

# **Doctoral Thesis**

## **International Students in Switzerland: Trajectories, Stay Rates, and Intentions for Post-Graduate Mobility**

**Presented by Annique Lombard  
at the Institute of Geography, Faculty of Social Sciences,  
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Annique Lombard  
Avenue du Mail 2  
2000 Neuchâtel  
0041 76 461 09 66  
annique.lombard@unine.ch


Supervised by Professor Etienne Piguet  
Co-supervised by Professor Yvonne Riaño,  
Institute of Geography, University of Neuchâtel  
Jury: Prof. Christof van Mol, Tilburg University and  
Prof. Janneke Wiers-Jenssen, Oslo University



## IMPRIMATUR

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Le doyen  
Pierre Alain Mariaux



# International Students in Switzerland: Trajectories, Stay Rates, and Intentions for Post-Graduate Mobility

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# **International Students in Switzerland: Trajectories, Stay Rates, and Intentions for Post-Graduate Mobility**

## **Summary**

Increased international student mobility (ISM) has become one of the salient features of contemporary global migration. In the context of growing global mobility and the globalization of higher education, international student migration to Switzerland is changing significantly in both extent and character. Due to the importance of international students in current migration flows, their mobility is receiving increased attention in migration studies and policy debates. This dissertation sheds light on the character and dynamics of ISM by analyzing the migration trajectories of international students in Switzerland. The study aims to discover patterns and identify factors which have a positive or negative impact on the stay rates of international students and their subsequent integration into the Swiss labour market, proposes a framework for student mobility, and finally discusses the results in a context of current changes in migration policies and debates including a glance at migration policies outside Switzerland. The thesis is composed of four sections which draw attention to a) stay rates of international students, b) intentions to stay in Switzerland, taking partnership status into account, c) integration into the Swiss labour market, and d) changes in relevant policies. The statistical data originates from various datasets on international students, from a merged dataset of the Swiss Higher Education Information System (SHIS) and the Central Migration Information System (ZEMIS)<sup>1</sup>, a series of the Swiss Graduate Surveys, and the NCCR Mobility and Migration Survey. Statistical methods are used to test a series of static and dynamic factors, such as social and demographic characteristics (nationality, gender, age, civil status), as well as educational characteristics (study field, study performance, the higher education institution). Furthermore, the minutes of the discourse of the parliamentary initiative that led to law amendments are examined. Finally, the results on the educational trajectories of international students are discussed in the context of recent changes in Swiss migration policies.

Keywords: international student mobility, migration, trajectories, labour market, intentions

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<sup>1</sup> German: Schweizerisches Hochschulsystem (SHIS) and Zentrales Migrationsinformationssystem (ZEMIS).

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# **International Students in Switzerland: Trajectories, Stay Rates, and Intentions for Post-Graduate Mobility**

## **Résumé**

L'augmentation de la mobilité internationale des étudiants (MIE) est devenue l'une des principales caractéristiques de la migration contemporaine. Dans un contexte de mobilité mondiale croissante et de mondialisation de l'enseignement supérieur, la migration internationale des étudiants vers la Suisse est en train de changer de manière significative, tant de par son ampleur que dans sa spécificité. La mobilité des étudiants étrangers, en raison de leur importance dans les flux migratoires actuels, fait l'objet d'une attention accrue dans les études sur les migrations et les débats politiques. Cette thèse donne un éclairage sur le caractère et la dynamique de la MIE en analysant les trajectoires migratoires des étudiants étrangers en Suisse. L'étude vise à découvrir des schémas et à identifier les facteurs qui ont une incidence positive ou négative sur les taux de séjour des étudiants étrangers et leur intégration subséquente dans le marché de l'emploi suisse, propose un cadre pour la mobilité des étudiants et, enfin, en discute les résultats dans le contexte actuel des changements en matière de politiques et débats migratoires, en incluant un regard sur les politiques migratoires en dehors de Suisse. Cette thèse est composée de quatre sections qui attirent l'attention sur a) les taux de séjour des étudiants étrangers, b) l'intention de rester en Suisse en tenant compte du statut de partenaire, c) l'intégration sur le marché suisse du travail et d) l'évolution des politiques en la matière. Les données statistiques proviennent d'un ensemble de données fusionnées du Système d'Information Universitaire Suisse (SIUS) et du Système d'Information Central sur la Migration (SYMIC), d'une série d'enquêtes sur les diplômés en Suisse et du NCCR Mobility-Migration Survey. Les méthodes statistiques sont utilisées pour tester une série de facteurs statiques et dynamiques, tels que les caractéristiques sociales et démographiques (nationalité, sexe, âge, état civil), ainsi que les caractéristiques éducatives (domaine d'étude, résultats des études, établissement d'enseignement supérieur). En outre, les procès-verbaux du discours politique de l'initiative parlementaire qui a conduit à des amendements de loi sont examinés. Enfin, les résultats sur les trajectoires éducatives des étudiants internationaux sont discutés dans le contexte des changements dans les politiques migratoires suisses.

Mots-clés : mobilité des étudiants, migration, trajectoires, marché de travail, intentions



# 1 Introduction

Worldwide and in Switzerland, international student mobility (ISM) is increasing. Within twenty years, the number of international students enrolled at Swiss universities has more than tripled, reaching 38,000 in 2017. At Swiss universities, the shares of international students are very high: 54% of doctoral candidates, 26% of master's students, and 12% at the bachelor level (FSO 2018). Switzerland is an attractive destination for many students due to its reputation for quality higher education. In 2018, its two Federal Technical Institutes were among the best universities globally according to the Quacquarelli Symonds World University ranking, with ETH Zurich breaking its own record with a rank of seventh and EPF Lausanne at twenty-second.<sup>2</sup> The growing number of internationally mobile students is just one aspect of the process of internationalization of higher education (international curriculum, joint programs, branch campus, education hubs) (Brooks & Waters 2011, Wadhwa 2016). Crossborder education has gradually shifted from a development cooperation framework to a partnership model and now in some cases to a commercial and competitiveness model (Knight 2012). Educational institutions host international students in order to highlight their international profile, improve their networks, and recruit qualified people from abroad (Wang et al. 2015). Also, countries increasingly expect universities to make more direct contributions to knowledge-economy dynamics through labour force training and innovation-based industry spin-off activities (Kuptsch 2006). In fact, student mobility is also relevant to the knowledge economy because it fosters innovation and competition for talent on a global level (Hawthorne 2010, 2012, Kabbanji et al. 2016). In Switzerland, international graduates represent a pool of potentially highly skilled workers for the Swiss labour market. As the relatively low fees do not cover the effective costs, the Swiss Cantons and the Confederation subsidize parts of the education system (SERI 2010). Recruiting international graduates for the labour market means accessing previous investments in higher education; therefore, the question of whether international students opt to leave or stay in Switzerland after graduation is of great academic and economic but also societal relevance. The number of international students at Swiss universities is a topic of public and political debate.

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<sup>2</sup> [www.topuniversities.com/university-rankings/world-university-rankings/2019](http://www.topuniversities.com/university-rankings/world-university-rankings/2019) (last accessed 12 June 2018)

The consequences of ISM largely depend on the duration of stay, which can take the form of short-time mobility, long-time migration, and the whole spectrum in between. Students are temporary foreign residents and are perceived as visitors, but if they stay for a longer period they become part of the widely debated phenomenon of migration. In 2014, a very controversial debate on limiting immigration resulted in a majority of Swiss voters approving the “initiative against mass migration”. However, how this amendment to the Swiss Constitution affects ISM is still unclear. At the same time, Switzerland is confronted with an aging society and a scarcity of workers in certain specialized sectors of the labour market. Retaining international graduates means more net contributors to social pension funds and additional consumers of goods and services. Due to their previous lived experiences in Switzerland, international students have advantageous characteristics (Tremblay 2005, Felbermayr & Reczkowski 2012), such as being familiar with regional and national customs and cultures, languages, and the cantonal administration, as well as having already established social and professional networks. International students are therefore a very interesting group of mobile and highly qualified persons, but little is known about this demographic in Switzerland. Periodic reports and statistics have been commissioned to describe the foreign student population (FSO 2017, 2018), also some in-depth studies have been conducted, for example, on the living conditions of students from the global South who describe problems finding employment after graduation (Guissé & Bolzman 2015), or the career development, mobility, and role of networks for recipients of Swiss government scholarships (Lindberg et al. 2014). Further recent publications focus on African students in Switzerland (Barry 2017), student’s motivations, strategies, and experiences (Renggli & Riaño 2018), and the representation of non-European students in political discourse (Gilabert & Riaño 2018). Apart from these publications, there is little information on international students enrolled at Swiss universities and whether they stay in or leave Switzerland after graduation. This thesis contributes to filling these research gaps by analyzing international students in Switzerland in terms of a) study trajectories and stay rates, b) post-graduation mobility intentions as related to interpersonal relationships, c) rate of entry into the Swiss labour market, and d) changes in migration policies which affect post-graduation mobility.

These topics are analyzed with three different datasets using statistical methods that include trajectory analysis, regression analysis, and a textual analysis of the minutes of the parliamentary debate on the amendment of a law which provides employment opportunities for international graduates from Swiss universities.

The results from the four sections are embedded in the aspiration and capability framework of migration (de Haas 2014) that conceptualizes migration as a function of aspirations and capabilities to migrate within a given set of opportunity structures. Legal opportunities and restrictions, as well as the temporal and spatial dimensions of student mobility, are of great relevance for the mobility decisions of students and graduates. This model will be discussed in the section on the conceptual framework. However, for specifying the scope of the thesis, I situate the analyses in the temporal and geographical dimension of student mobility. There are several key moments in the process of decision-making regarding mobility, including pondering whether or not to move, deciding to move, and actually moving. To be precise, this thesis concentrates on the moment of the post-graduation mobility decision. I focus on the period of time when an international student is abroad and thinking about the next move after graduation. This post-graduation decision offers three options (see cover): move back to the home country, stay in the host country of study, or move to another country altogether. In many cases, returning home is the original plan, and other options are not taken into account. Some students aspire to stay in the host country and seek employment opportunities, while others use their capability to choose another destination country. Some are confronted with policies restricting their mobility, and are either forced to move on or obtain subsequent residence permits. Thus, not all types of mobility are possible due to legal restrictions, a change of plans, or manifold personal reasons.

For students graduating abroad, the study-to-work transition is crucial for their professional careers. At the same time, personal relationships, partnering, and family-building become increasingly important. A glance at the scientific literature reveals what influences these ISM decisions. Szelenyi (2006) summarized the outcome of interviews with international students in the United States by defining broadly the following influencing factors: 1) the international context, 2) social ties, 3) the influence of states and their institutions, and 4) the role of personal and professional interests and aspirations.

Two studies on students in Switzerland examined factors for their mobility decisions. Lindberg et al. (2014) working on foreign grant recipients at ETH Zurich found the main reasons for return to be the desire for a professional contribution in the home country, longing for family and friends, and a higher social status in the country of origin. R erat (2016) working on Swiss internal student mobility recognizes four theoretical perspectives to explain the logic behind the mobility decisions of students. These factors are: 1) utilitarian (related to employment), 2) calculating (financial), 3) sensitive (related to residential amenities), and 4) affective (interpersonal and social). One Dutch study showed that employment induces international graduates to stay while unemployment is a reason to leave, and marriage (or forming a family) in the host country make students more prone to stay (Bijwaard & Wang 2016). With regard to decisions on future migration while studying abroad, Alberts & Hazen (2005) conducted interviews with international students in the US and found three categories for post-graduation mobility: professional factors encourage staying, while societal and personal factors draw them back to their home countries. Another study on Toronto and London concluded that graduates' considerations of employment and settlement are tightly intermingled with personal relationships, such as care of aging parents, managing dual careers, future childcare, and work- life balance (Geddie 2013). Similar findings result from a survey on post-graduation migration plans in five European Union (EU) countries, where factors related to employment opportunities induce students to stay, and personal factors urge them to return (Sykes & Ni Chaoimh 2012).

The first section of the thesis provides data on stay rates that were previously unknown and differentiates by nationality, the region of the higher education institution hosting the students, and the study field. The four following sections address some of the most relevant influencing aspects of ISM decisions; post-graduation employment, partnership status (as the partner or spouse is in many cases the most important social tie for international students), and changes in laws which impact opportunities as well as restrictions on staying in Switzerland after graduation.

