931	0.168	0.134	0.024	0.061	0.047	0.027	0.125	0.372	0.276	0.734	0.094	0.192	0.223	0.185	0.494	0.770
CH	22	1212	0.174	0.059	0.021	0.067	0.033	N/a	0.121	N/a	0.224	0.662	0.103	0.164	0.188	0.106	0.472	0.693
CL	25	1200	0.345	0.031	0.036	0.025	0.075	0.019	0.189	0.301	0.359	0.183	0.141	0.149	0.281	0.047	0.666	0.275
CN	23	1000	0.166	0.069	0.022	0.083	0.036	0.099	0.119	0.495	0.242	N/a	0.105	N/a	0.186	N/a	0.470	0.191
CO	22	6025	0.113	0.038	0.015	0.060	0.034	N/a	0.134	N/a	0.189	0.181	0.154	0.110	0.151	0.072	0.426	0.280
CS	59	1908	0.163	0.136	0.025	0.058	0.029	0.013	0.103	0.035	0.246	0.273	0.088	0.226	0.210	0.178	0.477	0.421
CZ	33	2036	0.138	0.102	0.022	0.041	0.027	0.024	0.102	0.183	0.214	0.561	0.087	0.260	0.173	0.082	0.426	0.647
DE	351	1023	0.173	0.070	0.025	0.029	0.036	0.011	0.113	0.114	0.264	0.519	0.099	0.320	0.211	0.076	0.508	0.587
DK	47	1005	0.369	0.543	0.033	0.066	0.083	0.026	0.197	0.212	0.335	0.552	0.143	0.284	0.264	0.239	0.661	0.815
EE	17	2409	0.354	0.047	0.032	0.017	0.023	0.015	0.145	0.134	0.225	0.189	0.084	0.101	0.291	0.028	0.618	0.293
ES	66	1038	0.140	0.037	0.024	0.017	0.045	0.012	0.122	0.107	0.268	0.240	0.098	0.241	0.223	0.049	0.484	0.359
FI	92	1615	0.539	0.336	0.049	0.061	0.031	0.026	0.158	0.217	0.416	0.480	0.097	0.139	0.304	0.143	0.772	0.652
FR	242	1000	0.197	0.041	0.021	0.019	0.034	0.007	0.117	0.162	0.235	0.671	0.108	0.383	0.171	0.119	0.501	0.716
GB	197	2008	0.199	0.073	0.026	0.026	0.054	0.013	0.148	0.247	0.297	0.791	0.111	0.128	0.228	0.159	0.536	0.807
GE	38	1142	0.120	0.007	0.026	0.020	0.014	N/a	0.043	N/a	0.062	0.135	0.029	0.189	0.058	0.056	0.221	0.270
GR	22	1003	0.200	0.083	0.025	0.079	0.036	0.052	0.120	0.323	0.271	0.484	0.093	0.461	0.201	0.043	0.501	0.670
HR	81	1000	0.204	0.118	0.025	0.050	0.037	0.020	0.091	0.145	0.218	0.364	0.082	0.074	0.184	0.075	0.475	0.474
HU	41	1012	0.217	0.071	0.035	0.017	0.042	0.009	0.128	0.115	0.266	0.152	0.101	0.047	0.213	0.027	0.526	0.227
IE	40	2002	0.124	0.101	0.023	0.043	0.042	0.020	0.110	0.206	0.315	0.594	0.082	0.212	0.232	0.081	0.458	0.652
IN	46	968	0.151	0.081	0.027	0.114	0.044	0.082	0.114	0.276	0.286	0.238	0.084	0.188	0.212	0.105	0.459	0.375

Table 2.G: Source Country Summary Statistics (continued)

Country	Obs		TU Memb. Rates		Party Memb. Rates		Work for Party Rates		Work for Org Rates		Signing Petition Rates		Demonstration Rates		Boycotting Rates		Civic Particip. Rates	
	ESS	WVS	Imm	Home	Imm	Home	Imm	Home	Imm	Home	Imm	Home	Imm	Home	Imm	Home	Imm	Home
IS	8	2000	0.453	0.597	0.036	0.190	0.071	0.034	0.185	0.158	0.354	0.525	0.116	0.205	0.292	0.176	0.704	0.865
IT	252	1362	0.162	0.062	0.024	0.041	0.037	0.023	0.113	0.168	0.251	0.524	0.103	0.330	0.193	0.097	0.498	0.624
JP	7	1018	0.188	0.065	0.026	0.035	0.033	0.012	0.125	0.094	0.267	0.568	0.114	0.096	0.215	0.066	0.515	0.606
LT	5	1013	0.245	0.022	0.027	0.020	0.035	0.019	0.109	0.103	0.279	0.253	0.073	0.118	0.173	0.040	0.499	0.330
LV	6	2264	0.323	0.113	0.022	0.019	0.038	0.009	0.133	0.144	0.251	0.177	0.084	0.237	0.227	0.037	0.561	0.410
MA	101	1535	0.131	0.005	0.029	0.007	0.059	N/a	0.153	N/a	0.251	0.134	0.131	0.105	0.200	0.061	0.481	0.211
NL	95	1003	0.213	0.236	0.028	0.093	0.041	0.026	0.123	0.331	0.249	0.613	0.105	0.323	0.179	0.218	0.517	0.751
NO	23	1127	0.465	0.155	0.037	0.032	0.030	N/a	0.141	N/a	0.326	0.645	0.089	0.261	0.265	0.179	0.682	0.721
NZ	5	1201	0.201	0.055	0.029	0.018	0.041	N/a	0.120	N/a	0.348	0.881	0.081	0.186	0.255	0.162	0.517	0.886
PE	15	1501	0.213	0.045	0.023	0.047	0.042	0.033	0.134	0.343	0.244	0.210	0.123	0.161	0.195	0.072	0.511	0.358
PH	32	1200	0.215	0.039	0.024	0.043	0.053	0.038	0.138	0.458	0.272	0.104	0.108	0.068	0.214	0.051	0.526	0.208
PL	148	1095	0.186	0.100	0.023	0.009	0.030	0.006	0.112	0.092	0.232	0.209	0.089	0.088	0.181	0.043	0.462	0.306
PT	359	1000	0.202	0.024	0.015	0.016	0.026	0.010	0.116	0.101	0.216	0.260	0.111	0.164	0.162	0.055	0.493	0.326
RO	95	1146	0.119	0.092	0.024	0.023	0.032	0.018	0.087	0.079	0.167	0.090	0.079	0.134	0.142	0.015	0.365	0.234
RU	118	2500	0.152	0.231	0.016	0.007	0.024	0.003	0.099	0.028	0.183	0.109	0.081	0.230	0.157	0.023	0.403	0.435
SE	36	1015	0.315	0.624	0.030	0.103	0.087	0.043	0.191	0.425	0.299	0.871	0.132	0.353	0.274	0.334	0.623	0.945
SI	14	1006	0.112	0.169	0.026	0.030	0.034	0.013	0.105	0.201	0.272	0.307	0.100	0.092	0.228	0.077	0.494	0.464
SK	91	1331	0.108	0.162	0.038	0.069	0.055	0.051	0.109	0.318	0.165	0.574	0.083	0.132	0.110	0.035	0.349	0.644
TR	220	4607	0.178	0.005	0.026	0.009	0.033	0.008	0.110	0.008	0.232	0.150	0.085	0.074	0.181	0.062	0.460	0.186
UA	32	1195	0.098	0.210	0.017	0.021	0.016	0.012	0.054	0.072	0.105	0.125	0.052	0.167	0.090	0.044	0.274	0.385
UG	11	1002	0.174	0.077	0.027	0.095	0.035	0.061	0.094	0.604	0.240	0.161	0.060	0.121	0.189	0.103	0.409	0.344
US	45	1200	0.181	0.127	0.026	0.187	0.055	0.066	0.132	0.578	0.258	0.809	0.101	0.204	0.211	0.244	0.485	0.852
VN	38	995	0.237	0.114	0.031	0.286	0.063	0.239	0.154	0.547	0.312	0.052	0.116	0.018	0.257	0.005	0.579	0.361
ZA	21	3000	0.188	0.063	0.022	0.092	0.046	0.043	0.120	0.431	0.269	0.249	0.087	0.128	0.217	0.129	0.485	0.407
Total	3878	83463																
Average	72	1546	0.198	0.121	0.026	0.061	0.039	0.039	0.117	0.238	0.242	0.379	0.094	0.184	0.194	0.094	0.478	0.499
Std.Dev	83.54	899.32	0.099	0.132	0.006	0.058	0.016	0.049	0.035	0.161	0.075	0.245	0.029	0.095	0.059	0.069	0.118	0.205
Max	359	6025	0.539	0.624	0.049	0.286	0.087	0.239	0.197	0.604	0.416	0.881	0.158	0.461	0.304	0.334	0.772	0.945
Min	5	968	0.054	0.005	0.014	0.007	0.011	0.003	0.028	0.008	0.036	0.052	0.017	0.018	0.037	0.005	0.161	0.186

Table 2.H: Example of the Propensity Score Estimation. Albanians

Treatment (immigration)	Frequency	Percent
0 (natives in Albania, WVS)	1000	14.327
1 (Albanian emigrants, ESS)	166	85.763

Probit estimates

Dep. Variable: Immigrant	Coeff	Std. Error	P>|z|
Younger than 25	0.631	0.153	0.000
Older than 45	0.802	0.129	0.000
Secondary education	1.529	0.188	0.000
Female	-0.366	0.101	0.000
Constant	-2.369	0.250	0.000
N. obs	1166		
LR chi2(4)	157.98		
Pseudo R2	0.166		

Description of the estimated propensity score

Percentiles	Smallest	Largest		
1%	0.0009641	.0009641		
5%	0.0031182	.0009641		
10%	0.0067583	.0009641	Obs	1166
25%	0.026621	.0009641	Sum of Wgt.	1166
50%	0.1140345	Mean	.1423853	
		Std. Dev.	.1219163	
75%	0.2208893	.3433954		
90%	0.3433954	.3433954	Variance	.0148636
95%	0.3433954	.3433954	Skewness	.4084666
99%	0.3433954	.3433954	Kurtosis	1.726445

The final number of blocks is 4

Calculated average participation rate, by blocks:

Block number	Participation rates		
	Mean	Frequency	Percent
1	0.2965	56	33.73
2	0.4333	34	20.48
3	0.4752	12	7.23
4	0.5776	64	38.55

Each Albanian emigrant is assigned one of these four participation rates, which serve her as a reference participating average. The assignment is based on the propensity score. For example, if emigrant's characteristics produce a propensity score that falls within the first interval, the relevant reference participation rate is the average participation of those non-emigrants, whose characteristics produce propensity scores which fall within the same interval. To compare, average civic participation rate of all non-emigrant Albanians is 0.444. This value was used uniformly for all Albanian emigrants in estimations described in Tables 1-6. Also note that the number of blocks and, hence, of reference groups, differs by country of origin. The maximum number is 5, for Bosnians.

