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How do trends in international migration influence the internal mobility of foreigners in Switzerland?

1. Introduction

Switzerland has experienced important immigration flows in the second half of the 20th century. Approximately 7 million temporary permits and an annual average of 65000 residence permits have been granted (Piguet 2005). Consequently, foreigners came to represent one-fifth of the 7.7 million Swiss residents as of 2008. In the context of the increasing life expectancy and declining fertility of the Swiss population, migration has become a major factor in efforts to counteract the ageing of the labour force. At the regional level, internal migration is the major determinant of demographic dynamics in Switzerland: in 80% of the 106 spatial mobility regions,² the migration balance is higher than the difference between the number of births and deaths (Carnazzi-Weber and Golay 2005). Since the level of internal migration of foreigners has increased continuously, having surpassed the rate at which Swiss nationals move (Zarin-Nejadan and Murier 2000), their pattern of redistribution contribute to the demographic and economic inequalities which exist between regions in Switzerland.

The internal migration of foreigners represents a secondary movement after settlement in Switzerland. The dynamics in international migration may therefore affect not only the intensity but also the patterns of the internal redistribution of the immigrant stock. Relying

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² Interregional migration is defined in this text according to the statistical concept of Spatial Mobility Regions. There are 106 such regions in Switzerland (see Data section).

on immigrant trajectories identified through a probabilistic linkage of annual register data covering the period 1981 to 2004, this study explores how the internal mobility of immigrants in Switzerland was influenced by trends in international migration flows, the ancientness of immigrant communities, and the recent compositional shift toward increased high-skilled immigration.

The following section briefly presents the dynamics of post-war international migration to Switzerland and discusses potential consequences for the internal redistribution of immigrants. After an introduction to the data and definitions, results are presented. The main changes in foreigners' internal mobility are then summarised and implications for demographic and economic differentials between Swiss regions are highlighted.

2. Linking immigration to the internal redistribution of migrants

Although the interrelationships between internal and international migration have been subject to conceptualisation and investigations in migrant-sending countries, little is known about their correlates in the countries of destination (King et al. 2008). The issue has been addressed primarily from the perspective of replacement or eviction of pre-established natives by immigrants; international and internal migrations were considered to be two independent flows. In this paper, we conceptualise internal mobility as a part of the international immigration project and focus on various ways in which the initial flow across state borders is likely to influence subsequent mobility patterns within the destination country.

A note on the contemporary history of Swiss immigration is necessary to understand the patterns of foreigners' secondary movements. Until the 1980s, Switzerland was characterized by both active labour recruitment and the application of the so-called "temporary-admitted model" to the foreign labour force. The main contingents of short-term migrants were recruited from Greece, Italy and Spain. After a decrease in immigration following two oil crises, in 1973 and 1982, the inflow again increased along with a diversification of motives and origins (see Figure 1). Immigrants were granted the right to reunite their families and the labour force was increasingly recruited from Portugal and the nations of the former Yugoslavia, while diverse asylum flows also developed, primarily from Turkey, Africa and Asia (Mahnig and Piguet 2003).

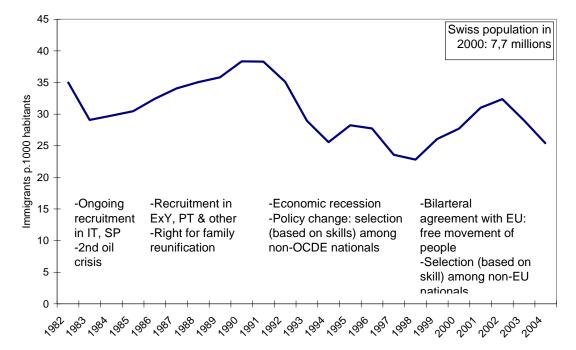


Figure 1: Temporal dynamics in the Swiss immigration (1982-2004).

Source: Central Aliens' Register, Annual Population Statistics.

