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Internal Migration and Immigrant Networks: Some empirical Evidence for Switzerland

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1 Introduction

The spatial mobility of factors of production has long been considered a major pillar of the neoclassical theory which stipulates that labor and capital mobility resulting from seeking the highest net returns is necessary to attain an efficient allocation of resources in an economy. Interregional migration has been recognized as an important determinant of regional economic growth and a major engine of structural adjustment. Explanatory models for the spatial mobility of labor have usually been elaborated in the general framework of the human capital theory where geographic mobility is considered as one among many components of investment in human capital. In these so-called “pull-push” models, the decision to migrate as well as the choice of the destination depend on the flow of expected net benefits stemming from the move which is in turn determined by variables related to both the host (“pull”) and the region (“push”).

Pull-push models have so far provided useful insights into the internal migration process in many countries including Canada and the United States¹. In Switzerland, however, various attempts to fit such models to different sets of data on internal migration of Swiss citizens and alien residents have produced disappointing results². If economic factors cannot explain the observed patterns of internal migration between cantons, one can wonder what really motivates a migrant to move from one place to another in Switzerland. As far as foreign residents are concerned, a hypothesis would be that aliens of the same origin tend to cluster geographically in order to benefit from local interactions among immigrants. We explore this hypothesis for Switzerland using detailed unpublished data on internal migration of foreign residents during the period 1981–1995. This note summarizes the main findings of the study³.

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1 See, for example, Foot and Milne (1984 and 1989) and Greenwood (1985).

2 The most successful attempt to fit such a model to Swiss data can be found in Schuler (1984) who conducted a path analysis obtaining reasonably good results for movements of foreign residents during the period 1973–1976. The results were however much less satisfactory when the model was estimated for the period 1976–1979.

3 The interested reader can consult Zarin-Nejadan and Murier (1998) for further results and more in-depth analysis.

2 Data Set

The data on migration flows of foreign residents are collected at the individual level by municipalities (“communes”) as each migrant moving from one municipality to another has the legal obligation to inform the former of the departure and register at the latter upon arrival. These data are centralized at the federal level (“Registre central des étrangers”) and can be obtained for all Swiss municipalities from 1981 onwards upon request and under special conditions. The data allow the identification of a certain number of characteristics of the movement including the origin/destination and the nationality of the migrant⁴. Unfortunately, however, for reasons related to the Law on data protection, the identity (i.e. the social security number) of the migrant cannot be revealed. So the same migrant can move several times during the period without being identified.

Similar data are not systematically collected for Swiss citizens at the federal level. Comparable information are available only for 10 cantons⁵, usually over a shorter period than for foreign residents. Among these cantons, some do not report all the required characteristics of the movements, thus limiting comparisons between aliens and Swiss citizens to a subset of these cantons. Although these data cover only a third of the total movements of Swiss citizens and therefore cannot be considered as representative, they have nevertheless proved useful on some occasions as basis for comparison with movements of foreign residents.

3 Spatial Convergence of Migratory Flows

One can distinguish, by cartographic analysis but also more precisely via Tugault’s *liaison index* (Tugault, 1970), a certain number of axes and poles of internal migration for foreign residents throughout the country. In the German-speaking part of the country, one can easily detect a clear-cut convergence of migration flows towards the canton of *Zürich* which constitutes an attraction pole for the entire north-eastern part of the country as well as for *Ticino*, *Graubünden* and *Valais*. The main mobility vectors in this region connect *Aargau* and *St. Gallen* to *Zürich*. One can also observe a quite high migration intensity between *Basel-Stadt* and *Basel-Landschaft* in the direction of the latter. In the French-speaking part of the country, the cantons of *Vaud* and *Genève* seem to constitute favorite destinations for moving foreign residents. Note, however, that differences in terms of attraction observed among cantons reflect to a large extent the distribution

⁴ The other characteristics reported are the date of the movement as well as some personal attributes of the migrant such as gender, marital status, age and profession.

⁵ These are *Aargau*, *Appenzell-IR*, *Basel-Landschaft*, *Basel-Stadt*, *Genève*, *Jura*, *Luzern*, *Solothurn*, *Ticino* and *Valais*.

of foreign residents throughout the country. No significant link can be established between migration flows of Swiss and foreign residents across cantons.

Using Courgeau's *efficiency index* (Courgeau, 1988) one can observe a greater polarization of movements by foreign residents than by natives. The cantons of *Valais*, *Appenzell* (both half-cantons), *Glaris*, *Uri* and *Basel-Stadt* turn out to be the most repulsive towards foreign residents while *Zürich*, *Genève*, *Ticino*, *Basel-Landschaft*, *Vaud* and *Zug* are revealed as the most attractive. Furthermore, it has been possible to distinguish between cantons in terms of attraction or repulsion exerted on various nationalities. For example, *Zürich* and *Genève* attract nationals of southern and south-eastern Europe, but turn out to be repulsive towards migrants from northern Europe. Italian migrants tend to cluster in *Ticino* for obvious reasons of geographic and cultural proximity. *Graubünden* and *Valais* tend to experience net outflows of migrants from former Yugoslavia⁶ and Portugal.

