Inter-communal migrations in Switzerland: a "mountain factor"?

Martin Camenisch and Bernard Debarbieux
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EDITOR'S NOTE

Translation: Accent Mondial

Residential migrations in mountain regions have been studies extensively in academic literature for more than half a century now. This is particularly the case with the Alps in general, and the Swiss Alps in particular. These studies have brought to light a few types of migrations that are particularly significant: rural exodus whereby mountain village inhabitants move to Alpine cities, and more often, to bigger cities located at the periphery of the Alps and the Jura (for example, Batzing, 2003 and Schuler et al., 2006); the brain-drain phenomenon of educated young people, which in Switzerland affects all cantons in the Alps and the Jura (Egger et al, 2003); labour-related in-migration boosted by the construction of railway, hydroelectric and tourist projects in the last century, then the growing importance of tourist centres (Fontaine, 2005, for example); the peri-urbanisation and growth of commuting around peri-alpine metropolises, mainly Zurich, Berne or Lausanne in the case of Switzerland (Frick, 2004; Perlik, 1999, 2003; Torricelli, 2001; Hornung and Rötlisberger, 2005). These phenomena are well known today and researchers have generally satisfactory tools to study them.

However, despite these advances in research, the question of residential migrations seems far from covered, and this for two types of reasons. On the one hand, types of migrations that used to be marginal have grown in magnitude over the last few decades. This is particularly the case of amenity migration, a term that refers to the in-migration of populations, often inactive, in search of quality environments, landscapes and services. This phenomenon, which has begun to be studied in the mountains of North America and the United Kingdom (Moss, 2006; Price et al., 1997), is still hardly studied in the Alps. This is also the case of residential migrations on an international scale where a working
population of foreign nationality, often British, settles in the Alps, either to work there, generally in the tourism sector, or to work from home, at least part of the time, counting on the slump in prices and increased air transport offering.

On the other hand, the phenomenon of residential migrations seems to deserve further analysis by enlarging the range of issues raised. In fact, although the focus of scientists has for a long time been on a location-based approach (communes of origin, communes of destination, the coupling between communes of work and communes of residence) and related activities, a new generation of research is adopting a people-based approach. A series of recent publications dedicated to peri-urban spaces (Cailly, 2007; Sencébé, 2007; Rougé, 2005) has opened up this new avenue. They show quite convincingly that the choices made by the new inhabitants of this type of space deserve to be analysed for what they are: rational decisions based on an appreciation of the quality of places and locations and an understanding of an ideal life and each individual’s financial room for manoeuvre. In particular, some authors have shown that the geographic qualification of places by the migrants themselves, often very different from that of experts and administrations, deserves to be analysed to establish their motivations. Thus Bigot and Hatchuel (2002) have revealed that a large proportion of inhabitants who have settled in the communes located just below what the French Institute of Statistics calls “urban areas” had the feeling that they lived in the countryside.

It is against this background that a research project called "Living (for a time) in the Swiss mountain", funded by the Swiss National Fund for Scientific Research (number: 100013-122384), was launched in 2009. The aim of the project is to examine residential trajectories in Switzerland based on the categories of places and spaces used to explain them. This project aims in particular to understand to what extent generic categories, like city, countryside and mountain, used both by specialists and by the migrants themselves, are used to describe residential mobility and trajectories.

This article presents a first series of results of this research, relating to the measurement of the migration phenomenon in Switzerland, particularly when examined in relation to these categories of place as defined by the federal administration. It discusses in particular the existence of a "mountain factor" in these migrations. It is primarily based on the data of the Swiss Federal Statistics Office (OFS) and the Swiss Household Panel, SHP, which will be presented in the body of this article. The results of this research on the categories used by migrants themselves to describe and justify their trajectories will be covered in a subsequent publication.

### Intensity of inter-communal migrations: “warm” communes and “cold” communes

The measurement of the migration phenomenon under this research sought to be close and complementary to existing analyses. It employed a commune-based approach and relied on the federal census data (OFS) for the period between 1990 and 2008. On the other hand, it simplified the typology of Swiss communes adopted by the OFS (Schuler et al., 2005) to adapt it to the project’s research plan. It retained only three categories of communes out of the nine defined by the OFS: cities and agglomerations, tourist communes and other communes which what we propose to describe as "rural" for the sake of simplicity even though this term is not used here according to the official...
typology. Furthermore, it introduced a category in use within the federal administration, but unknown to the OFS, namely, mountain communes.