Whereas Switzerland experienced a pronounced immigration peak around 1990, the short-term (seasonal) permit has been eliminated as part of efforts to foster closer ties with the European Union since 1992. During the economic recession in the mid 1990s, labour migration has declined as new admission policy interrupted immigration from non-OCDE member states except in the case of highly-skilled candidates. Many foreigners already present decided to remain in Switzerland, however, and thus the share of the immigration flow justified by claims of family reunification has increased. The new policy sought to create an environment of free movement of peoples within the member states of the European Union and to attract high-skilled immigrants from non-member countries (Mahnig and Piguet 2003). The share of high-skilled individuals among recent immigrants has indeed increased sharply, from 23% in 1990 to 62% in 2000, rendering it higher than among the native Swiss population (Pecoraro 2005). Starting from 1998 on, immigration flows again increased and experienced a new peak in 2008.

Similar to other European countries (White 1993), the geographic distribution of international immigration in Switzerland was transformed with the historical changes in migratory regimes. Until the 1970s, the spatial distribution of immigrants had been determined by institutional constraints and by the labour market. Foreign labour force contingents were defined yearly by federal-level state authorities and were distributed among cantons. The first residence was determined by the first job. Since the 1980s, when active recruitment of the foreign labour force gradually diminished, bringing about individual movement, chain migration and family reunifications, the patterns of settlements became diversified and difficult to regulate. As immigrants were increasingly unemployed at the time of their border crossing, immigrant networks — particularly those located within cities — became increasingly attractive to newcomers. In their first years of residence, migrants tend to cluster in places with pre-established migrant networks which provide information on local policies and economic opportunities, assist newcomers in their

structural integration (finding housing and jobs) and fulfil a psychological function which enhances cultural integration (Boyd, 1989; Gurak and Faces, 1992). In Switzerland, recent immigrants comprised a quarter of the new residents in the main urban agglomerations in 2000 (Da Cunha and Roth 2004). Map 1 illustrates the distribution of recent immigration in the Swiss territory composed by three thirds of woods and mountains in the South. The concentration in the centres of the main urban agglomerations is visible (Geneva and Lausanne in the south-east, Bern and Basel in the centre and north, as well Zürich and St.Gallen in the northeast). The "new immigration" of highly-skilled workers accentuated this trend due to the spatial concentration of the specialized tertiary sector in cities. This inflow balanced the demographic losses in centre-city communes due to the ageing and outor periurbanisation of natives. Facing similar challenges, some mountainous, touristic communes also continue to attract significant shares of immigrants owing to the demand for workers in the service industry.

Immigrants p.10'000

5
5 - 19
20 - 49
50 - 149
150 +

Map 1: Spatial distribution by Swiss communes of the immigrant cohort 2000-2004.

Source: Central Aliens' Register.

The dynamics of international migration have quantitative and qualitative impacts on the internal redistribution of foreigners. Virtually all studies into the topic have found a decreasing internal migration propensity among immigrants with increasing length of stay, which is a good indicator for different aspects of the integration process. Geographic mobility in the first years of residence is particularly beneficial in terms of housing and professional adjustment for immigrants, who often experience an initial period of deskilling. Quantitative dynamics in international migration affect the mean length of stay of immigrants, and therefore influence the overall level of internal mobility: the higher the inflow in a particular period, the larger the share of the more mobile recent immigrants, inflating the overall level of mobility.

The qualitative change of international immigration flows may also increase the role of internal mobility in the structural integration process. Sub-populations particularly prone to or restrained in their mobility become more or less represented. The balance of costs and benefits of mobility, as well as the relevance of push and pull factors and of barriers, all

depend to some degree on the socioeconomic profile of immigrants. More recent and better-educated immigrant cohorts may not only move more frequently because they are able to mobilise more resources to overcome barriers (such as the difference in local languages in Switzerland), but also may expect higher economic returns, and face lower costs, from mobility. Furthermore, internal migration may coincide with a step up in the employment hierarchy and could be an integral part of the type of international migration projects aimed at the development of career prospects.

The decreasing propensity to move with additional years of residence, by contrast, can be related to the social integration process. The family component in international migration in particular complicates subsequent internal movements because of the higher psychic costs related to the social reintegration of a family and the fact that often two labour-market careers must then be synchronised. The immigrants' children, however, representative of a third of the foreign population in 2000 (Lerch *forthcoming*), may play an increasingly larger role in the internal migration of foreigners as they reach young-adult ages and therefore become more mobile themselves. By virtue of their residence, such individuals have typically acquired a higher educational level than did their parents and often perform better at school than do native Swiss citizens in the same age cohort (Fibbi et al. 2011). Economic returns on internal migration may thus be higher for immigrant descendants, and professional opportunities may be more developed.