## 1.1 Overview of International Student Mobility in Switzerland

The international students in Switzerland analyzed in this thesis are defined as “all persons with a foreign nationality that were residing abroad when they obtained their school-leaving qualification entitling them to university admission” (FSO). This definition corresponds to the Swiss Federal Statistical Office (FSO) definition of a *BildungsausländerIn*<sup>3</sup> [educational foreigner]. This definition follows the “genuinely spatial” approach (Kelo et al. 2006) which assumes that international students are also transnational (c.f. Knight 2005, 2006). As I discuss student mobility in the context of migration, cross-border movement for studying is an important assumption (e.g. Wells 2014). I, therefore, use the definition described above to analyze international students enrolled at Swiss higher education institutions at a tertiary study level. In contrast, “all persons with a foreign nationality that were residing in Switzerland when they obtained their secondary high school degree” (FSO) were grouped with Swiss nationals as *BildungsinländerIn*<sup>4</sup> [foreigner with previous education in Switzerland]. Alternatively, the term foreign student is defined solely by their nationality as students who are not citizens of the country in which they study. These differentiations are important, as they impact statistics and challenge the international comparison as not all countries use the same definition. For example, in 2017 the share of international students enrolled at Swiss universities was 25%, whereas the share of foreign students amounted to 30% (FSO 2017). Due to the fact that Swiss naturalization rules are strict by international comparison, Switzerland has numerous non-nationals and second- and third-generation students who have lived most of their lives in Switzerland but are still counted as foreigners. In 2016, 24% of the permanent resident population in Switzerland were foreigners. Taking into account the migration status among those foreign nationals, 10% were second-generation immigrants (FSO 2018). In the same year, non-Swiss nationals accounted for 27% of primary school students, 24% of lower secondary students, and 21% of higher secondary students (FSO 2018).

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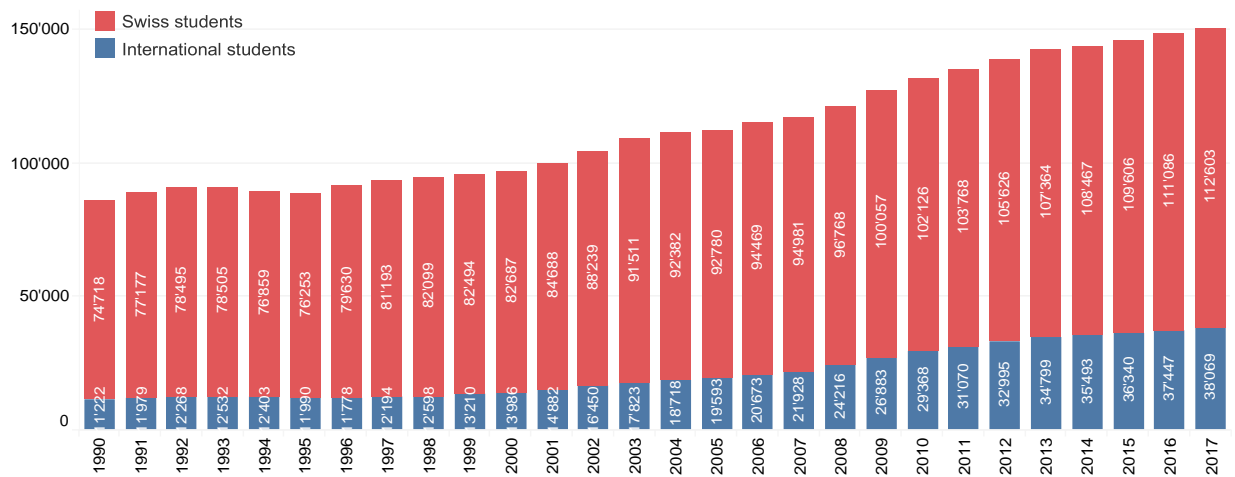
<sup>3</sup> German: *Bildungsausländer*: Als *Bildungsausländer* gelten “alle Personen mit ausländischer Staatsangehörigkeit, die im Ausland wohnhaft waren, als sie ihren Hochschulzulassungsausweis erwarben”.

<sup>4</sup> German: *Bildungsinländer*: Als *Bildungsinländer* gelten “alle Personen mit ausländischer Staatsangehörigkeit, die beim Erwerb der Hochschulzulassung ihren Wohnsitz in der Schweiz hatten”.

## International Students Enrolled at Swiss Universities

Data on students at Swiss universities have been available since the introduction of the Swiss University Information System (German: Schweizerisches Hochschulsystem SHIS) in the early 1970s, and data on foreign nationals has been included since 1990. The Swiss Federal Statistical Office (FSO) provides the number of international students in Switzerland in their publications on the study population (FSO 2017). Since the 1990s, the number of international students at Swiss universities on all study levels has been increasing, reaching 38,000 in 2017.<sup>5</sup> As the population of international students grew faster than the number of Swiss resident students (Figure 1.1), the total share of international students grew from 13% in 1990 to 25% in 2017.

Figure 1.1: Swiss Residents and International Students at Swiss Universities (1990–2017)

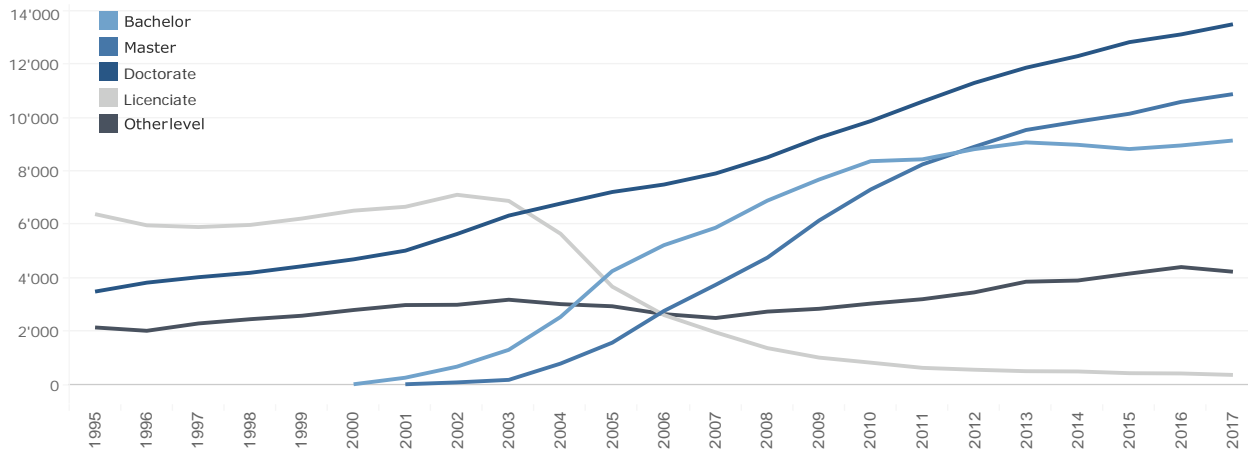


Source: SHIS - FSO, 2018

Over the past two decades, the Swiss higher education system has undergone major transformations regarding the application of the guidelines of the Bologna Declaration in 1999, which aimed to harmonize tertiary education systems within the European Research Area (ERA). Since then, bachelor and master's degrees have likewise replaced the previous licentiate and diploma degrees. During the same period, the number of Swiss students also increased but by a lower growth factor than the international students.

<sup>5</sup> Including bachelor, master, doctorate, licentiate / diploma, and other tertiary studies. From the classified types of tertiary institutes, these numbers include only the universities and institutes of technology (UIT), and not the universities of applied sciences (UAS), and universities of teacher education (UTE).

Figure 1.2: Number of International Students at Swiss Universities by Study Level (1990–2017)



Source: SHIS - FSO, 2018

The number of international students increased on all study levels (except the licenciate level). As the study level increases, so does the absolute number. In 2017, the number of international doctoral students was 13,400, or more than the double of 2004, and the international students reached 10,800 at the master’s level, 9,100 at the bachelor level, and 4,200 in other studies.

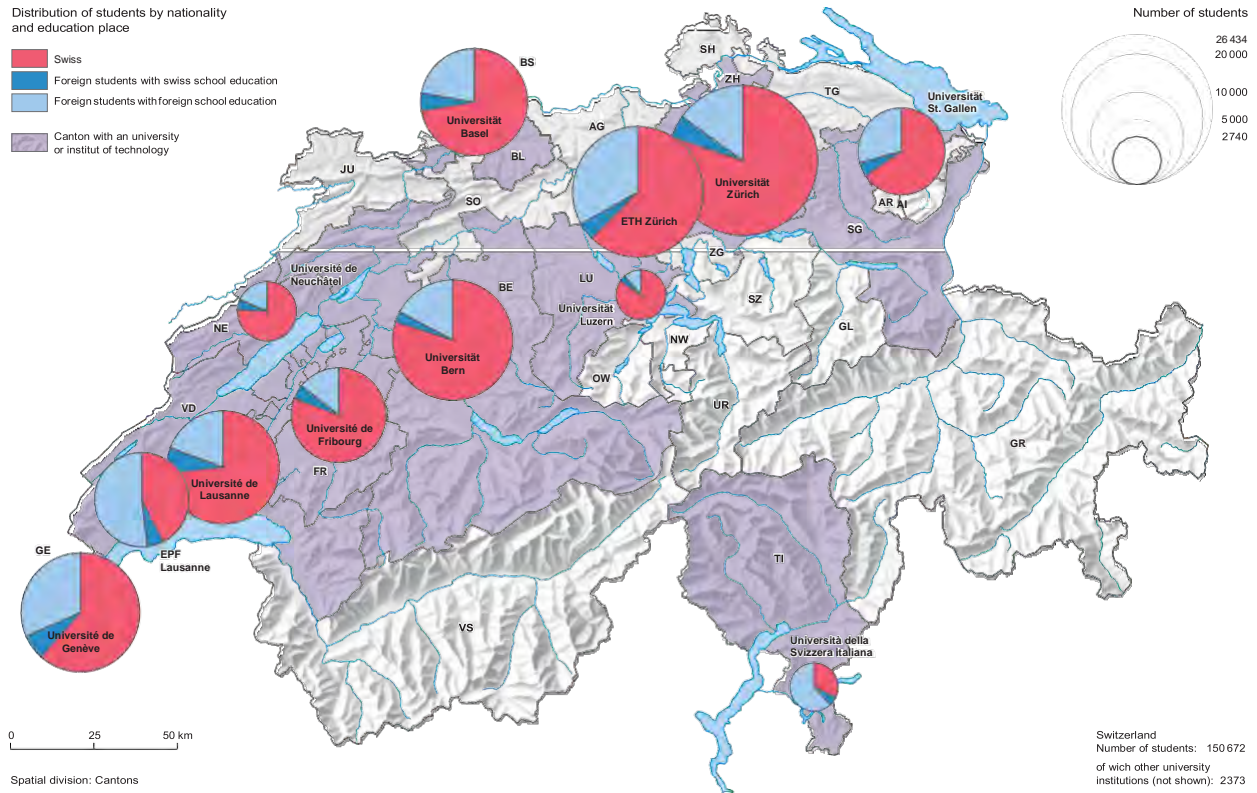
Figure 1.3: Shares of International Students at Swiss Universities by Study Level (2000–2017)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Ba	10.7	10.4	11.2	10.2	11.5	11.7	11.3	11.1	11.8	12.1	12.5	12.2	12.5	12.7	12.5	12.2	12.2	12.3
Ma	0.0	16.7	18.6	19.1	19.5	23.2	25.2	25.1	24.8	25.4	25.6	25.7	25.6	25.6	25.3	25.5	25.9	25.8
Phd	34.7	35.8	37.7	39.9	40.8	41.8	42.6	43.5	44.6	45.9	47.1	48.1	49.7	51.1	51.9	52.6	52.8	53.5
Lic	8.4	8.6	9.1	9.2	8.9	7.9	7.4	7.6	7.3	7.5	9.0	11.8	15.1	17.0	19.2	24.7	26.0	24.0

Source: SHIS - FSO, 2018

While the shares of international students (Figure 1.3) stagnated at the bachelor and master’s levels, they increased constantly at the doctoral level since 2000. In 2017, the shares of international students reached 54% at the doctoral level, 26% at the master’s level and 12% at the bachelor level.