Figure 2.E: Civic Participation: Natives and Immigrants

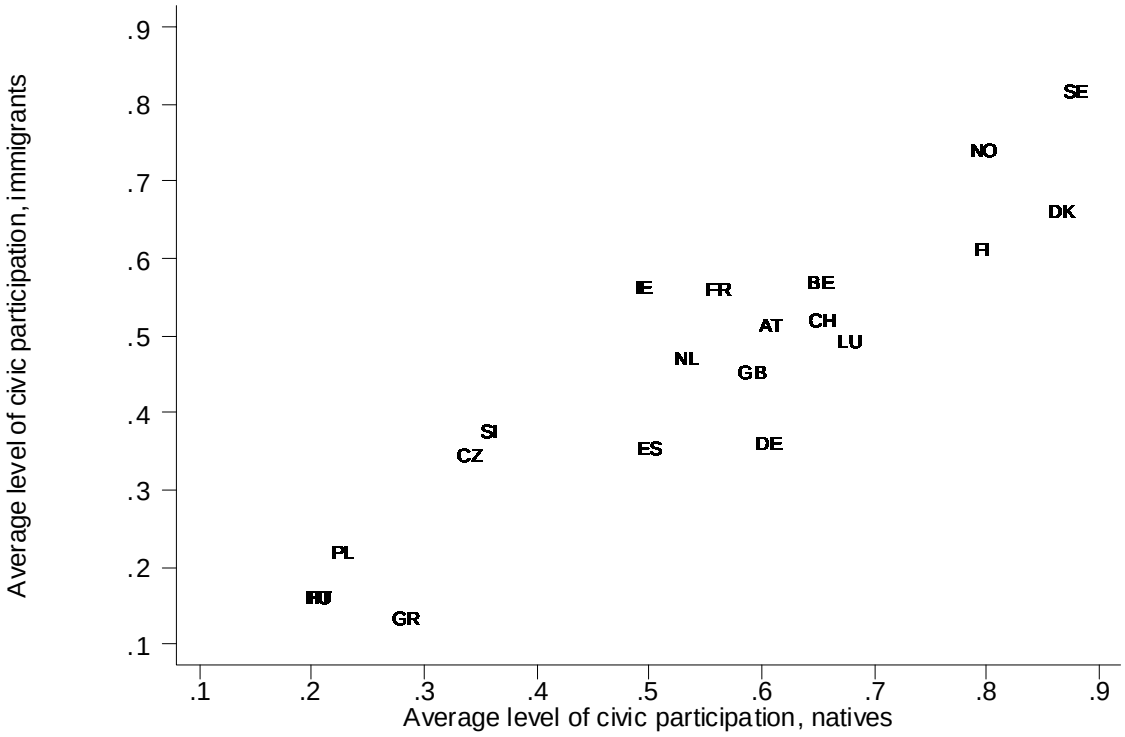
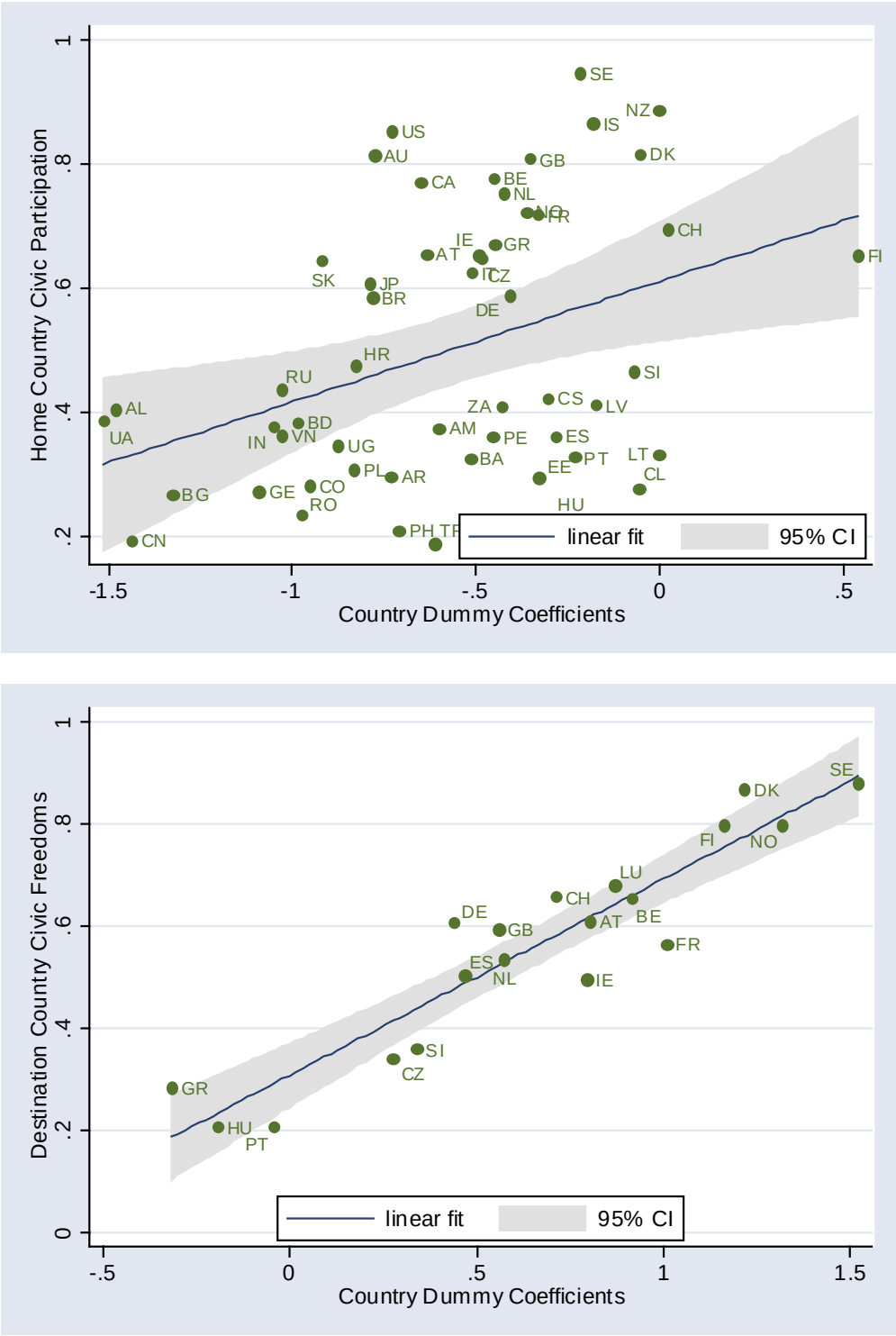


Figure 2.J: Country Dummies and Country Effects



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Chapter 3

Transit Countries and Migration Management

3.1 Introduction

Effective migration management recently has become one of particularly topical issues of political, social, and academic discourse. Since many migration roots lie through third, transit, countries, it has been realized that a transnational perspective, involving also these countries, towards achieving effective migration management is needed. With such perspective in mind, this paper aims to offer a theory of migration management embracing destination, sending, and transit migration countries.

While there has been an increased debate on how to set effective migration-management policies, most of the academic research in the area mainly addressed optimal migration control by destination countries alone (Epstein and Nitzan, 2005; Ethier, 1986; Garcia, 2006), occasionally relating it to cooperation with sending countries (Stark et al, 2007). To my knowledge, with the only exception of Benhabib (2007), who looks at the optimal migration that maximizes the world's welfare, little research has been done at the level of several countries.

This paper is trying to fill the gap by offering a basic model of migration management by a (final) destination country when two sending countries exist, one of which can also be a transit country. The sending country is assumed to always play a passive role in managing migration in a sense that it cannot restrict the exit of its nationals. Migration policies available to other countries in this paper are entry-restriction border controls. I first examine a benchmark case, in which the transit country can send its nationals to the final destination country but is passive in migration management, and is thus similar to the sending country, and only the destination country can set up migration management policies. I then further develop the model to allow the transit country to set up entry controls. When both final destination and transit countries are able to implement entry-restriction policies, they can either rival or cooperate regarding the policies they set with respect to the sending country. The rivalry or cooperation outcome in my model depends on the possibility of direct migration from the sending country towards the final destination country. I show that when direct and transit migration are among available feasible options for nationals of the sending country (for example, this is the case of immigrants from Byelorussia and Ukraine to the EU), both countries will race up in their border enforcement spending. However, when only transit migration is available (such as for migrants from Sub-Saharan Africa who are trying to reach the EU through North African countries), no unique migration management equilibrium between a final destination and a transit country exists. This case raises opportunities for cooperation, under which transit and destination countries may improve their welfare.

Theoretical developments of this paper are most closely related to the literature on migration management by destination countries. For example, Ethier (1986) focuses on two types of policies pertaining to migration control: border enforcement and domestic enforcement in a form of random inspections of firms. He studies the way these two forms of control interplay with each other, and what their implication is for the national welfare, control of unskilled labour employment rate, and the number of immigrants. While acknowledging the importance of both forms of migration management, which are also considered by Djajic (1999) in a dynamic setting, in this paper I focus only on the first form, i.e., border enforcement, as to allow tractability of the analysis in the three-countries setting. I also closely follow the one-country set-up of Garcia (2006), who analyses political outcomes in countries where rival political parties are concerned with issues of taxation and efficiency of border enforcement. Moreover, this paper is close in spirit to Stark et al (2007), who offer a theoretical framework for optimal migration management by destination and sending countries simultaneously, in which formation of migration policies is linked to incentives to adjust the level of human capital to the possibility of migration. Using migration quotas as a migration policy tool, they show the situations in which policy-setting power can rest either with a sending or with a destination country. Such framework is particularly stimulating for this paper, as it offers situations in which a destination country enforces its preferred migration quota, while a sending country has to comply with its sub-optimal status. Introducing a third, transit, country into this setting allows examining whether the destination country is still able to enforce its preferred policy.

The multi-faceted approach to tackling migration problem is motivated by the growing pressure from the European Union to enforce borders of Eastern European and North African countries with the EU and with their other neighbours, as to prevent transit migration through these countries, and, as a consequence, to reduce the pressure of illegal migration through the direct border with the EU. These trends have been documented by Arando and Martin (2005), Sandell (2005), Braichevska et all (2004), Malynovsky (2000), as well as in the ILO Migration Report (2002) and Mediterranean Migration Report (2005), to name a few. Considering that progressively the world is developing and more and more countries start being involved into migration experience that constantly evolves (Skeldon, 1997; Zelinski 1971; Haas, 2005), the world offers many examples of countries that are simultaneously sending and transit ones, and that start being actively involved into migration management.

3.2 The Model

Consider a world composed of three countries: sending (S), destination (D), and a third country which may serve as a transit country (T) for individuals from S who want to move to D. Each country is characterised by its labor force; wages are different across countries and are given exogenously. In particular, in average terms, $\overline{w}^D > \overline{w}^T > \overline{w}^S$. These wage differences motivate migration of individuals from S towards D as a first choice, or, of individuals from S towards T as a second choice, if migration from S to D is not feasible. At the same time, natives of T are also willing to migrate to D. I assume that migration takes place at no individual cost[1].

The populations of countries S and T are represented by those individuals who do not wish to migrate (stayers), those who wish to migrate and do it legally (regular movers), and those who wish to migrate but cannot do it in a legal way and thus have to resort to other ways (irregular movers). While it is the wage differential between countries that stimulates migration, I do not place any assumption on whether it is richer or poorer individuals who stay versus those who leave[2].

Denote by Y^j continuous mass of all those individuals who are willing to migrate but cannot do so legally, that is, who are potential irregular migrants, with $j = S, T$. In case when there are no border controls, all those who want to migrate will be able to do so, that is, if there are no border controls between D and S, the number of immigrants from S to D is the whole (irregular) migration pressure Y^S.

When border controls are in place, only a fraction I^{ij} succeeds in the attempt to migrate irregularly from country j, $j = S, T$, towards country i, $i = T, D$, such that $I^j < Y^j$. In case of transit migration, I^{DTS} denotes successful (irregular) migration from S to D through T.

If a country wants to prevent entry of immigrants, because of, for instance, the reasons related to reduction of congestion or security concerns, it can do so at the cost of migration control, which equals country's spending E^{ij} on border protection policies, where $E^{ij} \geqslant 0$. For example, E^{DS} denotes spending of country D on migration management of the border with S. Such policies are considered to be the only tool of migration management in this paper[3]. In addition, I will assume that countries are

[1] I also disregard smuggling of humans. For an analysis of the latter see, for instance, Guriev and Griebel, 2006.

[2] For a discussion on who migrates, see, for instance, Borjas, 1994; Borjas and Bratsberg, 1994; Tassinopoulos and Werner, 1999; Hatton and Williamson, 2002; De Haas, 2005.

[3] Another potential tool of migration management is internal enforcement policies, such as random

able to control entry to, but not exit from their territories. This will be particularly relevant for country S, which will be assumed to always play a passive role in migration management (no exit control); as well as for country T, which will be able to control the entry of S migrants, but not their exit, and neither the exit of its own natives towards D. While this is an obvious simplification that helps to avoid overloading the model, it also finds support in the real world. For instance, some countries may be too poor to finance exit-restricting measures and policies, or their geography may be such that it may be difficult to effectively control the exit through rivers, sea shores, deserts, or mountains. In contrast, there certainly are (and were) countries where exit is (or was) restricted for political reasons, such as the former Soviet Union countries. However, after the collapse, one of the first migration policies that was implemented by the republics was abandoning of the requirement to seek an official permit to leave the country[4]: in this sense, the exit was eased.

