THE PHENOMENON OF IMMIGRANTS' CLUSTERS FORMATION: EVIDENCE FROM SELECTED OECD COUNTRIES

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ABSTRACT

This analyzes the problematic of immigrants' clusters formation. Immigrants clustering, or spatial concentration of immigrants from the same region, can be observed in many countries that are net receiver of migration flows.

An econometric model is drawn to see the interdependency between the number of recent immigrants and the stocks of foreign population at a given country; this is tested against the alternative hypothesis of the dominating influence of economic factors on migration. Using the data from selected OECD countries we find an empirical verification of immigrants' clustering both for the whole volume of foreign immigrants' inflow and by selected nationalities.

INTRODUCTION

Social creatures live in communities and form even small groups within large communities. To put it into stricter terms they have a tendency to "cluster". Also important is the context specificity of the situation in which we are talking about the groups. Also it may be noted that that there is a "common interest" that binds them together into a "cluster". Like everyone else, immigrants that have left their home country and are looking for a chance to increase their well-being elsewhere, tend to create clusters. The context specificity of the situation is loosing the safe and well-known grounds of the home country, with a multitude of interpersonal social ties.

Immigrants' clusters formation has long been of a specific interest among economists and social scientists. Clustering or geographical concentration of migrants from the same source region who are distinguished by the same ethnic origin, background or language is frequently observed in many countries. For instance, there is a large immigrants' community of Tamils in Switzerland, Turks in Germany, Italians in Argentina, Albanians and Bosnians in Italy, Ukrainians in the Czech Republic or Mexicans in the U.S. While in some cases the formation of immigrants' clusters is influenced by the geographic proximity of the host and target countries (i.e. Mexico and U.S. or Albania and Italy), in other cases we have a reason to believe that there are some other reasons standing behind the whole process of immigrants' clustering.

It seems that in a large number of cases not only ethnic and language similarities do matter but also spatial characteristics create basis for such clusters' formation: for instance, there are Macedonians from Skopje who constitute large immigrants' community in Gothenburg, Sweden or people from the town of Siemiatycze in the north-east of Poland who form a large emigrants' group in Brussels, Belgium. The story of these clusters is quite simple: a person from a small town or a rural community moves to the foreign country. After a considerable period of time necessary for settling down this person is followed by the closest family and relatives. Those people are then followed by their closest relatives, friends and neighbors and so on. In such a case local knowledge and "knowing-your-neighbor" which is mostly developed in dense communities where people know each other well appear to be of greater importance than the ethnic or cultural ties.

This paper contributes to the existing migration literature and immigrants' cluster formation phenomenon in a number of ways: first, it attempts to verify the hypothesis of cluster formation using empirical analysis of the available data from selected OECD countries. We are trying to test the hypothesis of international immigrants' clusters formation based on the ethnic (geographical) origin versus the hypothesis of migration clusters formed on the basis of economic incentives in the target country (county of immigration).

Immigrants' clusters-formation behavior

Generally, in the existing migration literature there are two basic approaches to be distinguished that concern the theory of formation of migration clusters: i) network externalities, and ii) so-called "herd behavior" (see Bauer et al., 2002; or Winters et al., 2001).

Beneficial network externalities appear when a network of established immigrants reduces the costs of relocation to a foreign culture by providing assistance in finding a job as well as food and shelter to the recent immigrants. Thus, by joining the ethnic community the immigrant increases his positive utility (see for example Gottlieb, 1987; Grossman, 1989; Stark, 1991; and Church and King, 1993). On the contrary, negative network externalities arise when high productivity immigrants do not want low-productive immigrants (Stark, 1991; Stark, 1995) or if growing number of foreigners in a specific location increases competition for jobs and lowers wages. In this case immigrant will not be able to profit from the presence of his compatriots in the given location.

Herd behavior encourages migrants to discount private information. According to this hypothesis an emigrant will follow the flow of other immigrants assuming that they have the information that is not obvious to him (Bauer et al., 2002).