Figure 1.4: Situation and Size of Universities and Institutes of Technology in Switzerland, 2017



Source: Original map from the FSO website, 2018

Besides the two Federal Institutes of Technology in Zurich and Lausanne, there are ten cantonal universities. Five are located in German-speaking Switzerland: Basel, Bern, Lucerne, St. Gallen, and Zurich. The Universities of Geneva, Lausanne, and Neuchâtel are situated in French-speaking Switzerland. The University of Italian-speaking Switzerland is situated in Lugano, and there is one bilingual (German and French) university in Fribourg. Figure 1.4 shows the size of the institutes and their respective shares of international students (light blue) and foreigners with previous Swiss secondary education (dark blue). The highest shares of international students are found in the two Federal Institutes of Technology and in the universities situated close to the national border (Geneva, St. Gallen, Lausanne, and Basel).

### *Data on the Foreign Resident Population in Switzerland*

Data on the foreign resident population in Switzerland retrieved from the Swiss Labour Force Survey has enabled researchers to differentiate residents by their migration background since 2003.<sup>6</sup> In recent years, the demographic data collection system in Switzerland has undergone important reorganizations. The traditional census has been replaced by surveys and a harmonized set of the Population and Household Statistics (STATPOP) has been available since 2010.<sup>7</sup> Previously, data on foreign nationals living in Switzerland with a residence permit were registered in the Central Migration Information System [Zentrales Migrationsinformations- system, or ZEMIS], which is managed by the State Secretariat for Migration (SEM) and regularly transferred to the FSO. ZEMIS was created in 2008 as a result of the consolidation of the Central Register of Foreign Nationals and the Automatic Registration System of Persons. Since 2010, these two statistics have been integrated into the Population and Household Statistics (STATPOP) (Steiner and Wanner 2015).

### *Creation of a New Linked Dataset on International Students in Switzerland*

In 2010, the introduction of the personal security number (AHV) as a personal identification number for students enabled linking register data. In cooperation with the FSO and the NCCR – On the Move, as well as this thesis, the International Students Trajectory Database was created.<sup>8</sup> The longitudinal dataset is the result of linking data files from the Longitudinal Analyses in the Field of Education [Längsschnittanalysen im Bildungsbereich, or LABB]<sup>9</sup> (including SHIS) with STATPOP (including ZEMIS). The new dataset covers all international students registered with a residence permit in Switzerland. This enables researchers to visualize the study trajectories of international students during their stay in Switzerland and to calculate their stay rate after graduation. Furthermore, the variables provide information on changes in residence permits and civil status, as well as nationalities, study fields, and other individual characteristics.

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<sup>6</sup> Factsheet: [www.bfs.admin.ch/bfs/en/home/statistics/population/migration-integration/by-migration-status.html](http://www.bfs.admin.ch/bfs/en/home/statistics/population/migration-integration/by-migration-status.html)

<sup>7</sup> Factsheet: [www.bfs.admin.ch/bfs/en/home/statistics/population/surveys/statpop.assetdetail.8541.html](http://www.bfs.admin.ch/bfs/en/home/statistics/population/surveys/statpop.assetdetail.8541.html)

<sup>8</sup> The codebook for this dataset is available on the FORS database: <https://forsbase.unil.ch> (study reference: 13114)

<sup>9</sup> Link: [www.bfs.admin.ch/bfs/de/home/statistiken/bildung-wissenschaft/erhebungen/labbb.assetdetail.5046491.html](http://www.bfs.admin.ch/bfs/de/home/statistiken/bildung-wissenschaft/erhebungen/labbb.assetdetail.5046491.html) (all links here last accessed 2 May 2018) and further information on dataset on [www.labbbfs.admin.ch](http://www.labbbfs.admin.ch)

### *Survey Data on International Students in Switzerland*

Additionally, I identify survey data that has not yet been used for analyzing international students in Switzerland. Complementary to the register data, I analyze the Swiss Graduate Survey on student employment and educational situations one and five years after graduation.<sup>10</sup> The survey is conducted biennially with Swiss and international graduates from Swiss universities and enables a direct comparison of labour market integration. Finally, the NCCR Mobility and Migration Survey provides information on migrants' immigration experience, labour market participation, integration and the family situation.<sup>11</sup> Among recently arrived migrants, I identify the international students and analyze their social partnerships in relation to their intentions to stay in Switzerland.

## **1.2 Switzerland in the Global Context**

Worldwide, the number of foreign students enrolled in tertiary education has increased more than fivefold since the late 1970s, from 800,000 to 4.6 million in recent years. In 2015, applying the definition of international students, approximately 3.3 million students travelled for the purpose of studying abroad in the Organization for Economic Co-operation and Development (OECD) area alone (OECD 2017).

### *High Shares of International Students*

In absolute numbers, Switzerland hosted 38,069 international students in 2017/18 (FSO 2018). Compared to other countries and in relative shares of all mobile students within the OECD area, Switzerland hosted approximately 2% of international students and was in the 10<sup>th</sup> position after the United States (26%), the United Kingdom (15%), France (11%), Germany (10%), Australia (8%), Canada, Japan, and Italy (all 3%), and Austria (2%) in 2014 (OECD 2016). Also non- OECD countries increasingly gain in importance as destination countries for students, for instance, China, India, Brazil, Russia, and South Africa (UNESCO & UIS 2018).

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<sup>10</sup> Factsheet: [www.bfs.admin.ch/bfs/en/home/statistics/education-science/surveys/ashs.assetdetail.7753.html](http://www.bfs.admin.ch/bfs/en/home/statistics/education-science/surveys/ashs.assetdetail.7753.html)

<sup>11</sup> <http://nccr-onthemove.ch/research/migration-mobility-survey/>

However, the quality of Swiss universities is internationally known and its institutions of higher education enjoy a good reputation. In 2018, most Swiss universities were among the best 500 globally according to the Times Higher Education World University Ranking, and while the Federal Institutes of Technology are beacons of science and research in Switzerland (the ETH in Zurich ranked 10th, and the EPF in Lausanne ranked 38th), other Swiss universities are well known for their fields of specialization.<sup>12</sup> In 2015, Switzerland<sup>13</sup> had a very high share of international students with 17%, which is comparable to New Zealand (21%), the United Kingdom (18%), Austria (16%), and Australia (15%). In comparison, the OECD average was 6% and the United States had a share of only 4% international students (OECD 2017). Beside these anglophone countries, where ISM is very common, the EU—which includes the European Education Area (EEA) and research exchange programs such as Erasmus+ and Horizon 2020—is another key area for student mobility in the global context.

### *Switzerland's Geographical Situation*

Switzerland's geographical situation at the heart of the European continent, the bilateral Agreements on Free Movement of Persons between Switzerland and the EU—including mutual diploma recognition, as well as participation in the 1999 Bologna Declaration—are among the reasons for the high presence of European students in Switzerland. Furthermore, Switzerland participates in the Erasmus+ and Horizon 2020 projects. In the 2015–2016 academic year, 69% of international students (at all tertiary study levels) came from the EU. Nationals from neighbouring countries Germany (26%), France (15%), Italy (10%), and Austria (3%) alone made up 54% of all international students in Switzerland. Over the last few years, Asian students have increased to 11%, followed by students from the Americas (6%), Africa (5%) and Oceania (0.3%), who all had constant numbers (FSO 2017).

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<sup>12</sup> Times Higher Education World University Ranking 2018: ETH Zurich: 10, ETH Lausanne: 38, University of Basel: 95, University of Bern: 105, University of Geneva: 130, University of Zurich: 136, University of Lausanne: 152, University of Fribourg: 201–250, University of Neuchâtel: 401–450, and University of St. Gallen: 401–450.

<sup>13</sup> Universities and Institutes of Technology (UIT), Universities of Applied Sciences (UAS), and Universities of Teacher Education (UTE): The previously presented higher shares in the introduction were of UITs only. As the shares vary considerably by the type of higher education institution (UIT, UAS, UTE), the total share reported from the FSO to the OECD—including all tertiary ISCED institutions—is lower (17%).

### **1.3 Literature on International Student Mobility**

Internationally mobile students have been analyzed by researchers from various disciplines, including human geography, economics, politics, sociology, psychology, higher education and migration studies, law, and other fields (Riaño and Piguet 2016, King et al. 2010). The topic of ISM is interdisciplinary in nature, and different perspectives provide important scientific contributions.

This chapter presents five axes of literature on ISM and migration, ranging from initial causes to post-graduate mobility decisions. The first axis looks at drivers for student mobility, explaining why students go abroad. The second axis examines which host countries they choose to study in. The third axis focuses on institutions of higher education where ISM is taking place and where internationalization is becoming increasingly important. These first three axes provide insights into the contextual and structural background of students' decisions to move abroad, which may also be related to the motivation to stay in the host country after graduation. The fourth axis gives an overview of methodologies used for calculating stay rates. The fifth axis presents literature on post-graduation mobility.

The first axis focuses on why students go abroad by identifying the main drivers for ISM. Student mobility can be caused by a lack of educational opportunities in the home country (Waters 2009, Kritz 2015), by the perception that a higher quality of education is available abroad (Hazen & Alberts 2006), or by expected benefits from the studies abroad (Raghuram 2013). These benefits could include an improvement in foreign language skills (Baláž & Williams 2004), or be related to future labour market aspects, such as better chances for international assignments (Wiers-Jenssen 2008), wage maximization (Rosenzweig 2006), or higher expected income in the host country (Perkins & Neumayer 2014), while other international students move abroad to experience living in new places, or for excitement and adventure (Waters et al. 2011). Furthermore, Waters (2006) states that besides the human capital aspects that are closely related to labour market imperatives, social and cultural capital also play an important role in student mobility. International education comes with new experiences, and international students acquire important transferable skills and knowledge that can enhance geographical mobility within the global economy and create mobility capital (Brooks & Waters

2010). These forms of capital, experiences, and the academic knowledge acquired and produced abroad are transferable, and move with the international student to their next destination (Madge et al. 2014, Hall 2011, Bilecen & Faist 2015). These aspects of transferable and different forms of capital, as well as the condition of possession of sufficient knowledge and other resources for being mobile are a substantial part of the model of student mobility, and will be presented in the methodology chapter.

The second axis examines which host country students choose. This decision is the result of an extensive comparison of the situation in the home country and the advantages of studying at other possible destination countries (Waters & Brooks 2010) or destination cities (van Mol & Ekamper 2016), including the evaluation of study fees and other costs (Beine et al. 2014), and geographical distance (Bessey 2012, Rodriguez et al. 2011). Common languages and relational ties created by former colonial linkages facilitate mobility, and pre-existing migrant populations can be a strong reason for flows between origin and destination countries of international students (Perkins & Neumayer. 2014). Transnational social ties (Geddie 2013), social networks of friendship and kinship (Beech 2015), and family, friends, or partners (Brooks & Waters 2010) are crucial determinants for ISM. Beine et al. (2014) describe the network effect in the context of student mobility, where the nature of social networks can develop cultures of mobility and become mutually reinforcing and self-perpetuating when students follow fellows who previously moved abroad. The flows of international students are as various and multifaceted as the combinations of origin and destination countries. Scholars examined the trends of global flows of students (Bhandari & Blumenthal 2011, OECD 2017) and found differences in mobility flows of students from developed versus developing countries (Perkins & Neumayer 2014), as well as in the study level of students (Choudaha & de Wit 2014, Wächter 2014). Most studies, however, analyze student mobility from a destination country perspective and focus on specific groups of students, or concentrate on clearly defined regions, for example, incoming students in the USA (Ruiz 2014), in Europe (Teichler et al. 2011, van Mol 2013, 2014, Wächter 2014), or in South America (Nogueira & Ramos 2014). Historical colonial ties have been analyzed in France, which hosts numerous francophone students from former colonies (Kell & Vogl 2008), and in Portugal regarding lusophone students (França et al. 2018). As this thesis concentrates on incoming

international students in Switzerland, I do not elaborate on other country-specific flows, but leave it at an overview of the main dynamics. It is, however, important to be aware of home and destination country-specific characteristics when interpreting results. We shall come back to the aspects of network effects that are of mutually reinforcing and even self-perpetuating dynamism in the model on student mobility.