Accomplished irregular migration is assumed to decrease with the rising spending on border enforcement E^{ij}, and to increase with the migration pressure Y^j, and can be expressed as $I^{ij}(Y^j, E^{ij})$, where $\partial I^{ij}/\partial E^{ij} < 0$, $\partial I^{ij}/\partial Y^j > 0$. The derivative of the number of immigrants who succeeded in entering the country of their destination with respect to the border enforcement effort of that country $\partial I^{ij}/\partial E^{ij}$ can be interpreted as efficacy of border enforcement policy (Garcia, 2006)[5]. As explained before, $I^{ij}(Y^j, 0) = Y^j$.

3.3 Migration Management by Destination Country: One Country of Origin

As a starting point, consider the case when migration happens only between two countries, S and D[6]. Country S plays a passive role in migration management process and is characterised only by its natives willing to migrate, Y^S. In contrast, migration management rests with D.

Native workers in D derive their utility from their consumption, and their disutility

inspection of the firms. For an analysis of internal enforcement policies independently from and in combination with border controls, see Ethier (1986).

[4]See, for instane, the Law of Ukraine "On the Order of Exit from Ukraine and Entrance to Ukraine for the Citizens of Ukraine", 1994.

[5]I also assume a negative cross derivative $\partial I^{ij}/\partial E^{ij}\partial Y^j < 0$ which implies that efficacy of the border enforcement policy is decreasing with the rising migration pressure.

[6]In this section, I follow closely the setting of Garcia (2006).

from the number of illegal immigrants from S, say because of security issues, congestion, or perceived social tensions that may arise due to their presence (see Dustmann and Preston, 2000, and Card, Dustmann and Preston, 2005, for an analysis of the EU citizens's responses to questions about attitudes towards immigrants). Following Garcia (2006), I assume the following functional form of the objective function of a representative native:

$$U^D(c, I^{DS}) = c^D - \beta I^{DS} \tag{3.1}$$

where $c^D$is individual consumption of a native in D, and β is a disutility parameter from having more immigrants from S.[7] Natives' consumption is determined by wages they receive minus personal income taxes:

$$c^D = w^D(1 - t^{DS}) \tag{3.2}$$

The government uses taxes fully to finance protection policies on its DS border. I also assume that natives prefer spending a part of their consumption on protecting borders and thus receiving a smaller pool of immigrants, rather than having zero spending on border protection but receiving all migrants. Assuming that government's budget constraint is always balanced, and denoting by N^D the number of natives in D, government D's spending on protecting its DS border is given by:

$$E^{DS} = t^{DS} w^D N^D \tag{3.3}$$

The optimal spending on migration management is defined by the level E^{DS*} , which maximizes natives' utility given individual and the balanced government budget constraints. This level is given by the solution to the following problem:

$$\max_{E^{DS}} \; U^D(c, I^{DS}) = c^D - \beta I^{DS}(E^{DS}, Y^S) \;\; s.t.(3.2) and (3.3)$$

From the first order conditions,

$$\partial I^{DS}/\partial E^{DS} = -\frac{t^{DS} w^D}{\beta E^{DS}} \tag{3.4}$$

This condition defines the optimal spending on border enforcement by country D , E^{DS*}, as well as the corresponding number of irregular entrants $I^{DS*}(E^{DS*}, Y^S)$ for

[7] Note that $\beta < 0$ implies that natives may want to have more (irregular) immigrants.

a given migration pressure. For $E^{DS} = 0$ the country reaches its minimum level of border protection efficacy, thus allowing for the highest potential entry. In contrast, when migration spending approaches its maximum, i.e., $E^{DS} = \infty$, the marginal effect of an extra monetary unit on reducing the undesirable entry is zero, for a given migration pressure Y^S.

3.4 Migration Management by Destination Country: Two Countries of Origin

Consider now a case when there are two countries from which migration flows can originate, S and T, and that for the time being both countries play a passive role in managing migration in a sense than none of them implements border control policies. The questions asked in the next two sub-sections are what implication this has for an optimal migration policy of a destination country D , and how D divides its border enforcement effort between the two countries.

3.4.1 No Transit Migration

As a benchmark, I first develop a case in which migration pressure from S and from T are independent from each other, that is, both S and T can send migrants to D, but S cannot send its migrants to D through T, in other words, there is no transit migration.

As before, natives in D derive utility from private consumption, and disutility from the presence of immigrants, who now originate from two countries:

$$U^D(c^D, I^{DS}, I^{DT}) = c^D - \beta I^{DS}(E^{DS}, Y^S) - \alpha I^{DT}(E^{DT}, Y^T) \tag{3.5}$$

where α is a disutility parameter from having more immigrants from country T. Natives of D may have different disutilities from immigrants that they receive from a transit and a neighbouring country for different socioeconomic, historical, cultural, or ethnic reasons.

While the government in D runs two migration control policies, I assume that there is only one general tax levied on natives, t^D, and that the budget is split between financing the two programs, E^{DS} and E^{DT}. In other words, two programs come out of the same pool of revenue with the aggregate rate of taxation being constant. This is also equivalent to assuming that there are two separate taxes that yield two separate

streams of spending, but that the derivative of one tax with respect to the other is -1[8]. The assumption is motivated by the fact that it can be politically and administratively difficult for the government to raise separately two taxes on migration management, and additional expenditure on border protection with one country should come at the expense of the lower border protection with another country. Given this,

$$c^D = w^D(1 - t^D), \qquad E^D = t^D w^D N^D = E^{DS} + E^{DT} \tag{3.6}$$

The common budget constraint for the two policies implies

$$t^D = \frac{E^{DS} + E^{DT}}{N^D w^D} \tag{3.7}$$

And natives' optimisation problem becomes:

$$\max_{E^{DS}, E^{DT}} \quad U^D(c^D, I^{DS}, I^{DT}) = c^D - \beta I^{DS}(E^{DS}, Y^S) - \alpha I^{DT}(E^{DT}, Y^T) \quad \text{s.t. (3.6)} \tag{3.8}$$

Summary 1 *Efficacy of D's border enforcement with respect to S and T, or the marginal immigration levels from S and T, are related through the disutility that natives of D derive from having more immigrants from S or from T :*

$$\alpha \frac{\partial I^{DT}}{\partial E^{DT}} = \beta \frac{\partial I^{DS}}{\partial E^{DS}} \tag{3.9}$$

Proof. Straightforward from optimisation. ■

What this summary tells is that given the same pool of government D's revenue, D will be willing to marginally allocate more resources on controlling the border with that country, whose irregular immigrants provide higher disutility to the natives of D, provided the migration pressure from both countries is the same. It also tells that if D's natives are indifferent between immigrants from S or T, i.e., if $\alpha = \beta$, then marginal spending of D on border protection with both countries should be the same.

[8] See Glomm and Kaganovich, 2002, for more details as well as for an example of non-linear budgetary competition.

3.4.2 The Case of Transit Migration

As a next step, we move to the scenario when all those who are willing to migrate from S can move to D either directly, or through T, that is, transit migration is allowed. Natives of T can also move to D, and I continue assuming that D is the only country that sets migration policies. I also assume that D's protection efforts at the DT border are effective for preventing unwanted entry of migrants originating both from T and S.

The fact that transit migration is allowed means that migration pressure on the DT border is no longer given solely by the number of T's natives willing to migrate, Y^T, but that it is also additionally comprised of all those natives of S who were not able to reach D due its restrictive border controls, but who were able to enter T since the latter does not have entry restrictions:

$$Y^{DT} = Y^T + (Y^S - I^{DS}(E^{DS})) \tag{3.10}$$

I assume that individuals from country S who move to T will try to reach D afterwards, rather than stay in T, since they will still be attracted by higher wages in D as compared to T. I also rule out the possibility of $T \rightarrow S \rightarrow D$ migration, that is, transit migration through S of all those in T who were not able to reach D.

Two possible situations can be distinguished here. The first one is the case in which individuals from S, who were not able to move to D in the first place, migrate to T and become similar to natives of T. As both ethnic groups then move to D, the pool of S-migrants is undistinguishable from the pool of T-migrants at the DT border. This example may sound more realistic if we consider origin countries such that what matters for the destination country is the total number of people who cross each border rather than the number of representatives of a particular ethnicity. For example, this may be the case of ethnically and economically similar countries, such as Byelorussia and Ukraine, in which case the natives of EU member countries would be relatively indifferent between having more, say, Byelorussians rather than more Ukrainians, but would be concerned if more Ukrainians and Byelorussians would start crossing the EU-Ukraine border.

As shown in Appendix 3.A, the resource allocation in D in this case will be determined by the following rule:

$$\alpha \frac{\partial I^{DT}}{\partial E^{DT}} = \beta \frac{\partial I^{DS}}{\partial E^{DS}} + \alpha \frac{\partial I^{DT}}{\partial E^{DS}}$$

This rule suggests that the optimal policy response of D is to have lower marginal border control spending on the DS border, and to have higher marginal border control

spending on the DT border. Comparing this equation to the benchmark case given by equation (3.9), there is an additional term $\alpha \partial I^{DT}/\partial E^{DS}$ which measures the disutility D natives have from more immigrants that cross the DT border as a result of higher border spending on controlling the DS border (i.e., this is the number of S ethnics that cross the DT border). If $\partial I^{DT}/\partial E^{DS} = 0$, that is, if higher spending on enforcing the DS border does not result in transit migration and consequent higher level of crossing the DT border, then this equation reduces to (3.9), or the case of no transit migration. What this last term measures is the size effect of increased migration pressure on the DT border. However, this effect is due not to the simple increase of the number of T's natives, but to the increase of S natives in country T, a direct result of higher spending on enforcing the DS border. It thus also captures the trade-off that the D country has when considering how much to spend on protecting its borders with S and with T in the wake of transit migration.

More realistically, however, regardless of whether the nationals of S manage to migrate to D directly or through T, their nationality is usually visible to the natives of D (stated differently, natives of D care where migrants originate from). Thus, the migration pressure from T is still given by equation (3.10), however, the optimization problem (3.8) becomes:

$$\begin{aligned} \max_{E^{DS},E^{DT}} \quad & U^D(c^D, I^{DS}, I^{DT}, I^{DTS}) = c^D - \beta I^{DS}(E^{DS}, Y^S) \\ & -\alpha I^{DT}(E^{DT}, Y^T) - \beta I^{DTS}(E^{DT}, (Y^S - I^{DS}(E^{DS})) \\ & s.t. (3.6) \; and \; (3.7) \end{aligned} \tag{3.11}$$

where I^{DTS} is the number of immigrants from S who come to D in transit through T (in addition to those who come directly). This number depends on the residual migration pressure $Y^{DS} = (Y^S - I^{DS}(E^{DS})$ which is affected by the D's spending on the DS border, as well as on D's spending to protect its DT border. Optimization results in the following condition which defines optimal border control spending by D on both its borders, when transit migration is a possibility and both sending countries play a passive role in migration management:

$$\alpha \frac{\partial I^{DT}}{\partial E^{DT}} = \beta \frac{\partial I^{DS}}{\partial E^{DS}} + \beta \left[\frac{\partial I^{DTS}}{\partial E^{DS}} - \frac{\partial I^{DTS}}{\partial E^{DT}} \right] \tag{3.12}$$

Comparing this to the benchmark case (3.9), an additional term appears in equation

(3.12). The first term in brackets is the number of irregular immigrants from S who reach D via T, which is affected by the D's spending on DS border, and the second term in brackets is the number of succeeded immigrants from S who reach D via T, which is affected by the D's spending on DT border. The two derivatives have different signs: $\frac{\partial I^{DTS}}{\partial E^{DS}} > 0$, since as spending on DS border protection increases, less migrants can enter D directly from S, and more are able to enter indirectly through the DT border for a given E^{DT} level. In contrast, $\frac{\partial I^{DTS}}{\partial E^{DT}} < 0$: tighter DT border protection decreases the number of succeeded S transit entrants to D. Depending on which effect dominates, it will be optimal for D to tighten or to loosen border control with S and with T.