The qualitative change of international immigration flows may also transform the geographic patterns of foreigners' internal redistribution. Highly-skilled immigrants are less dependent on networks in their integration processes because they can mobilise more individual resources. Massey and Mullan (1984) have conceptualised immigrants' "spatial assimilation" as an intermediary and selective process which exists between structural and cultural integration. Once the structural integration into the labour market has been achieved and immigrants have engaged in upward social mobility, they are then expected to have their residential preferences converge with those of native Swiss citizens. The geographic proximity of foreigners to natives is likely to increase social contacts and hence to facilitate integration. This "spatial assimilation" hypothesis thus implies a periurbanisation of foreigners, as well (Alba and Logan 1991). Until recently, leaving the city-centre for the less-congested urban periphery mainly concerned Swiss natives and selected those with a higher socioeconomic status (Da Cunha and Roth, 2004).

3. Definitions, data and methods

We use longitudinal data obtained trough probabilistic linkage of annual records from the Central Aliens' Register covering the period 1981 to 2004 (Wanner, *forthcoming*). Immigrant trajectories could be identified from the moment foreigners were granted a residence status (or starting in 1981, if they had one prior) until they naturalise, leave Switzerland, die or until the end of the observation period. For practical purposes, immigrants are defined according to nationality. Since we are able to follow each individual characteristic (such as age, length of legal residence, etc.) over the migrants' life trajectory in Switzerland, internal mobility can be described using average occurrence-exposure rates referring to five-year periods. Our data do not, however, allow the identification of family units. We focus mainly on mobility at adult ages in considering the first generation of immigrants, who were granted a residence permit at age 16 or older: approximately one million such residence trajectories could be identified through the linkage procedure (see Lerch *forthcoming*).

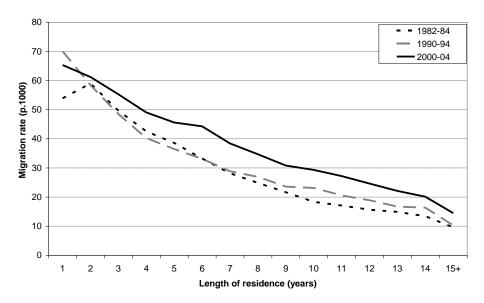
Migration patterns were analysed between the 106 spatial mobility regions (SMR), as defined by the Swiss Federal Statistical Office (FSO) based on the most recent census, conducted in 2000. This statistical typology re-groups communes (the lowest administrative level in Switzerland) based on structural characteristics and on the position in the hierarchy of urban centres and agglomerations (see Schuler et al. 2005).³

4. Structural and behavioural impact of immigration on internal mobility

Approximately half of internal migrants crossed a regional border. The crude inter-regional migration rate increased from 24 to 32 per 1000 between the early 1980s and the 2000s. A comparison with estimates for Swiss nationals taken from the 2000 census (22 per 1000 since 1995) confirmed the higher mobility of foreigners. Migration between larger spatial entities, such as cantons and Nuts-2 regions, was less common but followed the same increasing trend. Local migration (within MSR), however, peaked temporarily above the level of interregional migration around 1990, when the temporary-admitted model ceased to be applied and many migrants sought to reunite with their families (Lerch *forthcoming*).

Length of residence clearly determined the probability of moving between SM regions (see Figure 2). The linear and negative gradient has remained quite stable over the last twenty years, with migrants arrived one or two years prior being characterised as most likely to migrate and those settled in Switzerland for at least 15 years as least likely (more than 60 and less than 15 per 1000, respectively). The annual renewal of the migrant stock must therefore positively affect the level of internal mobility of the foreigners.

Figure 2: Internal migration rate according to period and length of residence, first generation immigrants in Switzerland 1982-2004.



Source: Central Aliens' Register

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³ The communal codes in the annual registers have been harmonised between 1981 and 2004 in controlling for administrative mutations indexed in an historical register (see BFS 2007). Communes have subsequently been regrouped according to the official definition of SM regions as of 2005 to ensure constant spatial borders over the observation period.