Econometric model: is there any evidence for immigrant's clusters formation?

In thus subsection of our paper we draw an econometric model of testing for the immigrants' cluster-formation. Our objective is to show the cluster-formation behavior empirically using the evidence from the real life.

We test a hypothesis of international migration that results in cluster formation against an alternative hypothesis of migration induced by the economic incentives (differences in GDP, higher wage premium, etc.) and leading to no clusters. The on-going debate in migration literature is the one trying to link international migration to economic factors. Here, wage differentials between the poorer country (country

of emigration) and somewhat wealthier country (country of immigration), differences in GDP per capita or differences in unemployment are claimed to provide the basis for migration, or, be its decisive factors.

We do not want to underestimate the influence of these factors, however we are concerned with the fact that quite often economic incentives give way to so-called "social factors" that most of the migration literature tries to omit. The so-called "social factors" include influence of the family, friends, and language barrier and, of course, positive or negative externalities provided by the immigrants' networks. No doubt that international migration would have never happened without economic "pull-factors", however we assume that there is a strong influence of immigrants' clusters that should be taken into account. Using the econometric regression analysis we are attempting to: a) see if there is any empirical evidence of cluster-formation behavior, and b) test to what extent clusters can be approximated for the migration decisive pull-factor.

Following Zavodny (1998), we set up a simple regression model in order to investigate the determinants of where the new immigrants coming to the OECD selected countries settle. The number of immigrants is regressed on variables that measure the demographic characteristics and economic conditions, or:

$$I_{kt} = \alpha + \beta Demog_{kt} + \delta Econ_{kt} + \varepsilon_{kt} \qquad (1)$$

where I_{kt} is the log number of persons immigrating to state k in time t. Equation (1) is estimated using the annual data on new immigrants settling down in selected OECD countries in 1992-2001, or 110 observations.

The vector $Demog_{kt}$ includes logs of total population by each country that is foreign-born, the vector $Econ_{kt}$ includes logs of GDP per capita, employment rates and compensation per employee by each of the corresponding country.

To start our analysis with, we will run the test of interdependence for the whole volume of inflow of foreign immigrants in all OECD countries and various economic and demographic factors. Equation (1) takes the following form:

$$I_{kt} = \alpha + \beta_1 FOREIGN_{kt} + \beta_2 POPUL_{kt} + \beta_3 UNEMPL_{kt} + \beta_4 YY_{PP} + \varepsilon_{kt} \qquad (2)$$

where I_{kt} is the log number of persons immigrating to state k in time t. $FOREIGN_{kt}$ is the log of number of foreign immigrants by country in 1992-2001, $POPUL_{kt}$ is log of the total population per respective countries and $UNEMPL_{kt}$ is the log of unemployment rate and YY_{PP} is the log of GDP per capita per respective countries.

The regression model has been tested using STATA software package. Table 1 reports the main findings.

It appears that with relatively high R-squared, low p-values and high coefficients of determination the presence of foreigners in a country can be a decisive factor on attracting other foreign immigrants. It seems that we have a high probability of actual formation of immigrants' clusters taking place in OECD countries.

Now, let us refine the model and run the analysis using the data from OECD countries, but this time with a special impact on selected ethnic groups. This will give us the possibility to follow whether people originating at the same country really form clusters due to the effects mentioned previously.

We shall introduce a simple regression model which will be a modification of (2):

$$I_{Nkt} = \alpha + \beta_1 N_{TRt} + \beta_2 POPUL_{kt} + \beta_3 UNEMPL_{kt} + \beta_4 YY_{PP} + \beta_5 FDR + \varepsilon_{kt,} \qquad (3)$$

where I_{Nkt} is the log number of immigrants of a particular ethnical origin N immigrating to country k at time t, $UNEMPL_{kt}$ is the log of the unemployment rate in country k, YY_{PP} is the log of GDP per capita in country k and FDR is the ratio of foreign-born population of a country k to its domestic population.