Summary 2 *In the case when both direct and transit migration are possible, when migration management power rests only with the destination country D, and natives of D are able to distinguish between nationals of S and of T who cross the DT border, the optimal migration policy of D is:*
- not affected by the possibility of transit migration and is like in (9),
if $\left|\frac{\partial I^{DTS}}{\partial E^{DS}}\right| = \left|\frac{\partial I^{DTS}}{\partial E^{DT}}\right|$*, that is, if marginal spending on either DT or DS border enforcement results in the same efficacy of restricting transit migration from S towards D;*
- to spend marginally more on protecting DT border, and less on protecting DS border,
if $\left|\frac{\partial I^{DTS}}{\partial E^{DS}}\right| > \left|\frac{\partial I^{DTS}}{\partial E^{DT}}\right|$*, that is, if marginal spending on DS border enforcement is more effective in restricting transit migration from S towards D than marginal spending on DT border enforcement;*
- to spend marginally more on protecting DS border, and less on protecting DT border,
if $\left|\frac{\partial I^{DTS}}{\partial E^{DS}}\right| < \left|\frac{\partial I^{DTS}}{\partial E^{DT}}\right|$*, that is, if marginal spending on DT border enforcement is more effective in restricting transit migration from S towards D than marginal spending on DS border enforcement.*

Proof. Straightforward from equation (3.12). ■

3.5 Migration Management by Destination and Transit Countries

Up till now I have been considering situations in which the transit country T does not have migration management power. However, the real world practices tell that this is

not the case, and that, increasingly, transit countries engage into restricting migration flows, too. This is because natives in transit countries also experience certain disutility associated with those immigrants from S who are unable to further to move to D and thus settle down in T[9] and also because final destination countries D may put pressure on T to enforce their borders, in order to help reducing the migration pressure on DT borders. In what follows, I am going to examine optimal migration management entry-restriction policies by both D and T countries when both have the power to implement them, and when irregular migrants from T still are able to move to D.

3.5.1 Optimal Migration Policies by Destination and Transit Countries when both Direct and Transit Migration are Feasible

Let us first look at the example when both direct and transit migration is available to the natives of S on their way to D. This case corresponds to the experience of several Eastern European countries, such as, for instance, Ukraine and Russia, when Russians can move to the Schenghen zone directly or through Ukraine, and when Ukrainians can also directly move to the Schenghen zone.

This setting presumes that if D decides to protect its borders at all, it should protect the DT and the DS borders simultaneously. This is because protecting only DS border will not prevent full migration of S's natives through T, while protecting only DT border will result in full direct migration of S's natives to D as well. Given this, country T does not need to implement any border control policy on its TS border if D keeps its DS border open (as there will simply be no individuals willing to cross it), and considers initiating the TS border protection only if it knows that D will enforce controls at the DS border, as the latter will stimulate transit migration undesirable for T.

Figure 3.1 depicts the normal form of the simultaneous-move game between T and D. The payoffs are given in terms of utility that natives of both countries receive from having to pay for border enforcement, and from having irregular immigrants for a given level of border protection. Here, E^j is the total spending of a country on border enforcement, $j = D, T$, and I^j is the total number of irregular immigrants it receives for a chosen level of border protection. For example, the first cell describes payoffs in case when both countries choose open-border policies: D has zero spending on border controls, but receives all potential mass of immigrants from both T and S; T spends

[9] As well as with those who are just in transit through their territory.

zero on border protection as well, but has no migrants (as those who come from S can move towards D with no constraint)[10].

If D chooses to keep its borders fully open, it is optimal for T to keep its border open as well. In fact, regardless of whether T sets up border controls at a cost E^{TS} or not, all individuals from S are able to move to D directly, avoiding T, so that the T's border control represents a loss for this country. If D spends a non-negative amount on border protection, however, T has to choose between two options. The first option is to stay open and receive all residual mass of immigrants from S, given by $(Y^S - I^{DS})$ less the migrants I^{DTS} who will be able to transit into D despite the border control. The second option is to enforce its borders too, and as a result, receive only a part of migrants, I^{TS} but at a cost of border controls, E^{TS}. Note that in the latter case, the number of migrants $I^{DTS\,'}$ who will be able to transit into D is smaller than the corresponding number in case when T stays open. This is because the migration pressure on DT border by transit immigrants is smaller, thus, succeeded transit migration is smaller as well. Depending on what option provides highest utility to T's citizens (open borders with many entrants, or restricted borders at a cost), T will stay open or with enforced borders. In its turn, D will prefer to enforce its borders in this game, as long as receiving the full mass of immigrants from T and S gives higher disutility than receiving a chosen number of immigrants at a cost of border enforcement.

To summarize, in the case when both direct and transit migration are feasible options for individuals from S on their way to D, in a simultaneous move scenario the equilibrium outcome for both D and T is to protect their borders as long as the disutility from receiving the mass of all potential entrants is higher than the disutility from the number of immigrants these countries choose to receive at a cost of protecting their borders (and to keep their borders open as long as the reverse is true). In particular, both T and D prefer to protect their borders as long as

$$\begin{aligned} U^T(E^T &= E^{TS}, I^T = I^{TS} - I^{DTS\,'}) > U^T(E^T = 0, I^T = Y^S - I^{DS} - I^{DTS}) \\ U^D(E^D &= E^{DS} + E^{DT}, I^D = I^{DS} + I^{DT} + I^{DTS}) > U^D(E^D = 0, I^D = Y^S + Y^T) \end{aligned} \quad (3.13)$$

Note that in some cases when T stays open it may still be optimal for D to keep its borders protected. Such cases are defined by the range of values for the utility functions

[10]In principle, if the borders are open, it is not strictly correct to say that I^j represents irregular migration, since all migration is regular in this case. Here, I^j is the number of all potential entrants.

Figure 3.1: Normal Form Representation of the Game with Transit and Direct Migration

D \ T	Open	Protect
Open	$U^D(c(E^D=0), (I^D = Y^S+Y^T))$ $U^T(c(E^T=0), (I^T=0))$	$U^D(c(E^D=0), (I^D = Y^S+Y^T))$ $U^T(c(E^T=E^{TS}), (I^T=0))$
Protect	$U^D(c(E^D=E^{DS}+E^{DT}), (I^D = I^{DS}+I^{DT}+I^{DTS}))$ $U^T(c(E^T=0), (I^T = Y^S - I^{DS} - I^{DTS}))$	$U^D(c(E^D=E^{DS}+E^{DT}), (I^D = I^{DS}+I^{DT}+I^{DTS\prime}))$ $U^T(c(E^T=E^{TS}), (I^T = I^{TS} - I^{DTS\prime}))$

Payoffs are given in terms of spending on border enforcement, E^j, j=D,T, and in terms of total number of immigrants received, I^j, j=D,T.

$I^{DTS\prime} < I^{DTS}$, because more migrants can come through T if T is open

of T and D such that:

$$\begin{aligned} U^T(E^T &= E^{TS}, I^T = I^{TS} - I^{DTS\prime}) < U^T(E^T = 0, I^T = Y^S - I^{DS} - I^{DTS} \quad (3.13a) \\ \text{and } U^D(E^D &= E^{DS} + E^{DT}, I^D = I^{DS} + I^{DT} + I^{DTS}) > U^D(E^D = 0, I^D = Y^S + Y^T) \end{aligned}$$

Thus, as long as countries have higher utility from protecting their borders and, consequently, receiving less immigrants, rather than from being fully open and receiving the full pool of potential entrants, their optimal strategies are to enforce the borders. One thus can expect to see the protect-protect equilibrium.

As we have seen, the whole question of setting up entry border controls between T and S arises only when there are border controls between D and S. Hence, in a non-simultaneous setting, D country is a natural leader in setting migration policies, and T is a natural follower, both racing up in their spending on border enforcement.

Indeed, the latter scenario can be analysed in more detail in a dynamic setting for predicting how much both countries will actually spend on protecting their borders. Country T takes into account D's spending on the DS border protection when it chooses its own level E^{TS}, since D's spending will have a direct implication for the potential mass of immigrants willing to enter T instead of D. I assume that the information is fully available to both players. Since D knows that T takes its actions into account, D is able to solve for T's optimal spending and account for it when setting its own migration policy. This game $\grave{a} - la$ Stackelberg is solved by backward induction, and its extensive

form is depicted in Appendix 3B.

First, I calculate the best-response function for the follower T, for an arbitrary migration policy E^{DS}. Assuming that natives in T have a symmetric structure of utility function and government budget constraints, the optimisation problem is similar to the one-country migration management case:

$$\begin{aligned} \max_{E^{TS}} \qquad & U^T(c, I^{TS}) = c^T - \\ -\gamma \left[I^{TS}(E^{TS}, (Y^S - I^{DS}(E^{DS}, Y^S)) + I^{DTS}(E^{DT}, I^{TS}(E^{TS}, E^{DS})) \right] \\ s.t.\ c^T &= w^T(1 - t^T) \\ E^{TS} &= t^T w^T N^T \end{aligned} \tag{3.14}$$

where γ is a disutility that natives of T receive from having more immigrants from S; I^{TS} is succeeded migration through the TS border, which depends on border-protection spending E^{TS} and on $(Y^S - I^{DS})$, a migration pressure on TS border comprised of all natives of Y who were not able to migrate to D. The last term in the utility function represents the number of immigrants from S who manage to migrate to D through T (I assume that the transit per se does not cause disutility for T's natives), and it is a function of D's spending on border enforcement with T, E^{DT}, which can be expressed as $E - E^{DS}$, where E is the total spending of D on protection of its borders, as well as the mass of all transit migrants.

From the first order conditions,

$$\frac{t^T w^T}{E^{TS}} = \gamma \frac{\partial I^{DTS}(E^{DS}, E^{TS})}{\partial E^{TS}} - \gamma \frac{\partial I^{TS}(E^{DS}, E^{TS})}{\partial E^{TS}}$$

and rewriting,

$$E^{TS} = \frac{t^T w^T}{\gamma \left[\frac{\partial I^{DTS}(E^{DS}, E^{TS})}{\partial E^{TS}} - \frac{\partial I^{TS}(E^{TS}, E^{DS})}{\partial E^{TS}} \right]} = R_{E^{TS}}(E^{DS}) \tag{3.15}$$

Equation (3.15) is a reaction function of T on the D's spending to protects its DS border. Both derivatives in the denominators are negative, however, the size of the

second one is larger than the size of the first one, because the marginal number of immigrants from S to T is larger that the marginal number of immigrants from S to T who succeed to further migrate to D for the same marginal decrease of E^{TS} border enforcement. Thus, the overall E^{TS} spending is positive. As shown in Appendix 3, the slope of the reaction function in (3.15) is positive: higher E^{DS} spending leads to higher E^{TS} spending. Since D's budget is always balanced and $E = E^{DS} + E^{DT}$, a corresponding reaction function of T on the D's spending to protect its DT border can also be derived.

