Attitudes Towards Immigrants and Relative Deprivation: The Case of a Middle-Income Country

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Abstract

This paper applies the concept of group relative deprivation to studying formation of attitudes towards immigrants in a middle-income country's setting. It finds that the feeling of relative deprivation adversely affects the attitudes, even when the potential endogeneity of relative deprivation is taken into account. Furthermore, relative deprivation matters only for natives who subjectively underestimate their well-being, but not for those who overestimate it. When considering other forms of natives' perceived disadvantage, such as in terms of employment, access to education or medical facilities, there is a weak evidence that only perceived disadvantage in obtaining medical aid negatively affects the attitudes.

JEL Classification: J61, Z13
Key words: attitudes towards immigrants, relative deprivation, subjective well-being

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 instrumentalization.

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 paper is organized as follows. Section 2 offers a brief overview of the immigration situation in Kyiv. It is followed by a literature review (Section 3) of the research on attitudes towards immigrants and on relative deprivation. Section 4 offers theoretical background for the empirical part of the paper. The data used in the analysis are described in Section 5. Section 6 presents empirical results, and the last section concludes.

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 2). 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.

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 immigrants. 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.

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[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).

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 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: U_i [y_i, RV_i], where RV_i 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, $A_i = f(U^i)$, 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+Δ], $\Delta y \rightarrow 0$. There is also a continuum of immigrants, M, whose incomes are denoted in a similar way: [y, y+Δ], $\Delta y \rightarrow 0$. 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.

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 y_i, and an individual's relative satisfaction is an increasing function of the relative frequency of all natives whose income is lower than y_i (Yitzhaki (1979):

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

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

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

$$RV^n = \begin{cases} \int_{y_i}^{y*} [1 - F(z)]dz, for \forall y > y_i; \\ \int_0^{y_i} [1 - F(z)]dz, for \forall y < y_i; \end{cases}$$

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 $RV^m = \begin{cases} RD^m, for \forall y > y_i; \\ RS^m, for \forall y < y_i; \end{cases}$ 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).

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:

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

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

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

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. 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.

[Figure 1 about here]

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 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.

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.

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).

5.1.1.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. 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.

Furthermore, I use principal components analysis to gain more insight into the issue of common patterns in these high-dimension data (Smith, 2002). By exploring the correlations between all these variables measuring attitudes, I can obtain a smaller set of artificial variables, which are "a linear combination of optimally-weighted observed variables" (Hatcher, 1994). Applying the PCA technique to the whole set of attitudinal questions, I obtain three principal components, of which only one is responsible for the largest part of the variation in the data (Appendix3, Table1: eigenvalue of the first principal components is greater than one). I use the first principal component as a dependent variable in estimations, as a benchmark to the regressions with other attitudinal dependent variables.

5.1.2. 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

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[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.

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.

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.

5.1.3. 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 about here]

Table 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.

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 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 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.

[Figure 2 about here]

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 2 (for a more detailed comparison of natives and immigrants see Appendix 2). As described further, I use this sample to construct instruments for the feeling of relative deprivation of natives.

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 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.

[Table 2 about here]

6. Estimation Strategy and Results

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.

(1) $A_i^* = \beta_1 + X_i \beta_1 + RD_i \beta_2 + \varepsilon$

where X is a vector of socio-economic characteristics of individuals, RD is a perception of relative deprivation, and ε 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

(2)   Prob [$A_i^* = 1$] = Prob [$X_i\beta_1 + RD_i\beta_2 + \varepsilon > 0$]

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

6.2 Further Probit Model Specification and Results

Table 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).

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.

[Table 3 about here]

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) 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 3, Table 1. 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.

[Table 4 about here]

Table 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.

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 5 contains the two stage least squares estimates of the attitudinal responses. 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.

[Table 5 about here]

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].

Table 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).

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

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[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.

relatively more deprived of these opportunities. As before, the conjecture is that those in a disadvantaged position may feel more hostile towards immigrants.

[Table 6 about here]

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 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 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.

[Table 7 about 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 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 8 about here]

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[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.

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.