**Methodological note on the categories used**

7 The category of agglomerations retained here refers to entities with more than 20,000 inhabitants and encompasses central cities and adjacent communes that meet socio-demographic criteria and other criteria like commuting to the centre, continuity of the built-up area, etc. (Schuler et al., 2005). The five isolated cities (communes with more than 10,000 inhabitants that do not form an agglomeration) have been added to this category.

8 The mountain category corresponds to communes identified as such by the study carried out for the European Commission (2004). This definition has no administrative value. However, it was considered preferable to that of the Swiss Law on Investment in Mountain Regions (LIM) (1975) which left out a few communes, particularly in Engadine, Prättigau and Vaud and Basler Jura, and which extended beyond the high relief regions, particularly in some sectors of the Swiss Plateau. All the communes that do not belong to this mountain zone as defined by the European Commission will be called "Plateau communes" here, this name being established by usage to denote the highly urbanised part of Switzerland between the Alps and the Jura.

9 Within the mountain zone, a last criterion was used to isolate a set of "tourist communes". This includes two categories identified by the OFS according to criteria of overnight stays per inhabitant, provided the communes do not come under the category of metropolitan cities and agglomerations.

10 The analyses on inter-communal migration are based on OFS’s aggregated annual data on Swiss communes.

Map 1: Mountain zone used compared with LIM’s definition

![Map 1: Mountain zone used compared with LIM’s definition](image)
The map, rather weakly contrasted, representing the average annual migration rate (map 3), corroborates the current analyses. Almost all the Plateau communes (Lake Geneva – Lake Constance axis, via Berne and Zurich) show a positive net migration rate during the entire period. Moreover, almost all of them report a net migration rate higher than the average of Swiss communes (0.7%). This region is therefore attractive on the whole and in parts.

On the other hand, communes in the mountain zone, located to the north-west (Jura) and to the south-east (Alps) of this Plateau exhibit highly contrasted demographic behaviours. Here we find some of the communes that have the highest rates in Switzerland: Lower Valais, Vaud Chablais and Valais Chablais, Tessin, Val de Bagnes, District of Nyon, communes located between Zug and Zurich lakes, etc. Here we also find almost all the communes that have a rate below the Swiss average, and all the communes that have a negative rate; these communes are mainly located in the Upper Valais, the Gothard region, the south-west of Grisons, the Entlebuch region, the Jura and the Neuchâtel Jura.

The above observations have already been made in several recent publications, unlike those below about communal in-migration and out-migration rates. We can formulate the
following observations by comparing maps 4 and 5, and then comparing them with map 3:

Communes that have the highest in-migration rates (map 4) are generally those that have the highest out-migration rates (map 5), but also those that have a migration rate higher than the Swiss average: Lake Geneva basin, the greater Zurich region, Jura communes in the district of Nyon and the Neuchâtel region, Alpine communes located between Zug and Zurich lakes. We can summarize this situation by affirming that urban and peri-urban communes, located in the mountain or in the Plateau, are characterised by a very high population turnover. They are referred to figuratively as “warm” communes, the metaphor of warmth evoking the idea of a very high residential mobility among the population.

The main tourist communes in the Alps are comparable on the whole, although they are more mixed. Some of them, like the main tourist communes of Grisons (Arosa region, Upper Engadine, etc.), but also Zermatt, exhibit an exceptionally high turnover and a net migration rate close to zero. Others also report a high residential mobility, but with an immigration rate sharply higher than their out-migration rate: this is the case of the main tourist communes in Valais Romand (the French-speaking part of Valais) such as Bagnes (Verbier) and the Crans-Montana plateau, and Vaud Chablais and Valais Chablais.

Mountain communes that have a net migration rate lower than the Swiss average are also those in which the residential turnover is very low. The out-migration rate here is substantially lower than for the average of Swiss communes. Their relative demographic weakness stems therefore less from high out-migration flows than from low in-migration flows. We propose to call them “cold” communes. They are often concentrated in the heart of the Swiss Alps, in this region that we propose to call the "Alpine wasteland" (Diener et al., 2006), the Gothard region, the west of Grisons, Upper Valais, etc.), as well as the Entlebuch region, Freiburgian Alps and the centre and west of the Jura.