In its turn, the best-response of country D with respect to the T's actions is presented by a pair of response functions: best response in terms of E^{DS} and corresponding best-response in terms of E^{DT}. These are derived by reconsidering the optimization problem (3.11) and substituting the optimal spending of T on its border protection, E^{TS*}. Taken together, the following two conditions define D's best-response functions:

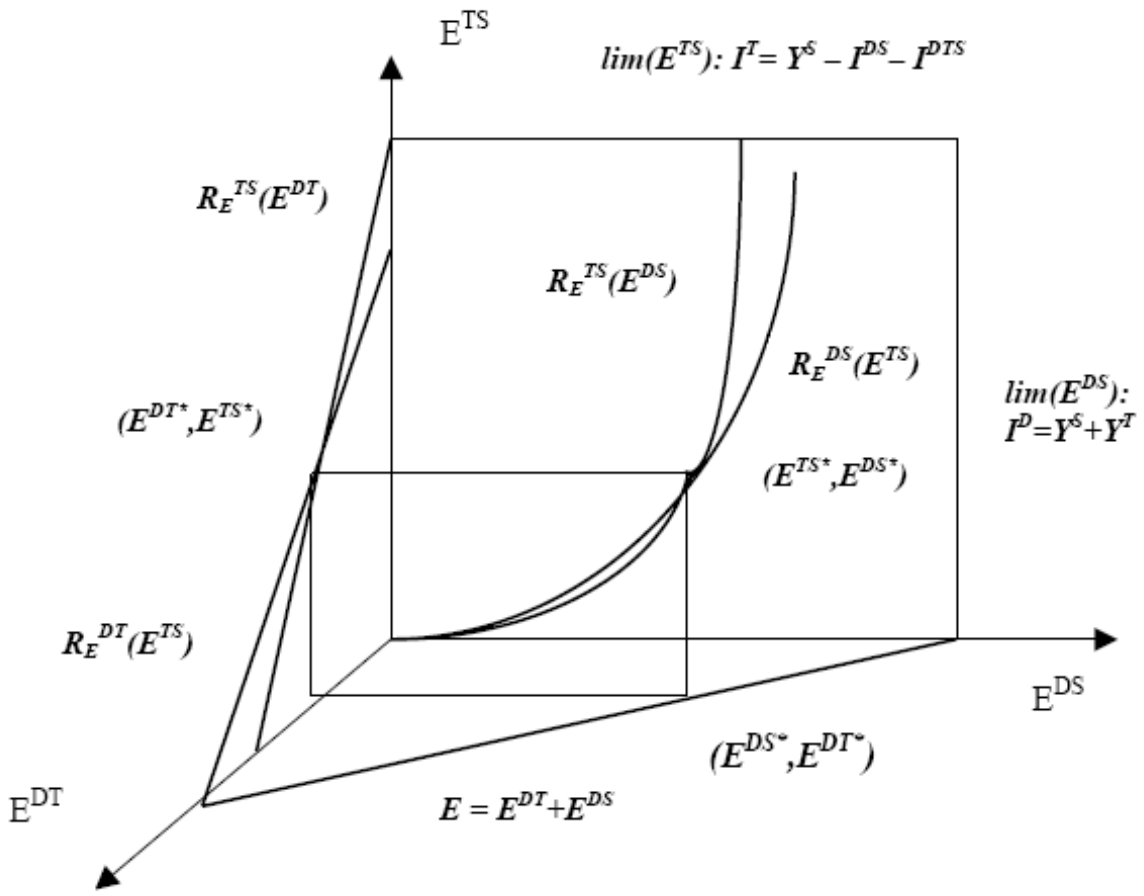
$$\alpha \frac{\partial I^{DT}}{\partial E^{DT}} = \beta \frac{\partial I^{DS}}{\partial E^{DS}} + \beta \left[\frac{\partial I^{DTS}(E^{TS*})}{\partial E^{DS}} - \frac{\partial I^{DTS}(E^{TS*})}{\partial E^{DT}} \right] \tag{3.16}$$

$$E = E^{DS} + E^{DT} \tag{3.17}$$

These conditions determine optimal spending on DS and DT border enforcement taking into account T's spending. The slope of the $R_{E^{DS}}(E^{TS})$ reaction function is positive, while the slope of the $R_{E^{DT}}(E^{TS})$ is negative, as explained in Appendix 3.C. These conditions can also be compared to those when T does not have power to set migration policy, i.e., when T does not have power to set migration policy, i.e., Summary (3.1) and (3.2). In particular, Summary result (3.2), i.e., the case when country T has no migration policy ($E^{TS} = 0$), can be viewed as a special case of conditions (3.16-3.17) which account for possible T's migration policy.

Figure 3.2 depicts reaction functions of countries T and D and their mutual behaviour. In the (E^{TS}, E^{DS}) space, the reaction function of T, $R_{E^{TS}}(E^{DS})$, as well as the reaction function of D, $R_{E^{DS}}(E^{TS})$, are both upward-sloping. The $R_{E^{TS}}(E^{DS})$ has (0,0) as its origin point: for a given open-door policy of D, such that $E^{DS} = 0$, T will stay open as well. However, from conditions (3.16-3.17), the origin point of D's reaction function is (0,$E^{DS'}$),where $E^{DS'}$ is some non-negative value, i.e., when T is fully open, D does not have to be, and it can be spending a non-negative amount on protecting its borders. The intersection of these two reaction functions is the sub-game perfect Nash outcome of the Stackelberg game between T and D. Note also that there are two limiting schedules in this panel, both defined by condition (3.13). The horizontal

Figure 3.2: Reaction Functions in Case of Direct and Transit Migration



schedule is the maximum amount that natives of T are prepared to spend on protecting the TS border, and it is defined by the total (dis)utility that they derive from having non-protected borders and receiving potential mass of immigrants from S. Once this limit is reached, the T country is no longer willing to protect its borders, and prefers to open up. A corresponding limiting condition for D is shown as a vertical schedule.

The (E^{DS},E^{DT}) space shows the budget constraint of D. The last section of the graph, the (E^{DT},E^{TS}) space, depicts reaction functions $R_{E^{TS}}(E^{DT})$ and $R_{E^{DT}}(E^{TS})$, which can be derived from the corresponding $R_{E^{TS}}(E^{DS})$ and $R_{E^{DS}}(E^{TS})$ functions, using the assumption that D's budget is split between financing two border-enforcement programs at the same time.

Definition 1 *The triple* $(E^{TS*}, E^{DT*}, E^{DS*})$*, defined by conditions 3.15-3.17, constitutes the optimal migration spending on border enforcement by countries* T *and* D *in the wake of transit and direct migration.*

3.5.2 Optimal Migration Policies by Destination and Transit Countries when Only Transit Migration is Feasible

I now turn to analyzing the case when only transit migration is available to the natives of S on their way to D. This case follows the experience of Maghreb and Sub-Saharan countries, when direct illegal migration from Sub-Saharan countries to the Schenghen zone is not feasible (air travel being too expensive and airport documentation checks blocking illegal entry), and only transit migration is an option.

The normal form representation of the simultaneous-move game for this type of countries is depicted in Figure 3.3. As before, payoffs are given in terms of (dis)utility that natives in T and D receive from having to spend on border protection and from the number of potential undesirable irregular entrants.

If country T chooses to finance entry-restriction migration policies (protect), country D may just stay open, as no direct migration from S can take place, and the immigrants that D will receive are only direct immigrants from T and those few transit migrants from S who were able to enter T despite the restrictions. However, it is not in the best interest of T to introduce migration restrictions, as T's social planner knows that migrants from S will transit through T towards D as long as D is open, and so T has an incentive to stay open. If T stays open, D's response is to protect its borders, leaving all migrants from S as well as natives of T in T. If T knows that D may start protecting its

Figure 3.3: Normal Form Representation of the Game with No Direct Migration

D \ T	Open	Protect
Open	$U^D(c(E^D=0),(I^D=Y^S+Y^T)$ $U^T(c(E^T=0),(I^T=0)$	$U^D(c(E^D=0),(I^D=I^{TS}+Y^T))$ $U^T(c(E^T=E^{TS}),(I^T=0))$
Protect	$U^D(c(E^D=E^{DT}),(I^D=I^{DT}+I^{DTS}))$ $U^T(c(E^T=0),(I^T=Y^S-I^{DTS}))$	$U^D(c(E^D=E^{DT}),(I^D=I^{DT}+I^{DTS'})$ $U^T(c(E^T=E^{TS}),(I^T=I^{TS}-I^{DTS'})$

where $I^{DTS'} < I^{DTS}$, because more migrants can come through T if T is open

border, it should protect its border too. But this brings us back to the example above, when, if D anticipates that T protects illegal entry, D prefers opening up.

Thus, in case when D and T decide simultaneously on their optimal migration policies, and if citizens from D get a sufficiently low disutility from receiving T's irregular migrants (Y^T), the absence of the possibility of direct migration from S leads to the absence of equilibria in pure strategies. If T chooses to stay open and let migrants from S enter T on the way to D, D protects its borders; however, before the migration starts, and $D's$ border is open, T does not have an incentive to protect its borders. The only incentive for D to protect its borders when T protects is to prevent the entry of migrants from T, and not from S.When this incentive is not strong enough, the game has equilibrium(a) only in mixed strategies.

Summary 3 *When only transit migration of nationals from country S is possible on their way to country D, and when the following condition holds:*

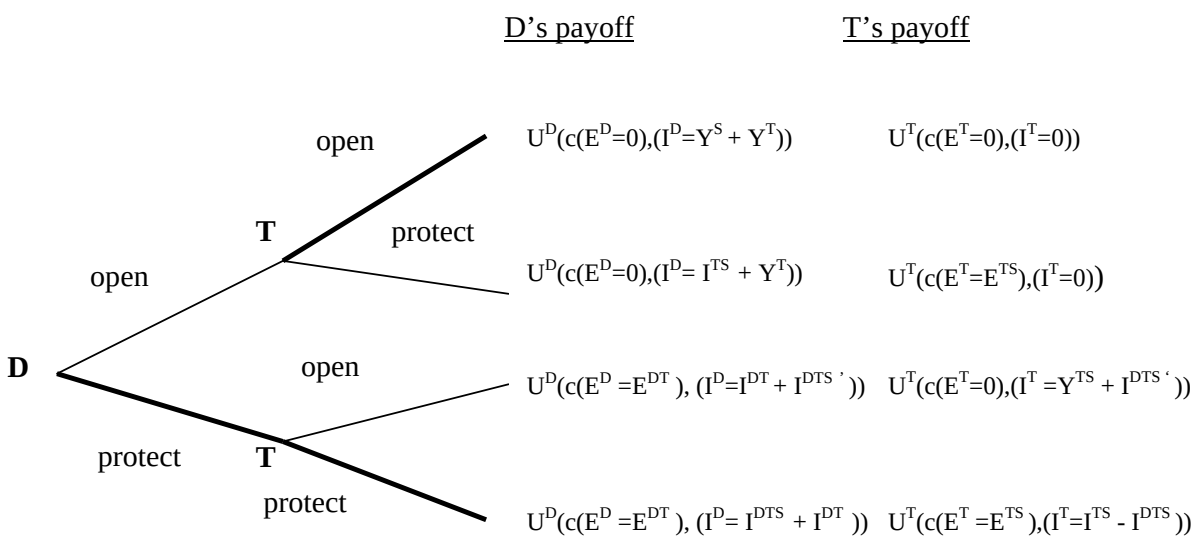
$$U^D(c^D(E^D=0); I^D(I^{TS}+Y^T)) > U^D(c^D(E^D=E^{DT}); I^D(I^{DTS}+I^{DT})) \qquad (18)$$

no pure strategy equilibrium in a game of setting optimal migration policies between countries T and D exists. The precise probability of choosing open/protect policies in a mixed strategies equilibrium would depend on the functional forms of U^D, U^T, $I^{DT}(E^{DT}, Y^T)$ and $I^{TS}(E^{TS}, Y^S)$, as well as on the values Y^S, Y^T, w^D,and w^T. If this condition does not hold, both T and D will choose to enforce their borders.

Proof. See Appendix 3D. ■

Figure 3.4: Extensive Form Representation of Sequential Game with No Direct Migration

Panel A. D is the First Mover



where $I^{DTS'} > I^{DTS}$, because more migrants can come through T if T is open

Panel B. T is the First Mover

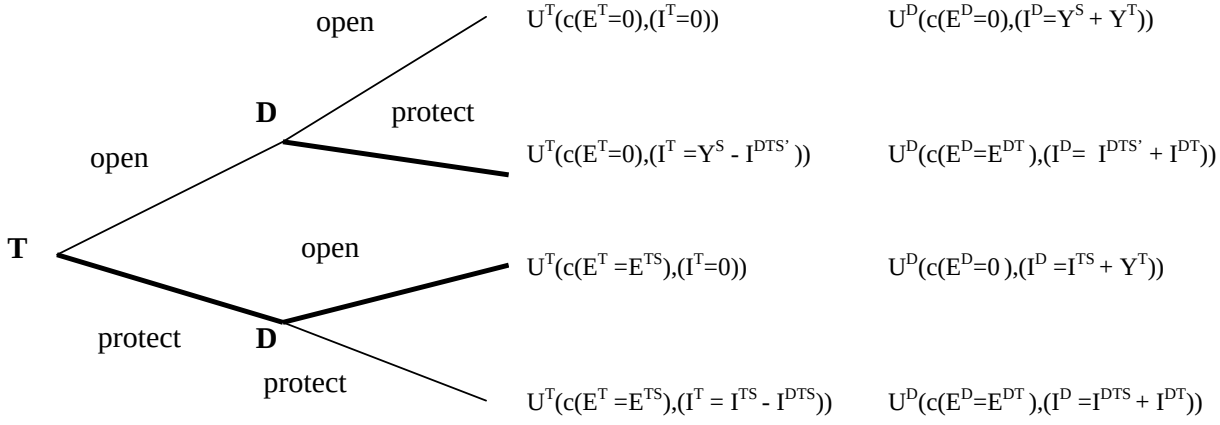


Figure 3.5: Summary of Potential Equilibrium Outcomes for the Case of No Direct Migration

	Outcomes:	T	D
D is the first mover	Protect/Protect	E^{TS}, $I^{TS} - I^{DTS}$	E^{DT}, $I^{DTS} + I^{DT}$
T is the first mover	Protect/Open	E^{TS}	$I^{TS} + Y^{T}$

One can also consider the game described in Figure (3.3) as a sequential-move scenario. Note, that unlike the previous section, D is no longer a natural leader. As before, if D initiates border protection, T will follow up, too. However, the novelty here is that if D knows that T will definitely protect its border, D may prefer leaving the leading role in initiating border controls to T, because no direct migration to D can occur, and transit migration will be partly blocked by T. Thus, either T or D can be the first mover in this game. Extensive form representation of both cases is depicted in Figure 3.4.