One can point out the preponderant role of the linguistic subdivision of the country as well as the differences between urban and rural areas in determining the direction and the magnitude of internal migration flows of foreign residents. Figure 1 shows the results of a principal components analysis based on *migrant convergence ratios*⁷ for the major foreign nationalities in 1995. The first component highlights the linguistic subdivision of the country. The second component underlines the difference between urban (upper half of the figure) and rural areas (lower half). This analysis helps us distinguish the destinations towards which the migration flows of the different nationalities tend to converge. As expected, those nationalities whose language correspond to one of the official languages of Switzerland converge to cantons where their language is predominantly spoken. The French and the Belgians are placed on the right-hand side of the figure, while Germans and Austrians are on the left-hand side. Italians are located in the middle close to *Ticino*. As for other nationalities, migrants of Mediterranean and Latin origins are linked to the French-speaking part of the country. Those from the former Yugoslavia exhibit the same type of movements as the Austrians. Nordic nationals mostly converge towards urban German-speaking cantons. Note that most nationalities are located in the upper part of the figure signaling their tendency to move to large metropolitan areas.

Further examination of internal migration flows of the different nationalities shows that they tend to be directed towards areas where these nationalities are already concentrated. The correlation turns out to be relatively high for the

6 From 1992 onwards migrants of former Yugoslavia have been reported according to their new nationalities.

7 The migrant convergence ratio (MCR) for nationality j and the region i is defined as the proportion of migrants of nationality j moving to region i in total migrants of nationality j divided by the proportion of total migrants moving to region i in total migrants moving to different regions in the country.

French, the Austrians, the Italians, the former Yugoslavs and the Germans, i.e. nationalities having close cultural and linguistic ties to different parts of Switzerland.

4 Size of Migrant Networks

Inspired by Glaeser *et al.*'s (1996) study on crime, we develop a contagion model that helps us understand how social interactions among migrants can explain the large differences in internal migration patterns across regions for various nationalities. The idea behind the model is that the decision of a migrant as to where to migrate affects other migrants' choices of location, as information (about employment, housing etc.) can thus be shared and the adaptation to the new environment facilitated.

The essence of the model can be summarized as follows. Individuals are supposed to be of two types: 1) those who influence others and are influenced by them, and 2) those who influence others but are not influenced by them ("fixed agents"). It can be shown in the framework of the model that the observed variance of movements to different regions is a multiple of the variance corresponding to the hypothetical case where migration decisions are made independently. In particular, the multiple that relates the two variances is a non-linear, declining function of the proportion of fixed agents. Moreover, the expected distance between two fixed agents provides the expected size of an unbroken line of interacting migrants, in other words the measure of the size of the migrant "network".

The application of the model to Swiss data for the period 1981–1995 allows the estimation of the average size of migrant networks for different nationalities. According to this indicator, there seems to exist a relatively high degree of social interaction in absolute terms among internal migrants belonging to the major foreign nationalities residing in Switzerland.