The third axis focuses on the internationalization of higher education institutions. Historically, ISM dates back to the medieval age, when universities received few foreign students. Since then, the number of international students has most strongly escalated in the second half of the twentieth century (Rivza & Teichler 2007). In a historical perspective, Gürüz (2011) analyzes the increase in mobility not only of students, but also of scholars, programs, and institutions. He argues that the evolution of institutions, structures, systems, functions, governments, administrations, and finance in an increasingly globalized and interlinked context has led to a global knowledge economy. Thus, ISM is part of a broader social change in the higher education system. Robertson (2010) recognizes student mobility as a complex and dynamic structure with different actors and of global political force, and describes it as a network of knowledge production. To a large extent, scholars working on comparative international education ascribe the increase in the number of mobile students to the internationalization of the higher education system (Brooks & Waters 2011, Knight 2012, Wadhwa 2016) and globalization (Altbach & Knight 2006), as accentuated competition and marketization of higher education takes place within a global arena (Shields 2013, Findlay et al. 2017). Findlay (2011) brings together “demand-side” theories on the choices of students and “supply-side” theories investigating the financial interests of academic institutions in the UK, where higher education institutions can offset costs with higher fees for international students. In the methodology chapter, these structural and contextual elements of the internationalization of higher education are also included in the methodological reflections on ISM.

The fourth axis presents studies on the stay rates of international students. Methodologically, the definitions of the sample groups and the data sources used for calculating stay rates vary remarkably, and make it difficult to directly compare stay rates from one country to another. Some studies use data from the national foreigner register (Bijwaard & Wang 2016, Cimo 2016,

Hanganu & Hess 2014), while others analyze the transitions of student permits into other types of permits (Lu & Hou, 2015, OECD 2011), data from tax authorities (Finn 2001, Baker & Finn 2003), graduate surveys (Hanganu 2015) or qualitative interviews (Basford & Riemsdijk 2017). In the USA, Finn (2001) analyzes foreign graduates in Science and Engineering<sup>14</sup> and finds stay rates of 63% two years after graduation, 51% four or five years after graduation, and an estimated 69% stay rate for foreign doctoral students in all disciplines two years after graduation (Finn 2001).<sup>15</sup> The same author published yearly reports on stay rates which describe a continuous increase over time. In a more recent study with a longer observation period, he reports stay rates of 68% five years after graduation and 65% for all foreign doctorates ten years after graduation (Finn 2014). Focusing on graduates from economic programs,<sup>16</sup> Baker and Finn (2003) report stay rates of 41% after two years and 36% four or five years after graduation in the United States. In Canada, the rate of transition from student permits into permanent residency status, calculated ten years after receipt of the first study permit, amounted to 20% (Lu & Hou 2015). Depending on the methods used, stay rates reached 4% in the region of Atlantic Canada (Van Huystee 2011) and ranged between 20% and 27% nation-wide within a period of ten years (Lu & Hou 2015), while the OECD reported a 33% stay rate in Canada (OECD 2011). This OECD report published a comparison of stay rates from third-country nationals in 14 host countries. These range from 17% in Austria to 33% in Canada with an average of 25% for all 14 countries (OECD 2011). However, the report was criticized by academics for methodological shortcomings. Burkhart et al. (2015) and Hanganu (2015) both commented that those shares were probably lower than the actual stay rates.<sup>17</sup> Furthermore, based on the analysis of the graduate survey in Germany,<sup>18</sup> the estimated stay rate of third-country nationals was 40% while EU and EFTA nationals stayed at a rate of 52% (Alichniewicz & Gleis 2013). These studies help to get an idea of the variety of results on stay rates in the international context, but they are not comparable with the results of my analysis. In contrast to the above results, the following stay

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<sup>14</sup> These foreign doctorants graduated in 1994/1995 and stayed in 1999, including temporary residents visas only.

<sup>15</sup> These foreign doctorants graduated in 1997 and stayed in 1999, including those on permanent visas at graduation.

<sup>16</sup> These foreign doctorants graduated in 1994/1995 or 1997 and stayed in 1999, including temporal and permanent resident visas.

<sup>17</sup> Not included were former students who had requested but not yet received another permit and those with permanent residence permits.

<sup>18</sup> These international students graduated between 2001 and 2010 and stayed in Germany in 2011.

rates are based on foreigner registers of the respective countries and, therefore, the most comparable studies from a methodological point of view. Stay rates five years after graduation in the Netherlands are 38% (Nuffic 2016) and 34% in Finland (Cimo 2016). In Germany, where register data on third-country nationals is limited, scholars found stay rates of 56% (Hanganu & Hess 2014)<sup>19</sup> or more recently, 54% (Hanganu 2015).<sup>20</sup> Furthermore, a comparative study from Münch & Hoch (2013) created models estimating the costs and benefits of ISM for the host countries Germany, Switzerland, the Netherlands, Poland, and Spain. As the authors considered the data on stay rates not sufficiently comparable, they created models for 20% and 30% stay rates. In the short-term calculation for the duration of the studies, the public costs for the students' stay are not yet covered, but their consumption of goods and services with value-added tax has a positive economic effect. In the long run, this cost-utility calculation becomes positive, but the net effect largely depends on the stay rates and the duration of the stay. Assuming employment and stay rates of 30%, in the case of Germany as a host country the public costs for financing international students could be amortized within five years. The estimates of this net effect calculation for Switzerland will be discussed in the conclusion, along with the results of the sections on the stay rates and post-graduate employment of international students.

Literature on the fifth axis of post-graduate mobility is scarce (Mosneaga & Winther 2013, Van Mol & Timmerman 2014). The conceptualization of post-graduate migration causes cannot be sufficiently explained solely by push-and-pull factors, nor does a simple “stay-return” argument do justice to the increasingly complex patterns of post-graduation migration (Geddie 2013, Sage et al. 2013). One example of a study that goes beyond the “stay-return” framework looks at Australia from a transnational perspective using survey data that identifies the importance of onward mobility by pointing out migration strategies using transitory places for achieving migration objectives (Tan & Hugo 2016). In another case, ISM has been identified as a strategy for obtaining permanent resident visas through enrollment in universities (Baas 2006). In contrast, grant or study program stipulations (e.g. the Quota Scheme in Norway, which is

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<sup>19</sup> These third-country national students had a student permit between January 2005 and October 2013 and stayed in Germany in September 2013.

<sup>20</sup> These third-country national students had a student permit between January 2005 and October 2013 and stayed in Germany in October 2014.

designed to improve institutional capacity in developing countries through return migration) constrain the options of staying and encourage the return of international graduates (Basford & Riemsdijk 2017). Thus, the type of study program, the underlying intentions, and the strategies of international students graduating abroad, as well as the higher education institutions, the state, and many other structural and institutional aspects shape the mobility options of graduates living abroad. Therefore, explaining post-migration mobility decisions is very country-specific. Again, these explanations strongly depend on the combination of specific home country and host country contexts, and can only be generalized to a limited extent. Most of the studies on post-graduate migration have been conducted in the major recipient countries (She & Wotherspoon 2013), such as the United States (Hazen & Alberts 2006, Musumba et al. 2011, Kim 2015), Canada (Arthur & Nunes 2014, Lu et al. 2009), Australia (Baas 2006, Tan & Hugo 2016), and New Zealand (Soon 2014, Merwood 2007). Many of these studies focused on Asian students, as they make up the largest group of incoming international students. Further studies focus on the UK (Baláž & Williams 2004), the Netherlands (Bijwaard & Wang 2016), Denmark (Mosneaga & Winther 2013), and Norway (Basford & Riemsdijk 2017). Overall, the main factors influencing post-graduation mobility or migration decisions can be sorted into three groups: professional, societal, and personal (Alberts & Hazen 2005). For example, employment opportunities, as well as a high standard of living and relationship support to stay in the country were key factors in the career-related decisions of international graduates in Canada (Arthur & Nunes 2014). From a structural point of view, distinct national strategies determine key factors in shaping legal opportunities for students upon graduation, as shown in a comparative study on Canada, the US, and the UK (She & Wotherspoon 2013). Furthermore, institutional recruitment practices have an impact on the return decision of international graduates, as described in a study of Chinese universities (Wang et al. 2015). Quantitative studies contribute valuable insights on less quantifiable and less tangible aspects. For example, the conception of home can be crucial, as shown in a study stating that students who consider the host country to be their home are more likely to plan to stay (Wu & Wilkes 2017). The social climate in the host country (Musumba et al. 2011) or parental expectations and aspirations (Lu et al. 2009) can also be deciding factors. Other scholars note the importance of including life experiences and aspirations in the analysis of

post-graduation mobility decisions (Tan & Hugo 2016). Thus, it is clear that these decisions extend beyond simply returning or staying by including past experiences, future aspirations, and potential repeated mobility. From this perspective, student mobility more closely resembles the phenomenon of migration. In order to conceptualize ISM, including post-graduation decisions with the option of a transition from mobility into migration, the next chapter examines selected migration theories as a theoretical background.

#### **1.4 Student Mobility and Migration Theories**

Student mobility is not equal to migration, even though the terms student mobility and student migration are both used in the literature on internationally mobile students (Raghuram 2013). Numerous scholars working on ISM or student migration build up their theoretical approach to migration theories (King & Raghuram 2013, Piguet 2013).

International students are in several aspects different from other mobile persons or migrants, for example in their motivation for being mobile. First and foremost, students move abroad for studying, and subsequent employment—or increasing the net income—is an indirect or secondary goal. Early theories explain migration with predominately economic push-and-pull factors for workers that aim to maximize income by migrating to countries with better labour conditions (Ravenstein 1885, Lewis 1954). This approach does not do justice to the case of student mobility, but it is a basic element for further migration theories. Lee (1966) extended the push-and-pull factor theory by observing that migration behaviour strongly depends on personal factors because people react differently to these factors, as well as to obstacles to migration, such as immigration laws. These early observations are of great relevance to student mobility too, as they point out the importance of personal characteristics and include structural elements such as legal obstacles and restrictions that shape the mobility behaviour. Both elements are also important for the mobility decisions of international students. Furthermore, Lee emphasized that it is rather the perception of a factor than the factor itself that causes migration. The perception aspect was also present in later theories explaining migration that included expectations of higher earnings and the probability of employment (Todaro 1976, Harris & Todaro 1970). An international students' perception of opportunities to study abroad and the perceived

opportunities of subsequent employment can shape their choice of destination. In general, a migrant's decision to move abroad can be the result of a rational decision-making process for utility-maximization in a broader sense, including the investment in human capital. Sjaadstad's (1962) human capital theory described more specifically how an increase in utility is reached by migration. On the one hand, human capital in the form of skills, competencies, socio-demographic characteristics, and the migrant's experiences enable and facilitate migration. On the other hand, migration itself can be a strategy to acquire additional human capital. This aspect proves to be important for explaining student mobility, as a certain level of human capital is necessary in order to access higher education abroad and it increases with studying abroad. Along with the change in the nature and characteristics of migration flows over the last decades, these theories also become broader. Human mobility and migration was once understood as a part of globalization and recognized as a force which shapes contemporary societies in a globalized world. From a social science point of view, migration became a social phenomenon, described as a normal feature of contemporary societies, or "a global phenomenon of flows and counter-flows: geographical fluidity rather than population shifts, on-going daily process" (O'Reilly 2015: 25). In their recent work, de Haas and Fokkema (2011), too, perceive migration as a long-term dynamic social process rather than a one-time static individual choice. Further development of these reflections led to de Haas' (2014) aspirations and capabilities framework of migration, an approach that is well suited to include important aspects of student mobility. The framework unifies important elements of migration theories, which in some aspects also apply to ISM. Therefore, I present the framework and discuss its suitability for explaining mobility decisions.

## 2 Conceptual Framework

In this chapter, I first present the original approach from de Haas (2016) and then I propose an adaptation of the aspirations-capabilities model for students' pre-, intra-, and post-graduation mobility decisions.

### 2.1 The Aspirations-Capabilities Framework

The aspirations and capabilities framework conceptualizes migration as a function of aspirations and capabilities to migrate within a given set of opportunity structures. The framework aims to explain different forms of migration and unifies different theories from different disciplines.