From Panel A of Figure 3.4, if D moves first and chooses protective policies, the best response of T is to do the same, and hence the outcome is again the equilibrium in which both countries protect their borders[11]. The actual level of border-enforcement spending by both countries and the resulting number of entrants can be calculated as in the previous section.

Things are more interesting when T is the first to decide on migration management policies. From Panel B, if condition (3.18) holds, it is optimal for country D to stay open while T protects its borders.

Figure 3.5 summarizes these results. Clearly, T would be better off in the protect $(T)-$open (D) outcome, as in this case there are no migrants from S who remain in T, since they all move straight to D. For D, though opening up would mean reducing the cost of migration control to zero, the outcome is the pool of all transit migrants from S and of all potential entrants from T. Since no matter how much T spends on protecting its borders with S, the pool of its natives Y^T can still migrate to D, the real question is under which conditions D would prefer opening up completely.

First and foremost, country D will be more prone to open up when the values of

[11]It can be easily verified that this equilibrium is achieved in case of transit and direct migration regardless of which country, D or T, moves first.

Y^T are relatively low. This may happen when, for example, wages in both countries T and D are the same, i.e., $w^T = w^D$[12], and there is no incentive for individuals from T to migrate to D, in which case Y^T is zero or negligible. An example of such case is the European Schenghen zone.

Second, country D will also be more ready to open fully if I^{TS} is relatively low. In order to achieve this, country D may be willing to transfer an amount up to E^{DT} to T to help bringing the I^{TS} level down[13], irrespective of wage differences in T and D. However, if wages in T and D are not equal, such transfers by D will be made provided (in return) T prevents sending all its natives, Y^T, to D.

The latter point is best seen when the game in Figure (5.3) is cast dynamically, in which case at the beginning of each period T and D decide simultaneously whether to stay open or to protect borders. This is not unrealistic, as, even though specific infrastructure for border controls may already be in place, countries still have to decide at the beginning of each year on their migration-prevention budget. In this setting, a preferred policy may be agreed upon, with punishments introduced for deviations from it. For example, while D would never accept an open-open equilibrium, T would never accept to have its borders fully open as long as D protects its borders. In the long run, a protect(T)$-$open (D) equilibrium may be agreed upon[14], in which it may be optimal for D to open up, rather than to protect its borders forever, even at a cost of making potential transfers to T to help improving T's border enforcement capacity. This may be especially true if T agrees to prevent sending all of its potential migrants, Y^T,to D. Since this latter equilibrium is not stable, and T would have an incentive to renege on its promise not to send the Y^T pool, and in addition to open up its borders, D can introduce punishment periods, when it would close its borders for a few periods of time, or for ever. The decision on the number of punishment periods, as well as the choice of the long-run equilibrium, will, again, depend on the values $Y^T, Y^S, I^{TS}, w^T, w^D$, as well as on discount factors. In some sense, this would be similar to transition provisions of the EU with regard to the new member states, when during seven years after accession old member states may apply safeguard clauses if their labour markets are affected by particularly high inflows of immigrants from new member states as a result of opening

[12] In practise, it is sufficient that wages are relatively similar, i.e., that the wage differential is not big enough to trigger migration.

[13] Although, so far no assumption has been made regarding the border enforcement technologies of T and D, so at this point it is not possible to say which country will be more efficient in reducing this indicator.

[14] It does not make sense to agree explicitly on a protect-protect equilibrium, as there would be no diviations from it.

up.

What this case of "no direct migration" shows is why it may be difficult, and not always obvious, to establish optimal migration policies by destination and transit migration countries. There is clearly scope for cooperation, but it is not stable, and the preferred policies need to be thoroughly controlled and reviewed on a regular basis, to insure that preferred equilibrium in the long run is sustained.

What this case also shows is that if country D is able to enforce its borders, then it will be the one deciding which policies both D and T will set, thus having a position of dictating its conditions to country T. The only thing country T can do is to threat to send all of its nationals to D if D stays open. This threat is credible, and for this reason country D may never agree to open up its borders. If realized, this threat may invoke the period of long, if not eternal, punishment, from country D, in a form of its borders being fully shut.

3.6 Comparative Analysis of Migration Management in Morocco and Ukraine

Morocco and Ukraine are among the countries which have recently become direct neighbours of the European Union. Having very different histories of relationships with the European Union countries, as well as different migration histories, they are recently facing similar migration phenomena. While there are high out-migration rates of the natives of these countries towards the European Union, there is also a considerable transit migration of third country nationals through their territories. Both countries have recently started forming a tier between Europe and other sending countries, creating a "buffer zone" between them.

This case study compares and contrasts migration situations in both countries, the features of migration policies, and relationship with the European Union with respect to this situation, relating them to the predictions of the theoretical part of the paper. It shows that the relationship of both countries with the European Union currently follows the protect-protect equilibria outlined by the model. However, important differences between the EU-Ukraine and the EU-Morocco policy outcomes are present.

In the past decade, the European Union has been continuously increasing its spending on enforcing external borders. The Community budget allocated for the management of borders rose from EUR 29,559,964 in the year 1998 to EUR 51,310,000 in the year 2002,

totaling EUR 321,971,760 in the years 2000-2006 (Communication of the EC, 2002).

In case of the EU and Ukraine, it is relatively easy for the EU to protect the border with Ukraine and to prove that migrants cross the EU-Ukraine land border. As long as irregular migrants from Ukraine continue coming to the EU, the EU chooses to protect its border with Ukraine. The latter has to protect its border in response, as to prevent the entry and stay of irregular immigrants from other countries. Potential cooperation is possible only at the expense of readmission of irregular immigrants by Ukraine, that is, if Ukraine cooperates to prevent the entry and the continuing stay of own nationals and third country nationals in the EU.

In case of the EU and Morocco, it is difficult to prove whether migrants that land on the EU shores originate from Morocco, rather than from Algeria or Tunisia. At the same time, it is more difficult for the EU to survey the sea border. Thus, as the EU sea border stays relatively unprotected despite all the efforts, Morocco knows that migrants can escape its territory and reach the EU with less consequences that could have been in case of land border. This makes Morocco more reluctant to protect its borders fully, and to renege more easily on potential cooperation agreements. Even though the protect-protect equilibrium emerges nominally, the policies between the EU and Morocco in practice look more like an open-open equilibrium.

3.6.1 Overview of Migration in Ukraine

The modern history of migration out, through, and towards Ukraine starts mainly in the early 1990s, when the country opened up its borders after the collapse of the Soviet Union. In the first years following the independence, Ukraine faced massive migration flows. Thousands of individuals moved towards Europe (labour migration) but also towards Russia and other former Soviet Union countries (labour, cross-border family re-unification, and ethnic migration). In return, Ukraine also received considerable inflows into its territory, mainly also from the former Soviet Union Republics (family reunification, ethnic migration, and repatriation of individuals repressed or expelled from Ukraine during the totalitarian regime).

In addition to these migration processes which seemed to be natural after many years of closed borders, very soon Ukraine started facing immigration of so-called "non-traditional" migrants from non-Soviet Republics, of Asian and African origin, including such previously inexistent categories as refugees, asylum seekers, and irregular migrants. Braichevska et al (2004) distinguish three periods of immigration from Asia and Africa to Kyiv: prior to 1991, between 1991 and 1998, and after 1999.

Immigrants from Africa and Asia who arrived in the first period were coming mostly as students or workers under the agreements between their countries and the Soviet Ukraine, and have stayed after the collapse of the Soviet Union. Those who arrived in the second period came mostly legally in search of employment and better living conditions. In addition, after the collapse of the Soviet Union, Ukraine found itself with deteriorated border protection. This was due to the fact that internal borders between the Soviet republics were only administrative, and non-protected. Immediately after the independence, eastern and northern borders of Ukraine remained open for foreigners. Delays in creation of the proper border controls, as well as deficiencies in the legislative framework, in the immigration policy and in visa regimes, made Ukraine a large transit point for immigrants from Asia and Africa, mainly on their way to other European countries (Malynovsky, 2000). Even up till now, Ukraine continues having "asymmetric borders": it has a strongly protected border on the west, notably with the European Union countries, and it has much weaker borders on the south and on the east, with the former Soviet Union republics and along the shoreline (ICMPD, 2005).

The period of immigration to Ukraine that started after 1999 is characterized by a decreased inflow of foreigners, mainly due to significant improvements in the border controls, a new visa regime, and policies against illegal immigration. However, currently, Ukraine started facing the challenges of new phenomena: in 2007, Ukraine became a direct neighbour of the European Union. The new types of migration that it faces nowadays are no longer related to settlement, but primarily to transit towards the European Union. This situation requires creating and implementing new approaches towards migration policies with the European Union regarding Ukraine's own nationals and the nationals of other countries, as well as migration policies with third countries.

Several authors (Malynovska, 2006; Oliynik, 2006; Ivakhniuk, 2006) distinguish the following flows of migrants in Ukraine:

1) nationals from the CIS (notably Byelorussians and Russians of Tchechen origin);

2) nationals from other Asian countries (predominantly from China, India, Afghanistan, Pakistan, Syria, Vietnam, Bangladesh, Iraq, Iran, and Somalia);

3) Ukrainians themselves, who move mostly towards the European Union.

According to Futo, Jandl, and Karsakova (2005), as well as the Yearbook on Illegal Migration, Human Smuggling and Trafficking in Central and Eastern Europe (2003), almost half of all border violators are Ukrainians themselves. Figure 5 shows the distribution of border violators by main countries of origin. Ukrainians are followed up by Moldovans and Russians, all other major violators come from Asian countries.

Figure 3.6: Persons Rejected at the Border of Ukraine, by Main Countries of Origin

Citizens of the following countries in 2002	Number of rejected persons in 2002	Citizens of the following countries in 2003	Number of rejected persons in 2003
Azerbaijan	1 867	Russia	2 139
Russia	1 576	Moldova	1 682
Moldova	1 539	Tajikistan	943
Tajikistan	1 168	Azerbaijan	882
Turkey	551	Turkey	877
Germany	475	China	626
Bulgaria	404	Germany	500
Kyrgyzstan	401	Uzbekistan	420
China	397	Kazakhstan	410
Italy	311	Armenia	382
Total (of any country of origin)	20 710	Total (of any country of origin)	23 101

Figure 3.7: Source: Yearbook on Illegal Migration, Human Smuggling and Trafficking in Central and Eastern Europe 2003

In addition to those apprehended, even more people are rejected at the border: over twenty thousand persons in the year 2002, and over twenty three thousands in the year 2003 (see Figure 3.6). According to the ICPS/ISP Report (2006), these official numbers represent at best five to ten per cent of the actual figure. Moreover, according to Malynovska (2006), in 2005, additional 25,000-28,000 irregular migrants are identified by internal control.