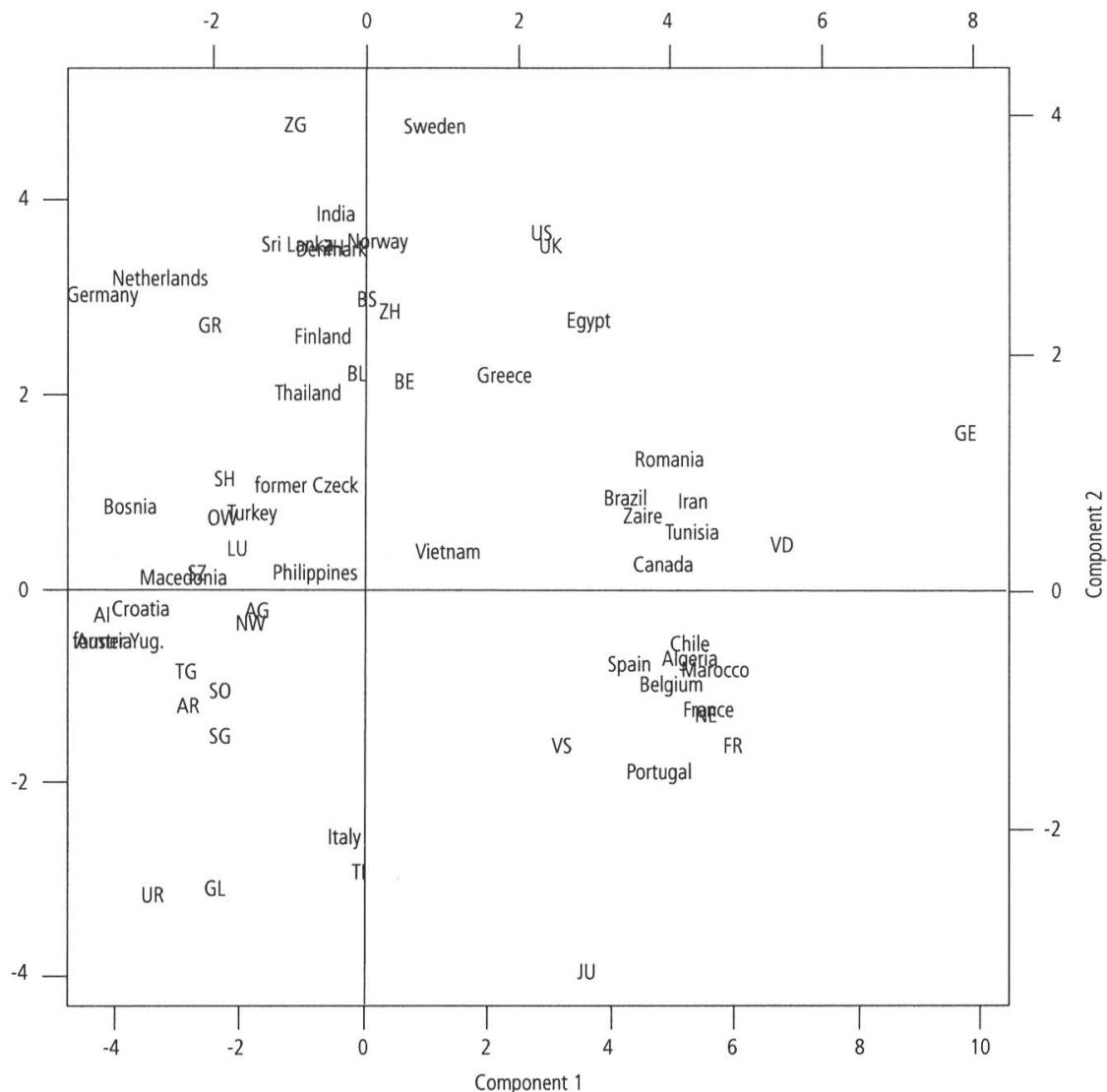
As far as permanent residents are concerned, Italian migrants manifest by far the highest degree of social interaction in absolute terms. The average size of a network of Italian migrants is estimated at around 25–30. Note that most other major foreign nationalities residing in Switzerland have relatively large networks in absolute terms. Spaniards come second after Italians, except towards the end of the period when they are surpassed by the Portuguese. The picture is however quite different when network size is deflated by the size of the migrant group. Portuguese permanent residents then turn out to have the largest networks in relative terms among the major foreign nationalities residing in Switzerland. Spanish nationals come next while Italians, Germans, Austrians and the French show lower degrees of social interaction in relative terms. This might be related to the fact that these groups happen to speak one of the official languages of Switzerland and also that they are geographically quite close to their homeland.

Regarding the movements of foreign residents with a temporary status, for most nationalities the estimated network size in absolute terms is smaller than for permanent residents. Here the highest degree of social interaction in absolute terms is encountered among the former Yugoslavs. When the network size is deflated by the size of the migrant group, again Portuguese nationals turn out to have the largest networks in relative terms among the major foreign nationalities residing in Switzerland. Finally, for temporary foreign residents, the distribution of the estimated network size in relative terms is somewhat more homogeneous across major nationalities than for permanent residents. This might be related to the legal restraints imposed on the mobility of temporary residents implying the requirement to seek official authorization before moving between cantons.

5 Final Remarks

This study constitutes only a first step towards understanding the determinants of the spatial concentration of foreign residents in Switzerland. The results obtained so far show that this avenue of research is promising and deserves to be pursued. Future research efforts should be devoted to the following issues. First, the empirical results should be placed in their political, sociological and economic contexts. Second, one could try to estimate a more precise measure of social interactions by focusing on geographical concentrations that cannot be explained by observed characteristics of the countries of origin and the host cantons/municipalities (e.g. the “cultural” distance from the origin country to the host canton/municipality). Third, in order to discern the form of interaction (behavioural influences, informational spillovers, congestion externalities), the estimated network sizes for different nationalities can be further regressed on various socio-economic variables (e.g. the proportion of unemployed workers in each group). However, the necessary data for such extensions are lacking and should therefore be obtained through a large-scale survey. In particular, panel data on movements of foreign residents would allow the reconstitution of internal migration paths providing precious insights into the determinants of these movements.

Figure 1: Principal components analysis for 1995



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