As formulated by de Haas (2014: 23), migration aspirations<sup>21</sup> are “a function of people’s general life aspirations and perceived spatial opportunity structures” and migration capabilities are “contingent on positive (freedom to...) and negative liberties (freedom from...).”<sup>22</sup> Migration aspirations depend on personal preferences and perceptions of opportunities abroad; they are associated with information, images, symbols, and identities, and can be instrumental or intrinsic. Instrumental aspirations are related to the functional or utilitarian means to achieve a goal, such as higher income, higher social status, better education, or protection from persecution. Intrinsic aspirations refer to the migration experience itself, to the values attached to the pleasure derived from exploring new societies, or enhancing social prestige.

However, people can only be mobile if they have the capabilities to do so. The fundamental assumption of the framework is that the expansion of human capabilities is desirable because freedom of movement adds to the quality of people’s lives. De Haas defines the concept of human mobility not by the move or mobility itself but by the capability to choose where to live.<sup>23</sup> This capability also includes the freedom not to move, or the voluntary immobility of people with high migration capacity but low migration aspirations. The most common form, however, is the voluntary mobility of people with high migration aspirations and high migration capabilities

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<sup>21</sup> Based on Carling’s (2002) previous work on aspirations and mobility.

<sup>22</sup> Based on Berlin’s (1969) distinction of forms of liberties.

<sup>23</sup> Based on Sen’s (1999) capability approach with the category of acquiescent immobility proposed by Schewel (2015).

as shown in Table 1.1. In contrast, involuntary mobility includes deportees, refugees, or other people who must move against their will, and involuntary immobility, which is having aspirations to move but no capabilities to do so.

Table 1.1: Aspirations-Capabilities Derived Individual Mobility Types

	Migration Capabilities		
	Low	High	
<b>Migration Aspirations</b>	<b>High</b>	Involuntary immobility	Voluntary mobility
(Intrinsic and/or instrumental)	<b>Low</b>	Acquiescent immobility	Voluntary immobility Involuntary mobility

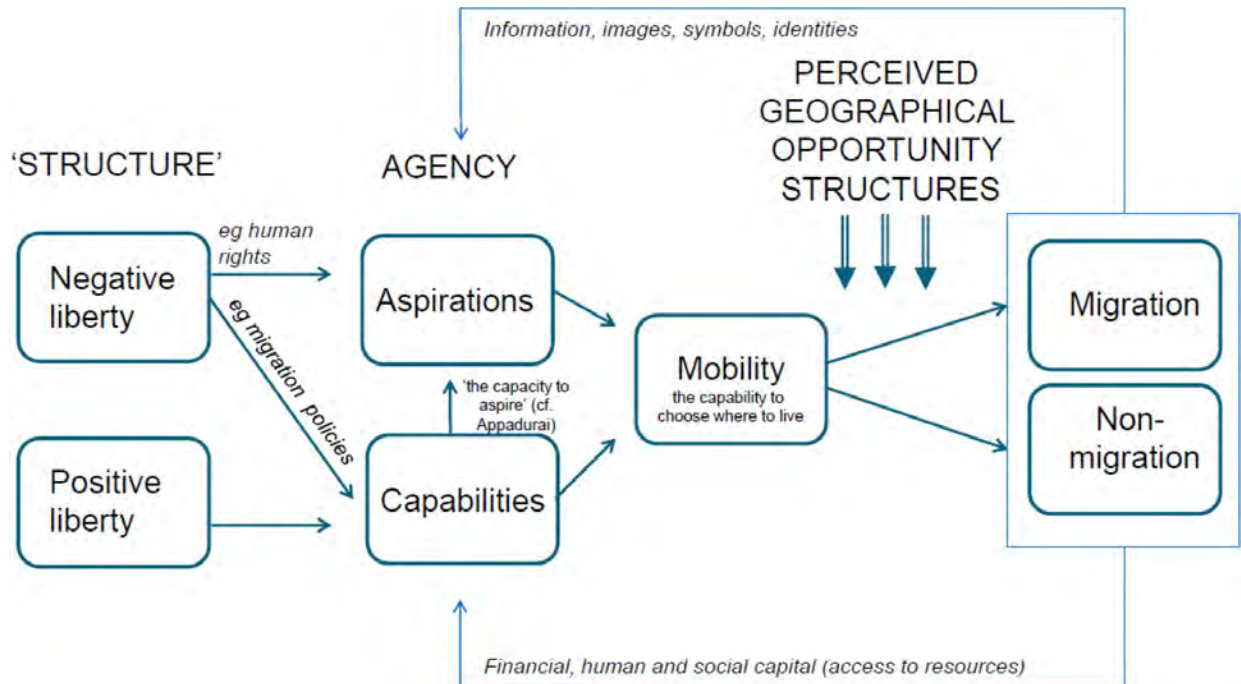
Source: Simplified table from de Haas, 2014

De Haas’ (2014) framework comprehends positive and negative liberties as structural elements. Negative liberty is “the absence of obstacles, barriers, or constraints”, while positive liberty is “the ability to take control of one’s life and to realize one’s fundamental purposes” (de Haas 2014: 26). Both forms of liberties are shaped by structural conditions, such as state policies on emigration, the right to freedom of movement, or restrictive legal frameworks for immigration in another country (e.g. Suter & Jandl 2006, 2008, Hercog 2008). Both positive and negative liberties describe the structure within which individuals are embedded, and which provides the basis for aspirations and capabilities to be mobile. In turn, migration aspirations and capabilities are interrelated; when people aspire to be mobile, they also need certain capabilities in the form of resources (e.g. funds, social networks, knowledge, physical ability). Increased capabilities, in turn, can increase aspirations for mobility. As an example, particularly in rural areas, education can be a key element to obtain information on opportunities abroad and activate migration aspirations. However, subjective needs and desires only lead to migration aspirations if they cannot be fulfilled locally. The combination of aspirations and capabilities define the agency (c.f. Bakewell 2010) of individuals to change their circumstances by exercising their mobility.

Figure 1.5 depicts the non-linear and complex ways in which structural conditions such as perceived geographical opportunity structures shape the realization of the individual’s mobility, resulting in migration or non-migration. For being mobile, perceived opportunities abroad are compared and a strategy developed for realizing mobility. The outer circle in the model stands

for the feedback mechanisms in play. Persons who previously have been abroad can provide useful information referring the move; at the same time, they transmit images, symbols, and identities of their post-mobility life that can increase migration aspirations in other persons. The persons who moved previously can provide financial, human, and social capital and increase the capability for further mobility of others.

Figure 1.5: Aspirations-Capabilities Framework for Conceptualizing Migratory Agency



Source: Original figure of de Haas, 2014

Along with the aspiration-capability framework, de Haas (2014) provided a tentative categorization for different forms of migration defined by their positive and negative liberties as manifestations of the structure and agency as shown in Table 1.2.

Table 1.2: Positive and Negative Liberty and Categories of Migration

	Positive Liberty (capabilities)	
	Low	High
Negative Liberty (external constraints)	High	Improvement migration
	Low	Free migration
	Low	Precarious migration
	High	Distress migration

Source: Simplified table from de Haas, 2014

First, improvement migration is when people are not restricted, meaning that they have a relatively high level of negative liberties but a relatively low level of positive liberties, for example, due to poverty or unfavourable legal conditions. For these people, migration to wealthier countries can be a way of improving their life situation, but these migrants are more dependent on support from their family and networks, such as by pooling resources to invest in the migration of one family member. Second, in distress migration, migrants have a low level of negative liberties—for example, due to persecution, suppression, violent conflicts, or military service obligations—but a high level of positive liberties in the form of financial, social, and human capital in order to escape and build a new life elsewhere. Examples in this category are skilled or relatively wealthy international refugees who are able to obtain legal immigration status in a destination country. Third, precarious migration refers to persons with very limited agency due to a very low level of both positive and negative liberties. These people not only face migration restrictions, but also a lack of state protection against abuse, discrimination, or exploitation. This corresponds, for example, to the situation of refugees with low chances of being recognized. The fourth type, free migration, refers to the relatively unconstrained conditions of people with both high positive and negative liberties, who may be from wealthy countries, or well-resourced within poorer countries (de Haas 2014).

## **2.2 International Student Mobility and the Aspiration-Capabilities Framework**

### *The Positive and Negative Liberties of Students in Moving to Study Abroad*

International students have the aspiration to be mobile and are disposed of sufficient capabilities—education, financial resources, and human capital—to realize their move abroad. This also means that international students are not restricted by negative liberties in leaving their country of residence. In fact, students may even benefit from positive liberties that facilitate their mobility, such as bilateral or multilateral agreements of the free movement of persons and services across national borders, or diploma recognition between educational institutions, countries, or even agents or organizations. Therefore, international student mobility or migration is closest to the category of free migration.

However, besides financial capital such as study grants or financial support from relatives, education is the most relevant condition required to study abroad. A sufficient level of completed education is a form of human capital necessary for admission to a higher education institution abroad. At the same time, early education can trigger aspirations for studying abroad by providing basic skills (e.g. literacy and access to information) and arousing a curiosity to experience other countries. Other forms of capital can also open doors to opportunities that were previously unavailable. Social capital such as family, a romantic partner, or friends can have an impact on mobility capabilities. This can either enhance mobility by contributing financial resources, support, information or a strong network abroad, or impede mobility if the student has family duties or responsibilities, such as taking care of the elderly or children. At the same time, social ties strongly influence mobility aspirations depending on where the most closely related persons live and what their mobility plans look like. These considerations can lead to situations where a student accompanies a partner who is moving abroad, or stays at home in order not to leave a person behind or be in a long-distance relationship.

#### *Instrumental and Intrinsic Aspirations for International Student Mobility*

International student mobility aspirations can be instrumental as well as intrinsic. On the one hand, aspirations are instrumental for improving unfavourable living conditions (e.g. Lulle & Buzinska 2017). For example, in the case of a scarcity of educational opportunities in the home country, aspirations are instrumental for increasing the quality of education. In other cases, studying abroad is an investment in developing skills, enlarging one's international network, and above all, increasing career perspectives while realizing other aspirations (e.g. experiencing the culture of a foreign country, such as sport or art). Student mobility can also contribute to overcoming prevalent (gender or ethnic) discrimination in the home country or attaining a more cosmopolitan identity (Morley et al. 2018). Obtaining an international degree can be seen as a strategy for improving one's chances of employment on the home country labour market. Furthermore, international experience is good preparation for employment in an international work environment. On the other hand, aspirations are intrinsic when the motivation for going abroad is due to curiosity and a desire to experience other cultures while living abroad.

### *The Interrelation of Capabilities and Aspirations for International Student Mobility*

Studying abroad increases capabilities in terms of human capital through obtaining foreign education credentials or a degree, in cultural capital through experiencing an international or multi-cultural context, in social capital by forging new relationships and strengthening the international network, and in mobility capital by experiencing being mobile and living abroad. Such advantages in capabilities bring new opportunities post-graduation, such as possible employment in the host country, back home or elsewhere. Nevertheless, studying abroad also means a lack of personal contact with possible employers or academics in the home country. Increasing capabilities in one country can come at the cost of missing out on networking opportunities in another place (e.g. Gill 2005). Furthermore, from a home country employer's perspective, obtaining a foreign degree can either be perceived as an added value (e.g. if the university has a good reputation) or a disadvantage (e.g. if there are problems with diploma recognition) for the graduate seeking a job back home. These capabilities are interrelated with the students' aspirations and change over time and with the life and mobility experience of a person.

### *Voluntary and Involuntary Immobility and Mobility Decisions in International Student Mobility*

International mobility during tertiary studies is only possible for a minority of students, and studying abroad is a voluntary form of mobility. The aspiration-capability framework provides a convincing and differentiated framework for explaining why the majority of students study in their own country even if a better education is available elsewhere. Many students are voluntarily immobile simply because they have no migration aspirations and prefer to stay at home. In contrast, other students aspire to study abroad but do not have the capabilities due to insufficient financial resources, a lack of human or social capital in the form of a recognized education certificate, language skills, or a valid passport. Yet others are challenged to overcome legal barriers in destination countries such as obtaining a residence permit or having proof of financial resources, health insurance, or a language certificate (e.g. Efonayi & Piguet 2014). Others have not successfully completed secondary education, nor do they have the aspiration to migrate; for them, studying in another country is simply out of reach. In the decision-making process an

evaluation of perceived opportunities and expectations in the form of expected benefits have to be balanced with financial and indirect costs in order to lead to actual mobility behaviour. If the perceived gain in utility is not great enough, students are not mobile even if they have the freedom to do so.