3.6.2 Overview of Migration in Morocco

In words of Hein de Haas (2005), Morocco is "an outstanding example of an emigration country". Its emigration history to France started during the colonial times and the First World War, when Moroccans were recruited as soldiers and laborers in France (Castles, 2007). The main period of modern emigration starts in the 1960s and 1970s, when governments of France, Germany, Belgium, and the Netherlands conclude bilateral labour-recruiting agreements with Morocco to employ its laborers in sectors which experience labour shortages. As documented by Castles (2007), and Arango and Martin (2005), these guest programs ensured a legal residential and employment status as well as protection of workers. The Moroccan government has been an active participant to the programs and highly encouraged guest emigration, both to provide employment

opportunities to its natives, to use remittances as contributions to the economics development of the country, and to encourage politically less desirable individuals to leave (de Haas, 2005). These agreements were terminated (unilaterally) by the receiving states in the early 1970s, however, contrary to the expectations, the vast majority of Moroccans has stayed abroad. Moreover, family reunifications stimulated further emigration, and even nowadays second and third generation emigrants still marry in their ancestral land, thus perpetuating emigration. Currently, Morocco is the largest emigration country of North Africa, with about 2.6 million emigrants in Europe alone, which equals about ten per cent of its population, and with an annual outflow at about 100,000 (Castles, 2007, de Haas 2007).

In the past two decades Morocco also started to become a transit country for migrants from Sub-Saharan countries on their way to the European Union. According to various estimates (ILO Report 2002, Wender, 2004, de Haas, 2007), in the year 1999, 12499 migrants were apprehended on Morocco-Algerian border, out of which about 2000 were Algerians. In 2004, total apprehensions by Moroccan border patrols constituted about 27,000 individuals, and about 30,000 in 2005. The vast majority of these migrants come from Mali, Nigeria, Ghana, Senegal, but also from Algeria and from Asian countries. Many of these immigrants are hoping to further go to Europe, thus using Morocco (especially Tanger port) as a transit point. In case when they do not succeed in crossing, they stay and attempt to settle in Morocco, although their continued stay is considered illegal by local authorities.

There are a few peculiarities of the Moroccan case that contribute to the aggravation of current situation. On the one hand, the borders of Morocco with Mauritania are fully sealed due to the past conflicts. The border with Algeria is enforced starting from 1994 (ILO Report, 2002), however, its borderline is not fully defined yet. This is one of the reasons why the majority of irregular transit migrants come to Morocco through this border (close to Oujda) and why it is virtually impossible to fully control it. Other entry is possible either through airports or sea. At the same time, there is no visa requirement for entry from eight African countries of origin: Cote d'Ivoire, Congo, Guinea, Libya, Mali, Niger, Senegal, and Tunisia, thus, there is virtually no legal way to prevent the entry of these nationals into the country.

In recent years, the European Union as a whole, but also individual states, notably Spain, Italy, and France, have expressed strong concerns about high migration rates of Moroccans as well as transit migrants through Morocco (and through other North African countries) that aim to reach Europe. The Gibraltar crossings as well as crossings

to Spanish enclaves Ceuta and Melilla have raised particular concern.

3.6.3 Ukrainian and Moroccan Migration Policies

The changing patterns of migration, and in particular, the rapid transformation of both Ukraine and Morocco into transit migration countries, as well as into destination countries, came as a surprise to their policy-makers. For example, Ukraine is only now trying to set up its migration priorities and policies. This is complicated by the fact that to date, there has not been a migration strategy developed by its government, and migration issues are dealt with by several governmental bodies and structures, which, due to the absence of a unified strategy, do not always coordinate their efforts or put similar priorities (ICPS, 2006). On the other hand, Moroccan authorities choose more often than not to deny or officially silence the fact of facing transit migration (ILO Report, 2002).

It is important to distinguish four sets of migration policies of Ukraine and Morocco:

1) Government policies with respect to own nationals abroad

2) International cooperation in the sphere of border protection, migration management coordination, and readmission

3) Visa regimes and policies with respect to other non-European neighbours

4) Policies regarding the living conditions and human rights of irregular immigrants.

To start with, the State of Ukraine has no specific policies regarding its nationals abroad. The Law of 1994 "On the Procedures for Exiting Ukraine and Entering Ukraine by Ukrainian Citizens" postulates the right of every citizen of Ukraine to enter or exit Ukraine, a big change from the Soviet times, when prior to leaving the country each citizen had to obtain a permit from authorities (Malynovska, 2007). In addition, the Law of 1991 "On Population Employment" provisions that citizens of Ukraine have the right to work abroad. However, no further steps have been taken by Ukrainian government neither to encourage nor to discourage migration of Ukrainian nationals, nor to benefit from migration.

In contrast, the government of Morocco has long realized its migration potential. Ever since the start of guest programs in the 1960s it has played an active role in encouraging emigration (though not always for purely altruistic or economic reasons, but also for political ones). Most recently, it has also actively engaged into promoting remittances for development. Morocco sees migration as an important instrument for development, that helps alleviating poverty and unemployment, and increases invest-

ment possibilities at home (Hoebink et al, 2005). Following up an epoch of state control over its immigrants, discouraging integration, and stressing the deep links of Moroccans abroad with their motherland, as well as their potential return (de Haas, 2007), in the early 1990es Morocco has shifted to "soft-control" policies, supporting double citizenship and promoting the rights of Moroccan Residents Abroad[15], celebrating migrants at home as builders of the Moroccan nation, and simplifying administrative procedures for remittances and investments. A special Ministry for Moroccans Abroad was established (later incorporated into the Ministry of Foreign Affairs), as well as The Foundation Hassan II to support cultural and social activities among migrants.

In the past decade the European Union countries have started raising concerns regarding the number of immigrants coming illegally from Morocco and Ukraine, as well as transit migrants coming through their territories. The initial response was to intensify border controls, but very quickly European countries started also 'externalizing' border controls (de Haas, 2007, quotes as is in the original), putting pressure on these countries to engage into border protection and readmission. As a result, Morocco has signed bilateral readmission treaties with Spain in 1992 and with Italy in 1998 (ILO Report, 2002). Importantly, Morocco readmits only its own nationals. Readmissions take place mostly in exchange for development aid, support for border protection, but also to prevent the limitation of temporary work permits granted to the nationals of Morocco.

In comparison, the history of readmissions by Ukraine is very new: its parliament has ratified the readmission agreement with the EU on January 15, 2008. Three differences distinguish this agreement from the agreements signed by Morocco: a) the former was signed between Ukraine and the EU, rather than between Ukraine and individual countries; b) ratification of this agreement was necessary and compulsory to ratify the visa facilitation agreement between Ukraine and the European Union rather than ensure the issue of working permits to Ukrainians who are already abroad; c) Ukraine agreed to readmit both its nationals and the nationals of third countries, who have entered the EU from Ukraine.

The readmission treaty between Ukraine and the EU reflects the recent unified approach of the European Union to the migration policy. However, this agreement also implies greater responsibility on the part of Ukraine, especially in the question of readmitting third country nationals. Currently, Ukraine has also signed readmission treaties with Hungary, Poland, Slovakia, Moldova, Switzerland, Latvia, Lithuania, Uzbekistan, Turkmenistan, Bulgaria, Georgia, and Turkey, but not with China, India, Vietnam,

[15] An official terminology

Bangladesh, or Pakistan, from which immigrants originate. The main country of origin of transit migrants, Russia, refuses even to initiate readmission talks, claiming that it has no financial possibility to secure its borders and to pay for the legal and transportation support of its nationals. This puts Ukraine into a difficult situation of dealing itself with readmitted third-country nationals.

Morocco opposes similar agreements of readmitting third-country nationals since it would be hard to implement them for political reasons. In addition, it would be hardly possible to prove the origin of transit migrants. In the case of Ukraine, it is possible to have physical evidence of trespassing, since migrants are crossing the land border, while transit migrants from Morocco come by sea, thus making it hard to prove their point of departure.

Thus, the next big question for both Morocco and Ukraine is management of the entry (and exit) of third country nationals. As mentioned above, Ukraine still has asymmetric borders: well enforced from the West, on the border with the EU, its borders on the east and north are still the inheritance from the Soviet past, when borders with Russia and Byelorussia were only internal. Currently, these borders suffer from the inadequate control. According to the ICPS (2006) report, the number of border patrol units is one per 30-35 kilometers of the state border, almost twice as low as the European standard. Moreover, even the existing border patrols have inadequate equipment to detect irregular movements. As a result, the main irregular migration flows into Ukraine originate from this part of the border. In addition, Ukraine does not have a visa regime with the nationals Russia and Byelorussia, thus also allowing a legal entry into Ukraine for further illegal attempts to cross the Ukraine-EU border.

For Ukraine, introduction of visa regimes with Russia and Byelorussia is difficult, if not politically impossible, even though the introduction of stricter requirements, such as possession of a valid passport when entering Ukraine from CIS countries, is a precondition for a more liberal visa policy of the EU towards Ukraine (ICMPD, 2005).

Improving border protection with these countries is not easy either, and in addition, it is very costly. ICPS (2006) report notes that in 2006 in Ukraine State Budget allocated UAH 924 mln (about EUR 130 mln) to the State Border Service. However, this was enough to cover only 60% of its operational costs. Total international technical assistance from the EU, USA, and international programs of UNDP and IOM reach, on average, about USD 5 mln a year. Budget funding for combating illegal migration in Ukraine from the EU has been highly volatile and also low (Figure 3.8), especially compared to the investment of EUR 60 bln in the years 2001-2006 for the enforcement of the Polish

Figure 3.8: Projects Financed by European Commission Budget for Ukraine, millions EUR

Area	2000	2001	2002	2003	2004	2005	Total
Border management	2.70	11.5	14.0	3.0	8.04	16.6	55.84
Asylum and migration	0.18		2.5	5.4	0.50		8.58
Human trafficking			1.9				1.90
Drug trafficking		2.2	2.5	1.5			6.20
Total							72.52

Figure 3.9: Source: ICPS, 2006

border. It is thus clear that in these circumstances it is up to Ukraine to secure its borders itself, or to face increasing entry of migrants who are not able to cross further to the EU, or who are returned to Ukraine. In face of "fortress Europe" the only choice Ukraine has is to enforce its borders, despite the political and economic difficulties associated with this choice.

To contrast, Morocco does not have visa regimes with eight African countries, and, like in Ukraine, it is extremely difficult politically to initiate them. This is because in the past years Morocco has been trying to invest into expanding its sphere of influence and also developing closer ties with these African countries.

More severe border protection is expensive as well. In 2001, Morocco handed in an official demand to the European Union to divide the burden of migration control. Starting from 2003, Morocco has been patrolling its waters in cooperation with Spain in return of USD 390 mln of aid (de Haas, 2006). It has also implemented new laws postulating severe punishments for illegal migration and human smuggling (Elmadhad, 2004).

The European Union has been increasingly encouraging cooperation in this area, within the European Mediterranean Association Agreements and the MEDA (Mesures d'Accompagnement) program to combat illegal migration and its routes. According to de Haas (2007), for 2000-2006, EUR 426 mln were allocated to Morocco through the latter program, 27 percent of which for control of irregular immigration and rural development programs. Migration also became one of the priorities of the National Indicative Program

for the years 2002-2004, for which the European Commission allocated EUR 45 mln to provide institutional support and support for border protection (Hoebink et al, 2005).

Despite these efforts, in words of Hoebnik et al (2005), it is difficult for Morocco to play the role of the European 'border patroller' (quotes as in the original). Increasing the entry restrictions to Morocco seem to be politically unfeasible, while it becomes increasingly costly to protect the exit. High border controls have lead to the professionalization of smuggling, and to the diversification of routes, rather than to the decrease of migration, as acknowledged by various authors (for example, Lahlou, 2005, Wender, 2007). This leads to the increase in the areas that need to be surveyed in the European Union, too. There is also an important issue of efficacy of such protection. Given the fact that controlling further the entry from Sahara is too costly, knowing how difficult it is to patrol the whole Mediterranean, and also knowing that it is virtually impossible to prove that transit migrants have originated from Morocco, in fact, Moroccans have little interest to stop the exit of transit migrants or to enforce its borders further. Thus, regarding the cooperation efforts, there is little credibility that Morocco will comply with all the agreements. At the same time, while the European Union is considering the creation of the 'common Euro-Mediterranean space', Moroccans also doubt the credibility of these claims as Europe still opposes the large-scale entry of Moroccans.