Map 4: In-migration rate of Swiss communes (annual average 1990-2008)

The comparison of these three maps shows, as we already know, that net migrations give only a very incomplete image of the importance of the flow of people. It shows above all that net migrations are high when inflows and outflows are high (“warm” communes) and that they are all the more negative as inflows and outflows are low (“cold” communes).
These observations are confirmed by the systematic comparison of the migration behaviours of communes depending on whether or not they are classified as mountain zones, and depending on whether they are classified as urban and agglomeration communes (see insert above), as tourist communes or as rural communes. If the contrasts between categories are less marked than those observed just earlier between communes with extreme behaviours, it transpires clearly that urban communes are characterised by a greater migration mobility of their inhabitants (warm communes) than communes that are neither urban nor tourist (cold communes). Besides, the Plateau communes are on an average “warmer” than communes in the mountain zone.

### Origin-Destination of inter-communal migrations

In a second phase of this work, residential migrations are related to the communes of origin and destination. To proceed with this analysis and in anticipation of future studies on individual trajectories, a second data source was used. This is the Swiss Household Panel, SHP, which provides a longitudinal individual tracking of residential mobility. The
SHP is an annual survey conducted since 1999 among several thousand people selected based on complex representativeness criteria.

**Methodological note on the Swiss Household Panel (SHP) and the tracking of residential migrations**

The Swiss Household Panel, founded in 1998, is a longitudinal survey carried out every year among 5,000 households selected in 1999. Initially, more than 8,000 individuals participated in the survey, their number afterwards dropping logically over the following years. The interviews are conducted via telephone and several aspects of social life are investigated (education, professional situation, habitat, mobility, health, political opinion, etc). The representative sampling of Swiss households is based on the telephone directory (Budowsky et al., 1998)

Table 2: Number of individuals and households present in the SHP

<table>
<thead>
<tr>
<th>Années de présence dans le SHP</th>
<th>Nombre de personnes concernées</th>
<th>Personnes*années</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2419</td>
<td>2419</td>
</tr>
<tr>
<td>3</td>
<td>2106</td>
<td>4212</td>
</tr>
<tr>
<td>4</td>
<td>3261</td>
<td>9783</td>
</tr>
<tr>
<td>5</td>
<td>985</td>
<td>3940</td>
</tr>
<tr>
<td>6</td>
<td>773</td>
<td>3865</td>
</tr>
<tr>
<td>7</td>
<td>722</td>
<td>4332</td>
</tr>
<tr>
<td>8</td>
<td>368</td>
<td>2576</td>
</tr>
<tr>
<td>9</td>
<td>3132</td>
<td>25056</td>
</tr>
</tbody>
</table>
Table 2 shows the number of people who were present during two consecutive waves, knowing that this condition is necessary for interrogating them about changes in their commune of residence. The analysis started with people who had responded in 1999 and in 2000, and who represented 8,384 individuals above 18 years of age living in 4,531 different households. This number decreased in subsequent waves due to an attrition effect until 2004. In that year, a new sample was added in order to make up for the attrition and to "rejuvenate" the panel. In total, 13,766 people have been part of the SPH sample for at least two consecutive years.

The advantage that SPH gains in analysing relocations and residential choices is that it allows an individual-based approach. Even though residential choice often represents a collective decision following negotiations within a household, individual analysis is particularly justified for people who leave their homes to become a part of another household.

Table 3: Number of changes in the commune of residence possible within the SHP

<table>
<thead>
<tr>
<th>Commune de destination initiale</th>
<th>Plateau</th>
<th>Zone de montagne</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Villes et agglomérations</td>
<td>87.1%</td>
<td>0.3%</td>
<td>2094</td>
</tr>
<tr>
<td>Régions rurales</td>
<td>12.9%</td>
<td>4.1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>28.9%</td>
<td>7.7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>62.6%</td>
<td>5.3%</td>
<td>436</td>
</tr>
<tr>
<td></td>
<td>9.4%</td>
<td>2.5%</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>1.8%</td>
<td>0.7%</td>
<td>651</td>
</tr>
<tr>
<td></td>
<td>12.4%</td>
<td>5.3%</td>
<td>460</td>
</tr>
<tr>
<td></td>
<td>6.3%</td>
<td>5.1%</td>
<td></td>
</tr>
</tbody>
</table>

In order to consider all the possibilities of inter-communal relocation of individuals covered in the study, the data is aggregated in a person*year file. This file is composed of 56,183 people*year. This value means that for all the data available in the SHP, there are 56,183 possibilities of change in the commune of residence over an annual period.