We run the model using the data for immigrants of the Turkish origin in OECD countries in 1996-2002 (see Table 2). In addition, we do the same analysis using the data on immigrants from the U.K. throughout the same time-period (see Table 3).

Table 1: Determinants of immigrants´inflow and clustering for selected OECD countries (1992-2001)

FOREIGN INFLOW	Coe-fficient	Std. error	t	P>|t|	[95% conf. interval]	
FOREIGN POPUL	.718	.044	16.23	0.000	.630	.806
POPUL	.381	.042	8.90	0.000	.296	.466
UNEMPL	-.018	.078	-0.24	0.811	-.173	.136
GDP$_{PP}$	1.171	.183	6.38	0.000	.807	1.535
Const	-6.910	.871	-7.93	0.000	-8.638	-5.181
R-squared			0.94			
Adj. R-squared			0.94			
N			110			

Source: own estimations

Table 2: Immigrants' inflow and clustering for selected OECD countries: Turkish immigrants (1996-2002).

TR INFLOW	Coe-fficient	Std. error	t	P>|t|	[95% conf. interval]	
TR STOCK	.459	.112	4.09	0.001	.223	.696
GDP$_{PP}$	-.523	.542	-0.96	0.347	-1.663	.616
POPUL	.789	.206	3.83	0.001	.356	1.222
UNEMPL	-.320	.247	-1.29	0.212	-.841	.200
FDR	-.127	.192	-0.66	0.517	-.532	.277
CONST	-.872	2.477	-0.35	0.729	-6.076	4.332
R-squared			0,97			
Adj. R-squared			0,96			
N			96			

Source: own estimations

Table 3: Immigrants' inflow and clustering for selected OECD countries: British immigrants (1996-2002).

UK INFLOW	Coe-fficient	Std. error	t	P>|t|	[95% conf. interval]	
UK STOCK	.534	.247	2.16	0.045	.013	1.054
GDP$_{PP}$	.398	.757	0.53	0.606	-1.193	1.990
POPUL	.883	.255	3.45	0.003	.345	1.420
UNEMPL	-.392	.379	-1.04	0.314	-1.188	.403
FDR	-.261	.224	-1.16	0.261	-.733	.211
CONST	-5.043	3.579	-1.41	0.176	-12.564	2.477
R-squared			0.91			
Adj. R-squared			0.89			
N			96			

Source: own estimations

Again, similar to the results reported in Table 1, we obtain relatively high R-squared, low p-values and high coefficients of determination. The results seem to be in accord with previous findings for the sample of OECD countries.

Conclusion

In spite of all controversies surrounding the formation of immigrants' clusters in the country of immigration, it seems that there is enough evidence to prove that the process of clustering does exist. The empirical analysis used in our paper shows that social ties play an important role in forming migration decisions and in facilitating the mechanisms of migration. People tend to form networks that incorporate family, relatives, friends, colleagues and acquaintances: networks are crucial in survival at a given country or given society (after all human beings are social animals) and when such a network is broken by emigration it is likely that the ties persist and in one way or another will influence the individuals remaining in the network.

The mechanism of immigrants' clusters formation acts as the following: once in a country of immigration, immigrants start to act as a "pulling force" – they attract the members of their former network and are likely to pull them out of the existing network and make them to migrate. This is how immigrants' networks are formed: it seems that in spite of economic incentives there are those "unpredictable" effects that are often referred to in economic literature that play crucial role in migration. Although difficult to measure, those effects can be represented in a form of a dynamic network model which allows us to see the actual forces behind the processes of clustering and emigration. Our analysis also implies that when a network is "tense" enough, agents lose interest in migration as such. Migration is often seen as a tool to increases individuals' well-being, knowing from tens of thousands to millions of people provides opportunities so wide that no migration is necessary. This might explain why people with a high density of contacts and vivid social life tend to go big in their own countries or societies. Such individuals do not consider migration to be of any help: they would have lost more in spite of positive externalities provided by the immigrants' networks.

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