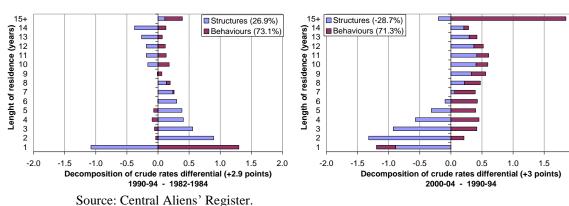
Decennial evolutions in crude internal migration rates can be decomposed using a method based on the principle of standardisation. The crude rate is obtained as a weighted sum of the rates M_x of different sub-populations defined according to length of stay x — the weights being the shares P_x these sub-populations represent in the total immigrant population. Structural effects inherent to the changing composition of the migrant stock in terms of duration of residence can thus be estimated, along with behavioural effects attributable to the difference in duration-specific migration rates between immigrant populations observed at different periods:

$$\Delta Structure^{t-1,t} = \sum_{x} M_{x}^{t} * (P_{x}^{t} - P_{x}^{t-1}) \text{ and } \Delta Behavior^{t-1,t} = \sum_{x} P_{x}^{t-1} * (M_{x}^{t} - M_{x}^{t-1}).$$

In Figure 5, the contributions of quantitative (structural, in dark) and qualitative (behavioural, in bright) effects of international migration dynamics on the evolution of the overall level of foreigners' mobility in Switzerland are presented in terms of rate points (Table 1 in percentage contributions to the decennial absolute change). The recent and established immigrants are distributed in the Figure along the vertical axis according to their length of residence. If their horizontal bar is directed to the right, they contribute either by their number or their higher mobility to an increase of the migration rate. Bars directed to the left indicate negative (decreasing) effects of these arrival cohort on the crude rate.

The small increase in interregional migration between 1981–4 and 1990–4 (from 24 to 26 per 1000) reflects in part structural effects related (Figure 3, left-hand side). During the international immigration peak around 1990, foreigners living in Switzerland for a short duration were over-represented and had a more favourable socioeconomic profile for internal migrations. Those established since at least a decade also move more than their predecessors, even as migration intensities become very low. Note also the negative structural effect due to the under-representation of immigrants living in Switzerland for only one year. This can be attributed to the new admission policy, which excludes candidates from non-OCDE countries and has thus depressed very recent inflows. These more selected newcomers however, were more mobile as compared with ten years prior, inflating the overall migration rate.

Figure 3: Structural and behavioural effects on the decennial increase of crude migration rate, according to length of residence, first generation immigrants in Switzerland 1982–2004.



The structural effects of international immigration on crude mobility rates were negative after 1995, in part because immigration overall was lower. Crude mobility nevertheless increased more than in the prior decade (from 26 to 30 per 1000 in 2000-04), owing to the qualitative change in immigration (Figure 3, right-hand side). The recent arrival cohorts

were again more mobile than those who had immigrated ten years prior. Note also the rising mobility of long-term residents, including their families.

The role of migration policy in shaping the internal mobility of foreigners can be deduced from the differences in trends in interregional mobility according to the nationality groups over the twenty-year period considered here (Table 1). The mean-while short-term immigrants (such as the Italians and Spanish) who arrived until the 1980s showed the lowest internal migration rates. A negative structural effect depressed their internal migration between 1981-4 and 1990-4, but the last arrival cohorts were increasingly skilled and more mobile than the preceding ones. The more recent immigrant flows from the former Yugoslavia and Turkey moved to a larger extent in Switzerland during the 1980s when they constituted an important pool for labour. Despite an increase in international immigration from these countries in the late 1980s and early 1990s, the level of internal redistribution decreased. The inflows were composed primarily of family reunifications following those countries' exclusion from the official labour-force recruitment regions as defined in 1992. These arrival cohorts were less prone to internal migration than the former, which had been composed primarily of active men, leading to a lower interregional migration rate. The temporary peak in local migration observed at that time (see Lerch, forthcoming), however, may be related to family reunifications. Turkish migrants, as well as individuals from the countries in the residual group of Table 1, also experienced a sharp decline in interregional migration rates, mainly due to the interruption of international inflows owing to the policies implemented in 1992.