### *Selection Dynamics in International Student Mobility*

The conditions of positive and negative liberties and the minimal requirements regarding capabilities are unequal, and consequently the students who aspire to study abroad are a very specific, self-selected group. In order to be admitted to a higher education institution abroad, they must fulfill a series of conditions of restrictive and selective migration policies. In this second selection, the students have unequal starting positions; those who already have the necessary mobility capabilities also have more opportunities to increase their capabilities with additional benefits from their studies and the experience of living abroad. As a consequence, student mobility tends to foster privileged persons and leads to an increase in existing inequalities in educational opportunities. Nevertheless, there is great potential to encourage talented but less privileged students to study abroad by facilitating their access to grants or development programs.

### *Heterogeneity of International Students*

Besides having achieved the necessary basic requirements to study abroad, international students constitute a very heterogeneous group in terms of national origin, cultural background, age, family status, study field, and professional profile. Apart from the desire to study abroad, other marginal, dominant, or even a combination of reasons for aspiring to migrate could simultaneously be present, such as an interest in working abroad during or after the studies, joining family and friends who already live abroad, economic reasons, or to escape from persecution or other danger, to list only a few examples. When analyzing student mobility, there are not only stereotypical members of the population (people who move primarily for the purpose of studying) but also people who initially move for other reasons, or change their mobility strategy, yet nonetheless formally fulfill the definition of an international student.

### *Perceived Geographical Opportunity Structures and Actors in International Student Mobility*

When aspiring to study abroad, a student needs information on the study offer to concretize the selection and enrol at a foreign higher education institution. There are several actors involved in the process of student mobility who meet this need through different means, such as marketing or international university rankings (e.g. Souto-Otero & Enders 2017). Prospective international students are often in direct contact with their chosen institutions. Some students buy services from intermediary agents and organizations which offer study exchange or mobility programs and related services such as language courses, leisure programs, and accommodation. In deciding to enrol in a study program, the university or country-specific opportunity structures can have an important influence on the destination choice. Further national or international providers offer services for transportation, communication (e.g. telephone subscription, internet), and goods to meet the demand of international students. Besides the admittance and enrolment procedure, international students often have to fulfill legal requirements such as requesting a residence permit, procuring health insurance, or providing evidence of sufficient funds. The state is a very important actor, as it defines the entry and admission regulations according to national interests and strategies (e.g. Robertson 2013). Bilateral and multilateral agreements regarding student mobility (e.g. Erasmus+) are concluded with countries or supra-national organizations (e.g. EU, EFTA) and are interlinked with other political affairs (e.g. migration, trade). Altogether, the interests of the different actors involved in the process of student mobility are drivers of internationalization and help to shape the structural elements of student mobility.

### *Aspirations and Capabilities of Students for Staying in the Study Host Country after Graduation*

International graduates have varying opportunities for staying within the legal framework of the host country, which may treat them differently based on their nationality, personal and study related characteristics, civil status, education level, study field, or study performance. If a student wishes to stay after graduation, the legal framework of each host country defines their negative and positive liberties through opportunities—such as study-to-work transition programs, job-seeking permits, or recruitment—but also restrictions, such as the expiration of the student permit or financial grants which contractually obligate the student to return. After graduation, the

opportunities in the study host country are compared with those in the home country or other destinations, and the current geographical opportunity structure is evaluated for possible further mobility. The outcome of this decision-making process depends on the strategies applied, the attempts to realize the mobility plan, and national migration policies. Since the move to the host country, the student's capabilities have been increasing with the acquisition of human, social, cultural, and mobility capital. Thus, their chances to integrate into a labour market abroad or back home have improved. Altogether, aspirations and capabilities for post-graduation mobility decisions—stay, return, or move on—change over time due to internal (e.g. partnership, family) or external circumstances (e.g. economic or political situation, change in the legal frameworks).

#### *Feedback-Mechanism and Self-Perpetuation in Student Mobility*

International students transmit positive or negative impressions about their experiences abroad to family and friends back home. This can lead to an increase or decrease in the mobility aspirations of others. In fact, higher education institutions contribute to an idealization of international students to promote their international profile and attract new students. Such impressions may increase the mobility aspirations of prospective students. A person with mobility aspirations can also influence their partner, family members, or friends to accompany them, or follow them later. Social relations with people living abroad can considerably facilitate a move by providing information and support on practical issues, such as organizing accommodation and solving administrative issues. On a legal basis, a spouse or another immediate family member who lives abroad can request a residence permit for family reunification. In places where student mobility is common, arriving students encounter other students who have already paved the way. An established international student community can engender a common identity which can then be transmitted to newcomers.

#### *Time and Space in the Aspirations-Capabilities Student Mobility Framework*

The original aspirations and capabilities framework from de Haas (2014) explains migration as a result of a simplified one-time decision. I propose an adaptation which includes a study phase sensitive approach and a more dynamic understanding of ISM and other migration decisions.

### *Mobility Options in the Aspirations-Capabilities Student Mobility Framework*

In general, types of migrants are defined by the duration of the stay abroad; for instance, the United Nations (1998) differentiates between short-term and long-term migrants by whether the duration of the stay is below or above one year.<sup>24</sup> In contrast, scholars describing ISM differentiate between credit mobility and degree mobility without being specific about the duration of the stay. In most cases, degree mobility implies a stay that is longer than one year, which contradicts the current differentiation between mobility and migration. In order to provide a more flexible conceptualization, I use the term mobility as the freedom to move once or several times or to stay. Thus, a person's observed mobility behaviour is the outcome of more than one decision on whether or not to stay, and where to move. A student's mobility is the result of a series of mobility decisions before and during the study time. The first decision is between staying at home or moving abroad for studying. The second decision involves three mobility options: 1) returning home or to another previous place of residence, 2) staying in the study host country, or 3) moving on to another location.

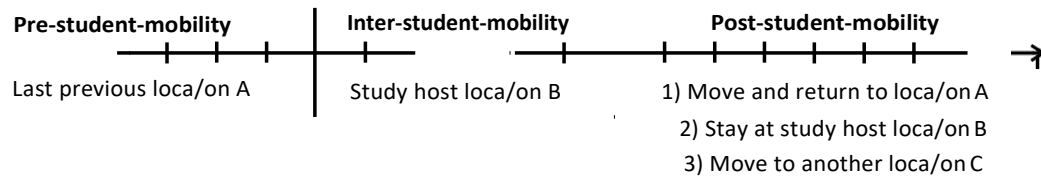
### *Temporal and Spatial Dimensions in the Aspirations-Capabilities Mobility Framework*

Whether international students stay or leave in the host country depends on a series of decision-making processes at crucial moments related to the study progress, particularly enrolment and graduation. Figure 1.6 shows a model of the temporal and geographical dimensions of ISM. The depicted period begins with the pre-mobility phase at location A, which can be the home country or another country of previous residence. The inter-mobility phase takes place in the study host country, location B. The next mobility decision defines the location of the post-mobility phase, with the options return (location A), stay (location B), or move on (location C). Each move defines a change from one phase to another, independent of the duration of time spent abroad.

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<sup>24</sup> UN definitions: A short-term migrant is "a person who moves to a country other than that of his or her usual residence for a period of at least three months but less than a year (12 months) except in cases where the movement to that country is for purposes of recreation, holiday, visits to friends or relatives, business, medical treatment or religious pilgrimage." Source: <http://data.un.org/Glossary.aspx?q=long-term+migrant> A long-term migrant is "a person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence. From the perspective of the country of departure, the person will be a long-term emigrant and from that of the country of arrival, the person will be a long-term immigrant." Source: <http://data.un.org/Glossary.aspx?q=long-term+migrant>

Figure 1.6: Temporal and Geographical Dimensions of International Student Mobility



Source: Lombard and Riaño, 2018

### *Voluntary and Involuntary Moving or Staying after Graduation in Student Mobility*

Mobility outcomes can be differentiated by aspirations and capabilities, as well as the voluntary or involuntary nature of the move (c.f. Piguet 2018). I propose integrating this aspect into the international students' decision-making process for post-graduation mobility. Table 1.3 shows an adaptation of the aspiration-capability types of mobility decisions while studying abroad.

Table 1.3: Adaption of Mobility Types to Voluntary and Involuntary Moving and Staying

	Mobility Capabilities		
	Low	High	
Mobility Aspirations	High	Involuntary move (leave)	Voluntary stay (stay)
	Low	Voluntary move (leave)	Voluntary move (leave)

Source: Lombard, 2018 (author's own representation based on de Haas 2014: 32)

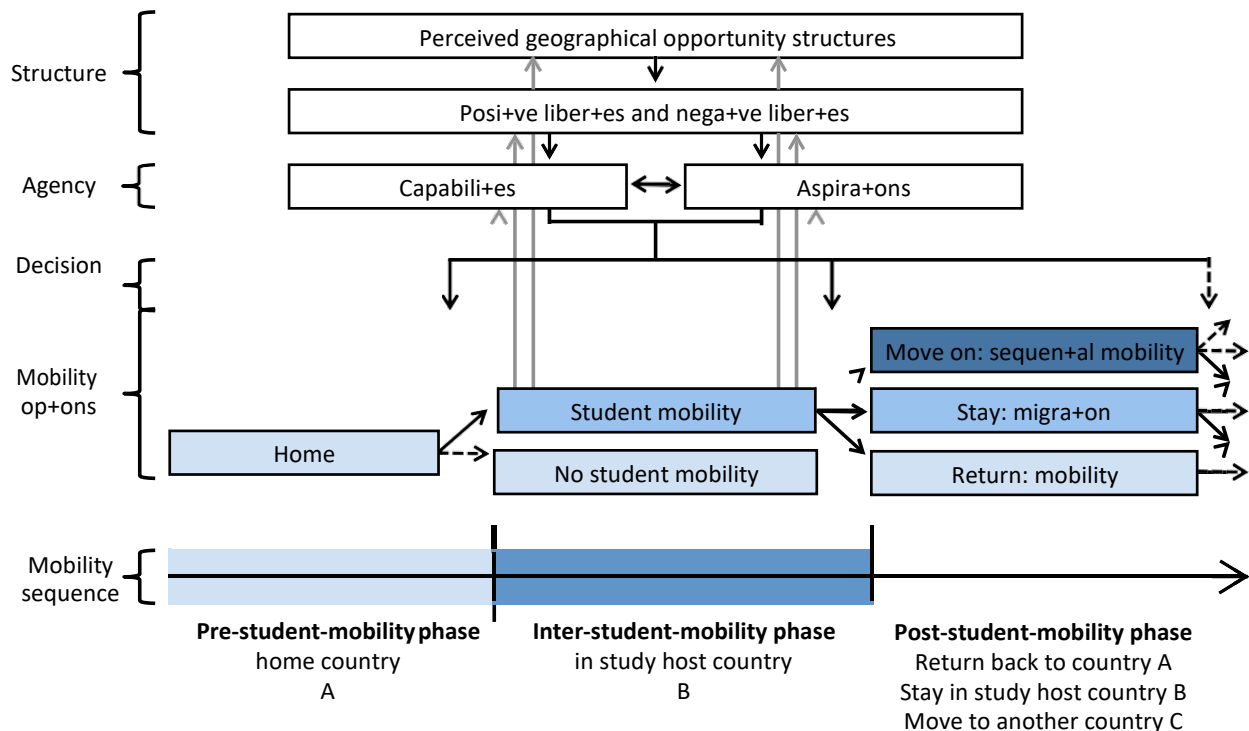
Depending on their positive and negative liberties and the resulting capabilities while studying abroad and deciding on the next move, international students either have the freedom to stay or leave or are forced to leave. Students with high aspirations and capabilities to stay can realize a voluntary stay, while students with high capabilities but low aspirations carry out a voluntary move. Yet other students with high aspirations but low capabilities to stay make an involuntary move, and those with low capabilities and aspirations make a voluntary move.