During the observation period (1999-2007), 3,734 changes in communes were recorded in the SHP. They concerned 2,924 out of the 13,766 people included in this research. Some of the respondents experienced this event several times during the observation period. Every year, an average of 6.6% of the population changed their commune of residence and, over the entire observation period, 20.1% of the individuals participating in the survey experienced this event at least once. This proportion of 6.6% is slightly lower than the Swiss average as observed in the census (see above). We can explain this difference by the fact that people tracked in the SPH tend to leave the sample when they move to another place and do not transmit their new contact details. However, the proportion of attrition due to the impossibility of contacting a household remains marginal (10.5%). Thus, we can exclude a high bias, all the more since nothing suggests that among those who move, those “out of reach” are not random.

When we compare the communes of origin and destination of migrants in the SHP with the typology used in this article, we can assess the change in geographical environment that accompanies these relocations (Table 4). The values given in a grey background show the proportion of relocations wherein those who moved remained in the same type of commune: we observe that most migrants do not change the type of commune. The proportion is particularly high for inhabitants of cities and agglomerations located...
outside the mountain zone: 87.1% of those who have left an urban or agglomeration commune in the Swiss Plateau moved to a comparable commune, in the same agglomeration or in another. The inhabitants of cities and agglomerations on mountains exhibit a comparable stability (81.9%). We can conclude from these preliminary results that the inhabitants of cities and agglomerations who change their commune of residence have a very high propensity to move to a commune of the same type.

Table 4: Inter-communal residential migrations by type of commune

<table>
<thead>
<tr>
<th>Commune d'habitation initiale</th>
<th>Plateau</th>
<th>Zone de montagne</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Villes et agglomérations</td>
<td>Autres régions</td>
</tr>
<tr>
<td>Plateau</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Zone de montagne</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Villes et agglomérations</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Touristique</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

On the other hand, a very small minority of people who left a tourist commune (40.9%) or a rural commune in the Plateau (37.1%) moved to a different type of commune. The former preferred agglomerations in the mountain zone, whereas the latter in-migrated to agglomerations while predominantly remaining in the Plateau. These two populations therefore tended to remain in the mountain if they already lived there, or to remain out of it if there were already out of it.

Inter-communal migrations into or out of the mountain zone therefore always account for a very small minority. In-migrants accounted for 14.4% of the total inter-communal migrations out of the mountain zone, while out-migrants accounted for a little over 7% of the migrations out of the Plateau communes.

The type of commune most affected by this type of movement between the mountain and the Plateau is rural mountain communes (neither tourist communes nor agglomerations): more than 18% of those who moved went out of the mountain zone, two-thirds of them settling in an agglomeration in the Plateau.

Except for this last case, the analysis of residential migrations recorded in the SHP therefore seems to indicate that migration systems out of the mountain on the one hand, and out of the Plateau on the other, are largely disconnected. We should not however go as far as to conclude that there is necessarily a "mountain factor", regardless of the nature of the factor in question. In fact, we can view this information in the light of the data supplied by a recent research on distances covered. It has been shown that 90% of the migrations in Switzerland take place done within a circle of less than 55 minutes of motor travel (Carnazzi Weber et Golay, 2005). The distance-time factor is certainly not irrelevant to this propensity of migrations to remain in the mountain or in the Plateau. On the other hand, we cannot reasonably bring a linguistic factor into play, though it is very influential in Swiss demography. In fact, the mountain communes are indiscriminately German- or French-speaking, just as the Plateau communes.

Given that population size in the region of origin and destination influences migration flows, the out-migration rates calculated until now are not entirely satisfactory as they take only the migrating population of the commune of origin into account (proportion of
total migrants of one category moving to another). In order to neutralise the effect of outgoing and incoming population, it is expedient to calculate what Courgeau (1988) refers to as an “index of migration intensity”. Courgeau (1988) suggests that we divide the number of migrants from one region to another by the product of the population of the region of origin and the region of destination.