Recent immigrant flows are increasingly composed of highly-skilled workers from neighbouring countries. They experienced a strong increase in internal mobility, as evidenced by the German immigrants. More than half of the increase which occurred between 1982–4 and 1990–4 can be attributed to high levels of recent immigration, while the remainder is attributable to the fact that these newcomers were more mobile than their predecessors.

Table 1: Structural and behavioural effects on the decennial change in crude migration rate, by nationality, first generation immigrants in Switzerland 1982–2004.

	Crude rate 1982-84	Change in rate 1982-84 - 1990-94	Structural effect	Behavioural effect	Change in rate 1990-94 - 2000-04	Structural effect	Behavioural effect
Spain	13.5	-1.4	-93 %	7 %	0.8	-46 %	54 %
Italy	12.1	0.3	-45 %	55 %	4.1	-19 %	81 %
Portugal	30.5	-2.1	-60 %	40 %	-7.3	-79 %	21 %
Germany	28.8	5.1	53 %	47 %	12.7	44 %	56 %
France	25.1	4.7	-4 %	96 %	5.4	51 %	49 %
Former							
Yugoslavia	49.6	-6.1	22 %	-78 %	-16.4	-40 %	-60 %
Turkey	36.0	-8.7	-90 %	-10 %	1.2	-86 %	-14 %
Other	44.4	-5.7	-66 %	35 %	1.7	53 %	47 %
Total	23.8	2.6	27 %	73 %	2.9	-29 %	71 %

Source: Central Aliens' Register

In the early 2000s, all nationalities experienced a negative structural impact on crude mobility rates as recent immigration decreased compared to early-1990s levels. Germans and French, as well as individuals from other countries, comprised exceptions by virtue of the fact that they disproportionately composed the major pool of new, high-skilled

immigrants. Crude mobility rates for Germans increased because of both an overrepresentation of recent immigrants and the higher mobility of these cohorts compared to those who had arrived a decade earlier. Hence, internal migration was inflated via a structural and behavioural effect.

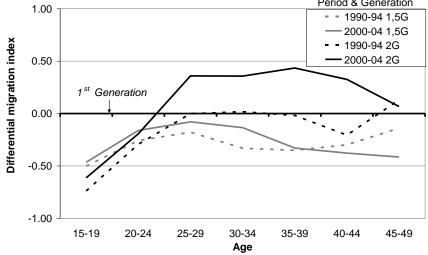
The highest level of internal migration, however, was observed among the second-generation immigrants (born or having arrived before age 4 in Switzerland). These immigrant descents outperformed the latest-arriving first-generation immigrants (Figure 4). Differential migration remained at its most pronounced during the main ages of childbearing and career advancement, pointing out the potential role of both spatial assimilation and professional opportunities. The 1.5 generation, having arrived between age 4 and 15, by contrast had similarly (high) levels of internal migration as compared to the adult first generation.

1.00 Period & Generation

- 1990-94 1,5G

- 2000-04 1,5G

Figure 4: Age-specific differential migration of the 1.5 and 2nd generation immigrants



Source: Central Aliens' Register. Note: the differential migration index is obtained by dividing the 1.5 or 2nd generation's migration rate by the estimate of the 1st generation's rate.

The geography of internal migration

The qualitative change in Swiss immigration not only impacted on the intensity of internal migration of foreigners but also on the geographic pattern of redistribution. Map 2 illustrates the migration efficiency index (MEI), which measures the demographic impact of net migration relative to the volume of (out- and in-) migration,⁴ for each region. If MEI equals zero, immigration and emigration compensate for one another. A positive value

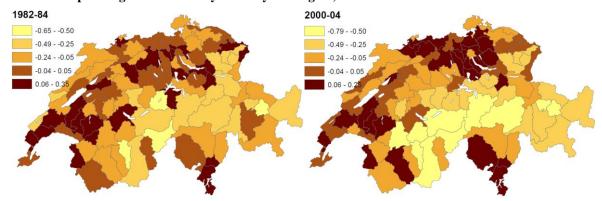
region i, and mio the number of emigrants of i.