### *The Interplay of Aspirations and Capabilities in Student Mobility and the Migration Outcome*

As I have shown, the migration outcomes of ISM are the result of several considerations related to aspirations and capabilities which result in a set of opportunities for future mobility. These opportunities for ISM change over time, especially after graduation. On the one hand, the

capabilities increase considerably; once the studies are finished, a graduate has more time at his or her disposal as well as an international degree, which increases their capability for employment. Therefore, their main activity can shift from studying to working. On the other hand, depending on the migration policies, graduation can affect the validity of the student residency permit, and another type of residency permit may be required. Independent of the student's residency status, marrying a national or a resident has a capacity increasing effect because it assures a legal provision for staying in the country. These aspects are tied to social relationships and other changing or constant conditions within the perceived geographical opportunity structures, and influence the international student in their mobility decisions. In sum, the framework of aspirations and capabilities in ISM can be combined with the previously presented temporal and geographical dimensions of the key moments of a mobile student's decision-making process. Figure 1.7 shows the relationship between the positive and negative liberties with the capabilities and aspirations of an international student.

Figure 1.7: Adapted Aspirations-Capabilities Student Mobility Framework



Source: Lombard, 2019 (based on the aspirations-capabilities framework from de Haas 2014)

The capabilities and aspirations interact, and increase or decrease due to agency-related changes. They are embedded in the perceived geographical opportunity structures that can change due to external causes. To begin, these capabilities and aspirations shape the initial decision to study abroad, but they also influence post-graduation mobility decisions as well as subsequent mobility decisions. The experience of ISM, in turn, influences a student's aspirations and capabilities. This interplay leads to the actual decision to return, stay, or move on. The observed mobility is represented as a mobility sequence of phases before, during, and after student mobility.

### **3 Research Questions and Structure of the Thesis**

This thesis is composed of four sections and draws attention to several aspects regarding international students in Switzerland and their mobility after graduation. All the sections revolve around the study trajectories of international students and their decisions of whether to stay in or leave Switzerland after graduation. In this introductory chapter, I provided key facts and an overview of the data available on international students in Switzerland. I presented different axes of ISM literature related to my research topic and I elaborated on the aspirations and capabilities framework for providing a revised model of the post-graduation mobility decisions of international students. These are the conceptual and theoretical bases for the sections that follow.

The first section provides basic data on student stay rates and study trajectories. The section presents the following research questions: How many international students stay in Switzerland after graduation, where do they come from and what patterns can be observed? I visualize educational trajectories and analyze which types of trajectories can be identified, how many master's graduates enroll in doctoral studies after graduation, and whether correlations can be found between stay rates and nationalities of students, study fields, and higher education institutions. This section provides previously unknown information on the actual outcome of whether international graduates stay in or leave Switzerland after graduation. These results are based on our preparative work of creating a new linked dataset on international students in Switzerland. This dataset enabled the calculation of the stay rates of international students one and two years after graduation.

The second section focuses on the partnership status of international students during their stay in Switzerland in relation to their intentions to stay in or leave Switzerland. We address the following research questions: How does being in a relationship influence the intentions of international students to stay in Switzerland after graduation, depending on a) marital status, b) parental status, and c) whether they moved to Switzerland with a partner? This section contributes to a better understanding of the importance of different partnership characteristics and gender differences in mobility intentions.

The third section is about employment of international graduates after graduation. It addresses the following research question: Which selective dynamics have the strongest effect on the employment outcomes of international master's graduates? We analyze which factors best explain the differences in employment rates, including: a) the study performance measured by the final grade, b) beneficial conditions for EU nationals compared to non-EU nationals, c) having a STEM degree, and finally, an analysis of d) whether having a STEM degree helps to overcome the migration barriers for third-country nationals. This contributes to a better understanding of the study-to-work transition within the present legal framework with selection criteria for admission, residency, and employment of international graduates.

The fourth section analyzes a parliamentary initiative for changing the conditions for third-country national students that graduate from a Swiss university and addresses the following research questions: 1) What narratives were used by the politician Jacques Neiryck in the Swiss Parliament to gain support for this initiative? 2) What narratives were used by parliamentarians and stakeholders who supported or opposed Neiryck's initiative? 3) Why did the narratives in favour of accepting Neiryck's initiative find broad consensus among Swiss Parliamentarians? This section contributes to an understanding of how policy changes can be initiated, and discusses trends in migration policies.

#### *List of Publications*

- Article I: Lombard, A. (2017). Diplôme en poche, partir ou rester dans le pays hôte? Une analyse des trajectoires des étudiants internationaux en Suisse. *Géo-Regards*, 10, 31–54.
- Article II: Lombard, A. & Riaño, Y. Staying or leaving after graduation? The influence of couple relationships on international students' intentions of mobility. [Submitted August 2018]
- Article III: Lombard, A. and Zufferey, J. Employment of international graduates in the Swiss labour market. *NCCR – On the Move Working Paper #21*. Neuchâtel: NCCR – On the Move.
- Article IV: Riaño Y, Lombard A. & Piguet E. (2018). How to explain migration policy openness in times of closure? The case of international students in Switzerland. *Globalisation, Societies and Education*, 16(3), 295–307.

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#### **4 Stay Rates of International Graduates in Switzerland**

**Article: Diplôme en Poche – Partir ou Rester dans le Pays Hôte?  
Une Analyse des Trajectoires des Etudiants Internationaux en  
Suisse. *Géo-Regards***



# **Diplôme en poche – partir ou rester dans le pays hôte? Une analyse des trajectoires des étudiants internationaux en Suisse**

**Annique Lombard**, Institut de géographie, Université de Neuchâtel,  
[annique.lombard@unine.ch](mailto:annique.lombard@unine.ch)

## **Résumé**

*Dans cet article, nous analysons le taux de prorogation de séjour en Suisse des diplômés internationaux de master qui est défini comme la proportion de cette population encore en Suisse deux ans après l'obtention du diplôme, en fonction de la nationalité, du domaine d'étude et de l'université. Nos conclusions montrent que le taux de prorogation des diplômés de l'UE/AELE est plus élevé que celui de ceux qui n'appartiennent pas à l'UE/AELE et que les étudiants africains, asiatiques et américains ont moins tendance à rester.*

**Mots clés** : étudiants internationaux, migration, trajectoire d'étude, taux de prorogation de séjour.

## **Introduction**

Au niveau mondial, le nombre d'étudiants internationaux qui poursuivent des études tertiaires hors de leurs pays d'origine a plus que doublé depuis 2000 pour atteindre, en 2015, un total de près de 4,6 millions (OCDE, 2017). Ce phénomène semble être influencé par les stratégies migratoires des étudiants, les politiques migratoires (Riaño et Pigué, 2016) et le processus d'internationalisation de l'enseignement supérieur (IOM, 2008). La Suisse connaît une progression du nombre d'étudiants internationaux qui est encore plus rapide qu'ailleurs, puisque leur nombre a plus que triplé entre 2000 et 2014, pour atteindre cette année-là 20 % de tous les étudiants inscrits dans les institutions d'enseignement supérieur (IES) suisses. Cette proportion, très élevée en comparaison internationale, classe

la Suisse parmi les cinq premiers pays accueillant des étudiants internationaux<sup>1</sup> (OCDE, 2015).

Son potentiel d'attraction peut s'expliquer par le fait qu'elle offre un excellent système d'éducation tertiaire à un prix relativement bas comparé à d'autres pays. Selon un sondage international auprès des jeunes, la Suisse est classée à la sixième position des pays où ils aimeraient aller pour faire avancer leur carrière (*shapers survey*, 2017). Le potentiel des étudiants internationaux en tant que personnel qualifié a été démontré (Hawthorne, 2008, 2012) et son intérêt pour le marché intérieur du travail a été relevé par les autorités suisses (SEFRI, 2010) mais jusqu'à présent aucune étude n'avait été conduite pour déterminer dans quelle mesure les diplômés internationaux restent en Suisse après l'obtention de leur diplôme. Aux États-Unis, des taux de prorogation de séjour (*stay rate*), cinq ans après l'obtention du diplôme, ont été calculés sur la base d'informations fournies par les autorités de taxation. Ils s'élèvent à 68 % pour les titulaires d'un doctorat en science et ingénierie (Finn, 2014) et à 34 % pour les titulaires d'un doctorat en économie (Baker et Finn, 2003). En Europe, deux études ont mesuré les taux de prorogation sur la base de registres de données administratives : aux Pays-Bas 38 % des étudiants sont toujours enregistrés cinq ans après l'obtention du diplôme (NUFFIC, 2016) et ils sont 34 % en Finlande (CIMO, 2016).

L'utilisation de méthodes mixtes dans des recherches portant sur les intentions d'établissement a permis d'identifier les facteurs principaux qui influencent la décision de rester ou de repartir. Une étude hollandaise a établi l'importance de l'intégration dans le marché du travail et du mariage (Bijwaard et Wang, 2013). En général, les facteurs liés à la carrière apparaissent comme la motivation principale à rester, alors que la famille et les relations personnelles restées dans le pays d'origine sont, le plus souvent, citées comme des raisons de départ après l'obtention du diplôme (Sykes, 2012 ; Hazen et Alberts, 2006). Une recherche danoise montre qu'outre les circonstances personnelles et contextuelles, le fait d'avoir des opportunités d'emploi est un puissant facteur de rétention. Pour les ressortissants de l'extérieur de l'Union européenne (UE), les opportunités d'emploi sont primordiales dans la décision de rester ou de partir (Mosneaga et Winther, 2013).

La population extra-européenne étant soumise, en Suisse, à des politiques migratoires plus restrictives que les ressortissants de l'UE, la nationalité est, de ce fait, une variable importante dont les effets ont été étudiés dans le cadre de cette recherche. Nos méthodes étant similaires à celles de l'étude hollandaise (NUFFIC, 2016), nous discuterons comparativement nos résultats ci-dessous. Alors que les études de Finn en 2014, et Baker et Finn en 2003, ne portaient que sur une seule université et quelques domaines d'étude, notre recherche vise à élargir cette perspective en examinant le rôle que la localisation des différentes IES peut avoir sur le taux de prorogation. En raison de son système fédéral, la Suisse est un cas intéressant pour analyser une telle variété car des différences importantes existent entre les cantons en termes de langue, de culture et de mise en œuvre des politiques. Pour chercher à combler

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<sup>1</sup> En comparaison internationale des proportions relatives d'étudiants internationaux, la Suisse occupe le 2<sup>e</sup> rang avec 53 % au niveau du doctorat, le 4<sup>e</sup> rang avec 28 % au niveau du master et le 5<sup>e</sup> rang avec 10 % au niveau du bachelors (OCDE, 2016). Les niveaux d'études sont identifiés selon la classification standard ISCED (ISCED 11).

les lacunes des recherches précédentes, nous abordons, dans cet article, les quatre questions suivantes : 1) Dans quelle mesure les étudiants internationaux de master restent-ils en Suisse après l'obtention de leur diplôme ? 2) Quels types de trajectoires peuvent être identifiés ? 3) Dans quelle mesure poursuivent-ils leurs études au niveau du doctorat ? 4) Quelles corrélations peuvent être établies entre le taux de prorogation et la nationalité des étudiants internationaux, leur domaine d'étude ainsi que l'IES ?

Pour répondre à ces questions, nous commençons par donner des informations concernant des politiques d'immigration et nous présentons les caractéristiques de la population étudiée. Ensuite, nous examinons les taux de prorogation des étudiants de master en fonction de la nationalité, du domaine d'étude et de l'inscription dans une IES spécifique. Finalement, nous réalisons une analyse de régression pour identifier les variables qui ont un impact significatif sur le taux de prorogation. Cette recherche est basée sur des données longitudinales issues de l'appariement entre les données individuelles du registre des étudiants et du registre des migrations. Les étudiants internationaux sont définis, conformément à la pratique de l'Office fédéral de la statistique (OFS), selon la « *prior domicile approach* » (Teichler, 2006), comme les « *personnes qui ne viennent en Suisse qu'au moment de commencer leurs études dans une haute école, c'est-à-dire les étudiants de nationalité étrangère et domiciliés à l'étranger avant le début des études* » (OFS, 2017).