Table 5: Migration intensity between types of communes (see Courgeau 1988)

<table>
<thead>
<tr>
<th>Commune d'habitation initiale</th>
<th>Villes et agglomérations</th>
<th>Autres régions</th>
<th>Touristique</th>
<th>Villes et agglomérations</th>
<th>Autres régions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plateau</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Villes et agglomérations</td>
<td></td>
<td>0.6</td>
<td>0.2</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Autres régions</td>
<td>0.6</td>
<td></td>
<td>0.4</td>
<td>0.2</td>
<td>0.4</td>
</tr>
<tr>
<td>Zone de montagne</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.0</td>
</tr>
<tr>
<td>Villes et agglomérations</td>
<td>0.2</td>
<td>0.7</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autres régions</td>
<td>0.2</td>
<td>0.5</td>
<td>1.0</td>
<td>0.4</td>
<td></td>
</tr>
</tbody>
</table>

This measurement is defined by the number of migrants from a region of origin to a region of destination divided by the product of the population of the region of origin and the population of the region of destination. This calculation makes it possible to compare the number of migrants with the maximum number of migrations possible between two regions.

This table therefore enables us to compare the migration intensity between two categories of communes taking into account the relative sizes of these categories. For Plateau communes, the highest migration intensities are observed between the two types of communes we have distinguished (0.6 in each direction). The intensities are markedly lower for migrations towards communes located in the mountain zone.

As far as the mountain zone is concerned, the situations are more heterogeneous. People who leave tourist communes move primarily to mountain agglomerations (intensity of 2.0) and rural regions in the Plateau (intensity of 0.7). All the other commune types exhibit markedly lower migration intensity. On the other hand, for the inhabitants of mountain cities and agglomerations, the attraction of rural mountain communes is evident; they report a higher migration intensity (1.1 and 0.5) than the Plateau communes. For the inhabitants of rural communes in the mountain zone, the highest migration intensity flows to tourist communes (1.0) and secondarily to rural Plateau communes (0.5).

The calculation of migration intensities therefore substantiates the importance of migration flows circumscribed within the mountain zone on the one hand, and within the Swiss Plateau on the other, with tourist communes, and to a smaller extent, rural communes in the mountain zone representing a slight exception.

**Conclusion**

This article intended to identify the characteristics of inter-communal migrations in Switzerland on the whole and in its mountains in particular. It arrives at the following conclusions: there is a high propensity for migrations to remain circumscribed within the
mountain zone on the one hand, within the Plateau on the other, and within the category of cities and agglomerations. In other terms, annual inter-communal migrations, though large in number, are often "prisoners" of these categories. However, the mountain zone presents a series of singular features: a large number of migrations out of and into tourist centres, particularly out of and into mountain cities; persistence of a rural exodus from rural mountain communes to cities; significant mobility between mountain cities and Plateau cities.

BIBLIOGRAPHY


NOTES

1. The census could have been used here as well. However, if this had been the case, the study of inter-communal migrations could have been carried out only in 5-year periods, as the respondents should declare their commune of residence at the time of the survey and 5 years earlier. On the other hand, the SHP carries out an annual tracking. Besides, the SHP has been selected because it allows for a very thorough analysis of the motivations and procedures of this migration. This research is currently carrying out this analysis.

ABSTRACTS

To go beyond existing publications on inter-communal migrations in Switzerland, this paper focuses on a comparison of behaviours between communes of different types: rural, urban, mountain, tourist, etc. It is based on two sets of data: the Swiss Population Census (1999-2008) and the Swiss Household Panel. This paper has two main conclusions of this paper: first, contrary to the dominant practice which compares communes according to their respective difference
between in-migration and out-migration rate, this paper highlights the contrast between “warm” and “cold” communes (comparing the migration rate itself); there is a "mountain factor" which means that most inter-communal migrations occur within the mountain zone, or within the Swiss Plateau.

Prolongeant les publications existantes sur les migrations intercommunales en Suisse, l'article focalise son attention sur les comportements différenciés des communes selon les types dont elles relèvent: urbaines, montagnardes, touristiques, rurales, etc. Il repose sur l'utilisation des données du recensement fédéral de la population (1999-2008) et sur celles du Panel Suisse des Ménages. Il parvient à deux conclusions principales: les communes que l'on compare le plus souvent en fonction de leur bilan migratoire, peuvent aussi être utilement différenciées selon qu'elles sont « chaudes » ou « froides » (avec un taux de migration fort ou faible, quelque soit le solde); il existe un "effet montagne" qui signifie ici la propension des migrations à se faire principalement à l'intérieur de la zone de montagne suisse ou à l'intérieur du Plateau suisse.

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**Keywords:** mountain factor, population census, Rural depopulation, Switzerland

**Mots-clés:** effet montagne, Exode rural, recensement, Suisse

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