⁴ The MEI is based on interregional migration matrixes (estimated for 5 year intervals):

 $MEI = \frac{m_{oi} - m_{io}}{m_{oi} + m_{io}}$, with moi being the number of immigrants from all other regions o to

indicates that the specific region was able to retain a higher share of migrants than it lost, while a negative value indicates the region lost population as a result of internal migration.

In the 1980s immigrants conformed to a more dispersed geographic pattern of redistribution, including to mountain regions. Twenty years later, however, the regions which benefit most from internal migration are almost exclusively situated on the Swiss plateau and clustered around the main urban agglomerations (Geneva-Lausanne, Zürich and Basel, as well as in the urban regions in the canton of Ticino).



Map 2: Migration efficiency index by SM region, 1982-2004.

Source: Central Aliens' Register

To document the redistribution of immigrants within the urban hierarchy of municipalities, the indexes of migration efficiency in Table 2 describe demographic gains or losses from inter-municipality migration for different types of commune (Table 2). In addition to the peripheral touristic communes, city-centres also experienced declining attractiveness over the last 20 years and increasingly lost immigrant populations as a result of internal migration. However, communes situated in the close and, more recently, the distant agglomerations have managed to attract and retain an increasing number of foreigners. The residential preferences of high-skilled immigrant cohorts thus seem to have converged with those prevalent among Swiss nationals.

Table 2: Index of inter-municipality migration efficiency according to an urban typology of Swiss municipalities, total foreign population, 1982–2004.

	1982-5	1991-95	2001-04
Urban			
Central	-0.06	-0.05	-0.09
Suburban	0.10	0.07	0.12
High income	0.05	0.09	0.10
Peri-urban	0.05	0.07	0.09
Other			
Touristic	-0.21	-0.27	-0.32
Industrial	-0.12	-0.09	-0.10
Rural			
Comuting	-0.03	0.02	0.00
Mixed	-0.10	-0.11	-0.09
Agricultural	-0.13	-0.07	-0.14

Source: Central Aliens' Register.

5. Discussion

Switzerland has experienced important changes in international migration flows over the last 30 years. Relying on individual immigrant trajectories, we were able to illustrate how these dynamics influenced the internal mobility of foreigners. Interregional migration increased between 1981 and 2004, and became higher among the immigrant community than it had been among native Swiss citizens. The peak in international migration, around 1990, inflated this trend as recent immigrants — associated with the highest likelihood of internal movement — came to be overrepresented. Structural impacts depressed crude rates in the early 2000s, a result of a lower international inflow related to the policy change which sought to restrict movements from non-OCDE countries. Internal mobility nevertheless increased. The recent and more-selected immigrant cohorts are more highly skilled, and are therefore more spatially mobile than those who arrived in prior decades. The role of immigration policy is highlighted in the different evolutions of internal migration by nationality which can be explained by the way these groups were affected by the policy changes. Moreover, the most recent immigrant cohorts increasingly originate from neighbouring countries, which means that the language barriers to internal mobility are lower.

Swiss immigration had a strong geographic inertia due to the stability of foreign labour contingents by region and economic sector (Piguet 2004). Our results not only indicate an increasing spatial concentration of recent inflows in regions characterised by an urban and emergent economic structure. The redistribution from traditional "entry doors" in the periphery was also shown. If the increasing skill level of immigrants sustained a structural change in the Swiss economy (Becker et al. 2008), their internal migration to economically dynamic regions may also have played a role.

Immigrants seem to adhere to internal migration patterns observed among native Swiss citizens, particularly in the most recent period. The periurbanisation of foreigners is likely related to higher resource endowment as well as the increase in family migration or reunification. Moreover, the possibilities for foreigners to invest in the local real estate marked were recently liberalized. While this spatial assimilation may enhance social cohesion in a multicultural country such as Switzerland, it remains selective as far as skills are concerned (see Lerch *forthcoming*). Furthermore, the crucial demographic and fiscal gains from international migration to peripheral regions or central-cities were not retained in their entirety due to internal migration losses.

The socioeconomic composition of immigrant groups in Switzerland seems to be more important than ethnic origin in shaping internal mobility patterns. Since the profile of immigrants is increasingly determined by international migration policies, the latter play a role in the internal redistribution of foreigners. Integration policy may also be relevant for enhancing the opportunities which descendants of immigrants have available to develop their mobility potential within Switzerland.

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