Thus, relating the case of Morocco to the predictions of the theoretical model in this paper, it is evident that while Europe is not able to fully control entry of transit migrants, Morocco is using this fact to keep its efforts of border protection relatively low. In fact, it even finds itself in a position of demanding aid for combating migration by threatening to send even more migrants to the European countries. As such, it's position in cooperation negotiations is stronger than that of Ukraine.

At the same time, there are indications that Morocco fears the Eastern European integration, as it may decrease emigration potential for Morocco (Hoebnik et al, 2005). Since emigration of its own nationals continues being an important priority for Morocco and for its development, the country continues, at least nominally, to express interest in combating illegal migration.

3.7 Conclusions

This paper offered a basic theoretical model of migration management when not only final destination, but also transit migration countries are involved into migration management. It provided examples of several possible geographical locations and migration

scenarios and suggested why it is so difficult to design optimal migration policies: different equilibria, not all of which are sustainable, can take place. In case when both direct and transit migration from sending countries is possible to final destination countries, an equilibrium of strongly enforced borders by both destination and transit countries arises. In contrast, when only transit migration is possible, there may be scope for either an equilibrium in which both destination and transit countries protect their borders, or an equilibrium in which cooperation between them may take place. Such cooperation is not stable, however, in the long run, it may prove to be more beneficial for destination and transit countries tan non-cooperation.

The predictions of the model were also set against the experience of such transit migration countries as Morocco and Ukraine.

In case of Ukraine and the European Union, currently, an equilibrium is emerging in which both countries are striving to protect their borders.

The majority or transit immigrants through Ukraine could have used alternative routes, such as coming to the EU through Russia, or Byelorussia. The border between the EU and Ukraine is a land border, and it is relatively easy to secure it, as well as to prove that transit migrants came through Ukraine. This means that the EU is able to efficiently reduce the number of irregular entrants through Ukraine by stopping them at this border and returning them to Ukraine. Given this, the only response of Ukraine to the enforced EU border is to enforce its borders, too, otherwise it risks receiving an increasing number of irregular immigrants. Currently, potential cooperation (such as in terms of easier procedures for the entry of Ukrainian nationals) is possible only at the expense of readmission of Ukrainians and third country nationals by Ukraine.

In contrast, the case of Morocco is less equivocal, even though currently, its relationship with the EU as an entity, and with several EU countries in particular, is also an equilibrium in which all parties protect their borders. On the one hand, immigrants originating from Sub-Saharan countries have to pass Morocco before they can enter the EU. On the other hand, increased border controls lead to the diversification of migration routes, which now lie also through Alger, Tunisia, and Libya. In addition, it is much harder for the EU to secure its sea border, and also to prove that transit migrants have originated from Morocco. This makes Morocco much more reluctant than Ukraine to put additional effort to improve its border protection. Compared to Ukraine, which has to comply with the EU demands to combat illegal migration in return for preferential treatment of its country nationals, Morocco has more power to demand aid but also to renege on cooperation agreements. Potentially, in order to effectively combat illegal

migration from Sub-Saharan countries, the European Union has to cooperate simultaneously with all North African countries. On the other hand, the case of Moroco also shows that increased border control will not help solving the problem of illegal migration, but rather, push it further away. Professionalization of migration only increases the area than needs to be secured, without effectively decreasing the number of irregular entrants.

One further insight from the cross-country comparison suggests that differences in technologies of controlling may matter. If, for instance, the destination country does not have the superior technology of controlling migration, the transit country may take this into account when deciding on its protection efforts. This issue should be investigated in future research. In addition, there is a potential scope for rivalry between transit migration countries for cooperation with the final destination country, which also needs to be addressed in a more systematic way.

Lastly, land and sea crossings are usually spectacular and receive a lot of attention of the media, however, the majority of illegal migration stems from the entry with false documents, or legal entry and consequent overstaying of visas. More coherent approach, addressing additionally these types of illegal migration, is also needed.

3.A Transit Migration, Migrants from Sending and Transit Countries are not Distinguishable

There may be cases such that individuals from S who were not able to move to D in the first place migrate to T and become similar to natives of T. When both natives of T and newly arrived natives of S then migrate to D, natives of D cannot distinguish the nationality of S, and what matters for them is which border (DS or DT) immigrants crossed, rather than where they are from originally. This implies that the natives of D have the same disutility for the S migrants who come through the DT border, as for the migrants from T. The reason for considering this case is that it allows to understand in a simple manner how the change in the size of migration pressure of one country affects equilibrium policy outcome given in Summary 1, provided that the size of migration pressure of one country (T) is affected by migration policies that restrict migration from another country (S).

Given (3.10), the number of immigrants who reach D from T is given by: $I^{DT}(E^{DT}, Y^T, Y^S, I^{DS}(E^{DS}))$. Substitution of this term into maximization problem

(3.8) and optimization results in the following condition:

$$\alpha\frac{\partial I^{DT}}{\partial E^{DT}} = \beta\frac{\partial I^{DS}}{\partial E^{DS}} + \alpha\frac{\partial I^{DT}}{\partial E^{DS}} \tag{3.18}$$

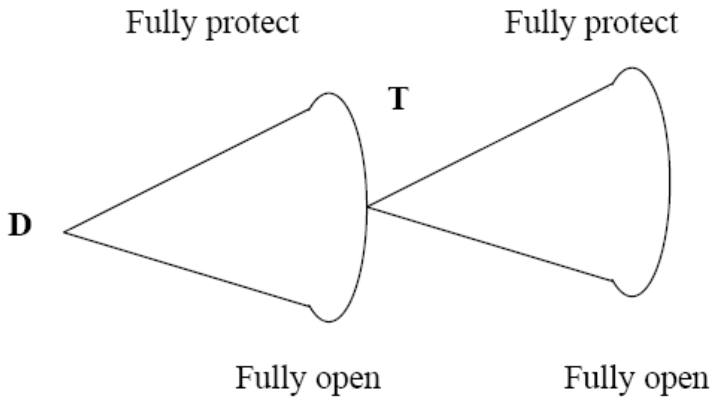
Comparing equation (3.18) to the benchmark case given by equation (3.9), there is an additional term $\alpha\partial I^{DT}/\partial E^{DS}$ which measures the disutility D natives' have from more immigrants that cross the DT border as a result of higher border spending on controlling the DS border (i.e., this is the number of S ethnics that cross the DT border). If $\partial I^{DT}/\partial E^{DS} = 0$, that is, if higher spending on enforcing the DS border does not result in transit migration and consequent higher level of crossing the DT border, then (A1) reduces to (3.9), or the case of no transit migration. However, it is reasonable to suppose that if the transit migration is a possibility, then then $\partial I^{DT}/\partial E^{DS} > 0$: stricter DS border results in lower direct DS crossing but higher transit migration and higher consequent DT border crossing. In principle, since I assumed that those who cross the DT border are ethnically undistinguishable, regardless of whether they are originally from S or from T, $\alpha\partial I^{DT}/\partial E^{DS}$ measures the size effect of increased migration pressure on the DT border.

Summary 4 *In case when both direct and transit migration are possible, when migration management power rests with the destination D country, and when the pool of ethnically S-migrants is undistinguishable from the pool of T-migrants at the DT border, the optimal policy response of D is to have lower marginal border control spending on the DS border, and to have higher marginal border control spending on the DT border.*

Proof. The proof is straightforward from equation (3.11). Intuitively, by lowering its spending on enforcing the DS border, D allows more nationals of S enter D directly.

This also reduces the transit flow and the consequent higher DT crossing by nationals of S. At the same time, since the remaining nationals of S would still try to reach D through T, it is reasonable for$D$ to spend more on enforcing the DT border.

Figure 3.10:



■

3.B Extensive Form Representation of the Game with Transit and Direct Migration

3.C The Slope of the Reaction Function is Positive: Proof

To prove the claim that the slope of the reaction function $R_{E^{TS}}(E^{DS})$ is positive, consider the derivative of this reaction function with respect to E^{DS} (keeping in mind that $I^{TS} = f\ (E^{TS}, (Y^S - I^{DS}(E^{DS}, Y^S)$, as in (3.15)):

$$\frac{\partial E^{TS}}{\partial E^{DS}} = -\frac{t^T w^T}{\gamma\left[\frac{\partial I^{DTS}}{\partial E^{TS}} - \frac{\partial I^{TS}}{\partial E^{TS}}\right]^2}\left[\frac{\partial I^{DTS}}{\partial E^{TS}\partial E^{DS}} * \frac{\partial I^{DTS}}{\partial E^{DS}} - \frac{\partial I^{TS}}{\partial E^{TS}\partial E^{DS}} * \left(-\frac{\partial I^{TS}}{\partial I^{DS}}\right) * \frac{\partial I^{DS}}{\partial E^{DS}}\right]$$

Let us now work through the terms in the brackets of the numerator. The first cross-derivative is a derivative of $\frac{\partial I^{DTS}}{\partial E^{TS}}$, or the efficacy of E^{TS} spending for protecting DT border, with respect to E^{DS}, or spending on the DS border protection. This cross-derivative is negative. This is because an increase in E^{DS} leads to less direct migration from S to D, and more attempted transit migration for a given E^{TS} spending, thus decreasing the efficacy of E^{TS} spending for protecting DT border from transit migration. This negative term is multiplied by the marginal number of transit entrants with respect to DS enforcement effort, which is positive, since higher spending on protecting direct DS border stimulates higher potential transit, and hence, higher succeeded transit migration. Thus, the whole first term in brackets is negative.

The second term in brackets consists of three parts. The first one has a negative sign analogously to the negative sign of $\frac{\partial I^{DTS}}{\partial E^{TS}\partial E^{DS}}$, however, it is larger in magnitude. This is because for a given amount of E^{TS} spending, efficacy of direct TS border protection is reduced more than the efficacy of the transit DTS border by an increased E^{DS} spending. The second term is positive: more direct DS migration is associated with less TS migration; multiplied by a negative sign the result is negative. The final part is negative by assumption: higher spending on border controls decreases direct entry. Taken together, the last term in brackets is positive, rendering the whole term in brackets negative, and the whole equation positive.

To understand the shape of the reaction function $R_{E^{DS}}(E^{TS})$, consider the following. If $E^{TS} = 0$, E^{DS} does not have to be, and it takes some non-negative value, limited by equation (3.13a), and defined by equations (3.16-3.17). The amount of spending E^{DS} accounts for the possible transit migration of S through the DT border. If $E^{TS} > 0$, the potential residual mass of immigrants from S who were not able to migrate to D directly, and who are attempting the DT border crossing is not considerably reduced, since the

TS border is no longer open. Thus, D needs to spend less on the DT border protection (which gives a negative slope to the $R_{E^{DT}}(E^{TS})$ reaction function. Consequently, it has more funds to spend on the DS border protection, which gives the positive slope to the $R_{E^{DS}}(E^{TS})$ reaction function.

3.D Proof of Summary 3

The proof is straightforward from Figure (3.3):

When D is open, T chooses between having a positive spending on border protection, $E^T = E^{TS}$ and zero number of immigrants from S, $I^{TS} = 0$ (since all migrants will be able to transit to D), versus having no spending, $E^T = 0$, and having no immigrants, $I^{TS} = 0$.Clearly, T will prefer to stay open.

When D is closed, T chooses between zero spending on border enforcement, $E^T = 0$ and total residual number of immigrants from S who were not able to accomplish their transit, $I^T = I^{TS} = Y^S - I^{DTS}$ versus a limited number of immigrants $I^T = I^{TS} - I^{DTS\prime}$ but at a cost $E^T = E^{TS}$.Under the initial assumption that some migration at a cost is better than unlimited migration at no cost, T will choose to protect its borders, rather than have the total pool of $S's$ potential migrants on its territory.

If T is open, the choice of D is between the total number of potential entrants from both T and S, $I^D = Y^S + Y^T$, at no cost, or a restricted entry at a cost: $E^D = E^{DT}$, $I^D = I^{DT} + I^{DTS}$, and the second outcome will be preferred.

Finally, if T protects its borders, D is choosing between costless entry of potential immigrants from T and those few immigrants from S who were able to enter T in the first place, versus costly entry of a selection of immigrants from T and S: $I^D = I^{DT} + I^{DTS\prime}$.If condition (3.18) holds, $D's$ preference is to open up, which means that the game has no equilibrium in pure strategies. If the condition (18) does not hold, the equilibrium in oue strategies is for both T and D to protect their borders.

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