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Figure 1. Income Distributions of Immigrants and Natives

Middle Income Country   *High Income Country*
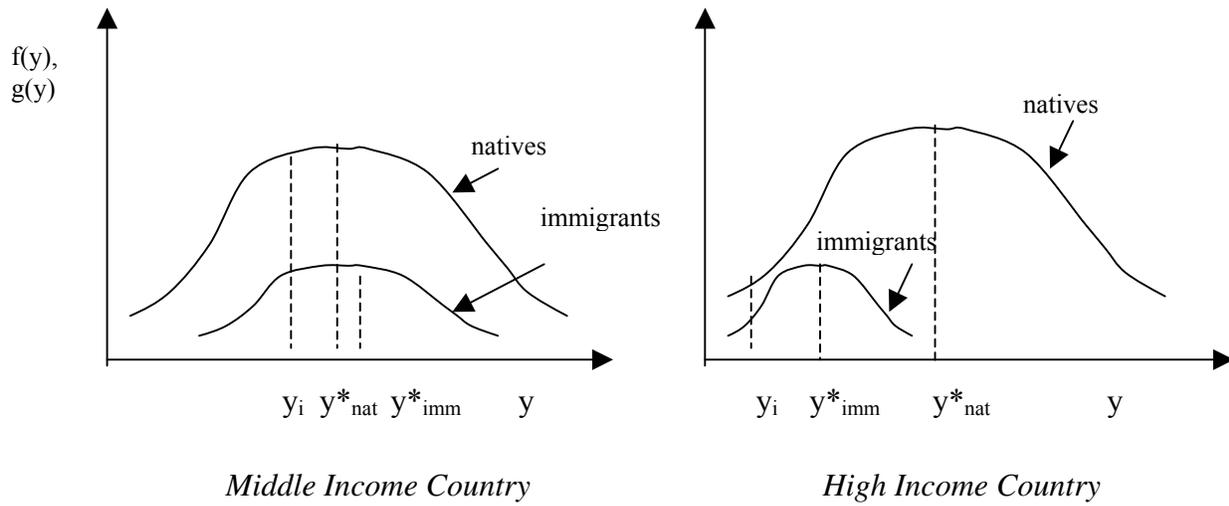
Figure 2. Distributions of Family Incomes: Natives and Immigrants
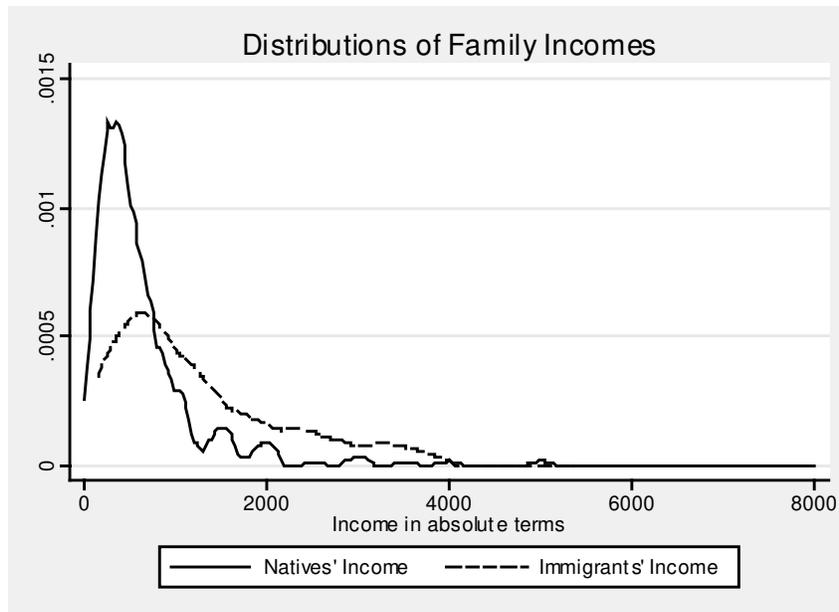
Table 1. Descriptive Statistics of Socio-Economic Variables

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 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 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 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 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 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 (0.493)	0.076 (0.375)	0.305 (0.228)	-0.435 (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*** (0.202)	-0.243** (0.133)	-0.033* (0.018)	-0.069** (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 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 (0.032)	-0.026 (0.026)	-0.015 (0.015)	-0.087 (0.076)
Medical RD	-0.085*** (0.032)	-0.054** (0.026)	-0.004 (0.014)	-0.204*** (0.075)
Education RD	-0.026 (0.032)	-0.034 (0.026)	0.005 (0.014)	-0.080 (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 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%.

Appendix 1. Precise wording of the questions regarding the 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

Appendix 2. 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)

Appendix 3. 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	

Appendix 4. 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