## **Méthode: trajectoires basées sur l'appariement des données de deux registres**

Le concept de «trajectoire» mobilisé dans cette recherche provient de l'« *analyse des parcours de vie* » (Elder, 1985). Il permet d'analyser les différentes formes de mobilité et de migration au cours de la vie d'une personne (Findlay *et al.*, 2015). Le parcours de vie (*life course*) a été défini comme « *an age graded sequence of socially defined roles and events that are enacted over historical time and place* » (Elder Jr, Johnson et Crosnoe, 2003). Les données des registres fournissent des informations quant à l'obtention des permis de séjour et à l'immatriculation aux études pendant les années 2000 à 2014. Cette période est représentée dans les chronogrammes (*state distribution plot*) avec des séquences individuelles pour chaque étudiant et un état par an (Gabadinho *et al.*, 2011). L'inscription à des études en bachelor, master ou doctorat, le fait d'avoir un permis de séjour sans étudier, ou de ne pas avoir de permis de séjour du tout, ont été codés comme des états dans les séquences. Une séquence comprend l'arrivée en Suisse d'un étudiant, le commencement des études et l'obtention du diplôme. Dans cette recherche, le taux de prorogation de séjour est défini comme le pourcentage de diplômés internationaux qui sont enregistrés avec un permis de séjour durant les deux années qui suivent l'obtention de leur diplôme. Notre analyse se concentre sur la cohorte des diplômés internationaux qui ont obtenu leur diplôme de master en 2012. L'année de mesure du taux de prorogation est 2014, c'est-à-dire deux ans après l'obtention du diplôme.

L'OFS dispose d'une base de données intitulée « Transitions et parcours dans le degré tertiaire » (LABB)<sup>2</sup> qui inclut des données longitudinales du domaine de la

<sup>2</sup> Les analyses longitudinales dans le domaine de la formation (LABB) résultent du couplage, de l'harmonisation et d'un traitement longitudinal de sources de données relatives au système de formation (statistique des élèves SdL, statistiques des titres SBA, statistique de la formation

formation des étudiants des IES suisses (ci-dessous « registre des étudiants ») qui, après un travail de préparation en 2015, a été lié, pour cette recherche, au « Système d'information central sur la migration » (SYMIC) (ci-dessous « registre des étrangers ») fourni par le Secrétariat d'État aux migrations (SEM). La mise en relation de ces deux registres a créé un vaste ensemble de variables, comprenant des données sociodémographiques sur les étudiants, des données relatives au début des études et à l'obtention d'un diplôme pour chaque niveau d'étude, le domaine d'étude et l'IES. Le lieu de résidence antérieur aux études en Suisse ainsi que l'origine du certificat d'admission à l'IES permettent d'identifier les étudiants internationaux. Le registre des étrangers informe quant à l'année de leur arrivée en Suisse et fournit annuellement des données concernant leur permis de séjour. Par le biais d'un numéro d'identification commun, les données saisies pour chaque étudiant peuvent être identifiées dans les deux registres, même après l'obtention du diplôme. Pour cette analyse de séquences, nous avons choisi de nous limiter aux étudiants de master en raison des différentes options de carrières qui s'offrent à eux après l'obtention de leur diplôme. Ils peuvent choisir de rester en Suisse parce qu'ils y ont trouvé un emploi ou parce qu'ils y poursuivent des études doctorales mais aussi pour d'autres raisons comme, par exemple, le mariage ou le regroupement familial. Les trois niveaux d'étude soit le diplôme préalable de bachelor, celui de master et le début des études doctorales ultérieures peuvent être identifiés. Pour l'analyse, les étudiants internationaux ont été regroupés par nationalité en distinguant les « ressortissants de l'UE ou de l'Association européenne de libre-échange (AELE) » et les « ressortissants des États tiers ». Ces derniers sont répartis par continents<sup>3</sup>. Les ressortissants de pays qui se trouvent sur le continent européen, mais qui ne sont pas membres de l'UE/AELE, sont appelés ici « Européens hors UE »<sup>4</sup>.

## **Le cadre juridique: accords et règle de priorité pour les ressortissants de l'UE**

En Suisse, les conditions d'entrée et de séjour pour les étudiants internationaux sont plus favorables pour les ressortissants de l'UE/AELE que pour ceux des autres pays (ressortissants des « États tiers »). La situation de ces derniers est régie par la « Loi fédérale sur les étrangers » (LEtr) qui est plus restrictive<sup>5</sup>. En revanche, les droits des ressortissants de l'UE/AELE sont réglementés par les « Accords bilatéraux I » signés par la Suisse et l'UE qui facilitent le commerce, l'accès aux marchés nationaux du travail et la mobilité à travers les frontières nationales. En outre, l'« Accord bilatéral sur la libre

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professionnelle initiale SBG, statistique des étudiants et examens des hautes écoles SIUS), ainsi que du relevé structurel (RS) et de la statistique de la population et des ménages (STATPOP). Pour plus d'information, [www.labb.bfs.admin.ch](http://www.labb.bfs.admin.ch)

<sup>3</sup> Comme il n'y a que quinze personnes provenant d'Océanie, aucune information détaillée ne sera donnée au sujet de cette catégorie mais ces cas sont inclus dans le nombre total.

<sup>4</sup> Cela concerne la Russie, la Turquie, la Serbie, l'Ukraine, l'Albanie, la Croatie, la Macédoine, le Bélarus, la Bosnie-Herzégovine, le Kosovo, la Moldavie, le Monténégro, et Saint-Marin.

<sup>5</sup> Conditions supplémentaires pour l'admission des ressortissants des États tiers sans activité lucrative : disposer de moyens financiers suffisants, d'un logement approprié et d'une confirmation de l'inscription dans un établissement de formation.

circulation des personnes » (ALCP)<sup>6</sup> donne, en Suisse, le droit d'entrée et de séjour aux ressortissants de l'UE/AELE avec des conditions facilitées. L'ALCP coordonne aussi la reconnaissance mutuelle des diplômes pour accéder aux universités ou au marché du travail. D'autres accords, de collaboration réciproque dans des programmes-cadres de recherche et d'assurances en matière de sécurité sociale, de santé et d'accident, facilitent indirectement la mobilité étudiante en provenance de l'UE. De plus, la coopération concernant l'éducation et les échanges d'étudiants est en place depuis les années 1980 (DFAE, 2016). Les conditions diffèrent aussi après le diplôme : dans le cas des ressortissants de l'extérieur de l'UE/AELE, les politiques migratoires suisses n'admettent que des migrants hautement qualifiés pour autant qu'il soit prouvé qu'aucun ressortissant Suisse ou de l'UE ne peut occuper leur poste de travail. Cependant, depuis 2011, une nouvelle loi a été adoptée qui introduit une exception dans la précédente règle de priorité pour les diplômés d'IES suisses provenant d'États tiers, pour autant qu'il puisse être démontré que leur embauche représente un intérêt scientifique et économique prépondérant pour la Suisse (Riaño, Lombard et Piguet, 2018).

## La population des étudiants internationaux en Suisse

Le nombre total d'étudiants, suisses et non suisses, inscrits dans des IES helvétiques, incluant les universités cantonales et les écoles polytechniques fédérales (EPF), les hautes écoles spécialisées (HES) et les hautes écoles pédagogiques (HEP), a augmenté régulièrement et s'élève à environ 234 000 en 2014, ce qui représente environ 1,4 fois plus qu'en 2005. Le nombre des étudiants internationaux a connu une augmentation beaucoup plus importante, avec 1,8 fois le nombre de 2005. Par conséquent, durant ces neuf années, la proportion d'étudiants internationaux dans toutes les IES de Suisse est passée de 15 % à 20 %<sup>7</sup>. Entre 2005 et 2014, le nombre des étudiants de l'UE/AELE a doublé et celui des étudiants asiatiques a été multiplié par 2,2. Le nombre d'étudiants américains a été multiplié par 1,4, celui des Européens hors UE/AELE par 1,5 et seuls les Africains comptent environ le même nombre absolu qu'il y a neuf ans (OFS, 2016).

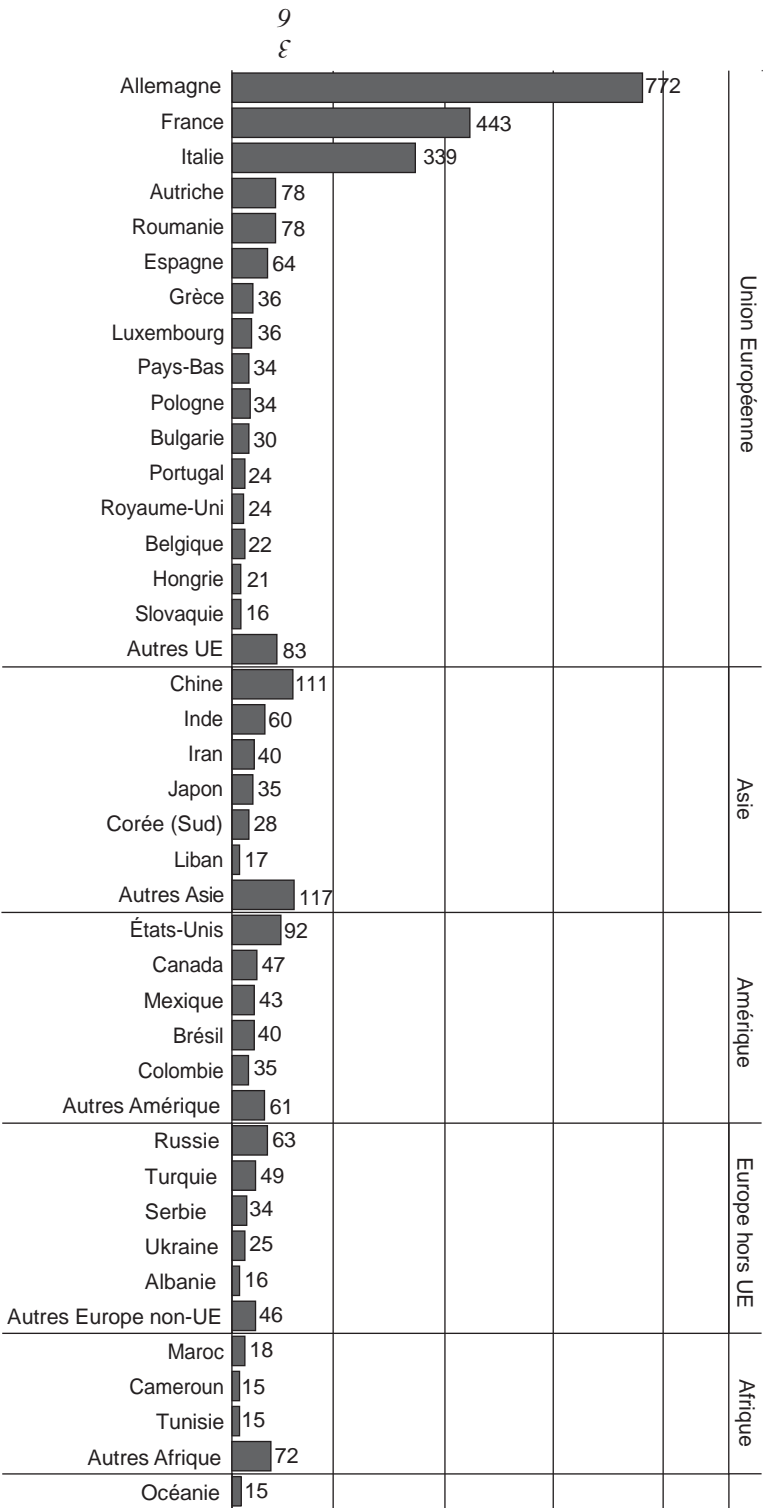
En 2012, 3 228 étudiants internationaux ont obtenu un diplôme de master, dont 75 % dans une université ou une EPF, 24 % dans une HES et 2 % dans une HEP. Parmi eux, 66 % provenaient des États membres de l'UE/AELE et 34 % d'États tiers.

La figure 1 présente une vue d'ensemble du nombre absolu de diplômés par nationalité : 51 % de tous les étudiants internationaux en Suisse viennent des quatre pays voisins. Parmi les États tiers dont les ressortissants obtiennent le plus de diplômes, on trouve la Chine, les États-Unis, la Russie, l'Inde et la Turquie. Les proportions des diplômés d'État tiers par continent sont : Asie 13 %, Amérique 10 %, Europe hors UE/AELE 7 %, Afrique 4 % et Océanie moins de 0,5 % (OFS, 2015).

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<sup>6</sup> Les ALCP étaient valables en 2002 pour les « anciens » États membres de l'UE (UE-15) (Allemagne, Autriche, Belgique, Danemark, Espagne, Finlande, France, Grèce, Irlande, Italie, Luxembourg, Pays-Bas, Portugal, Royaume-Uni et Suède) et de l'AELE (Islande, Liechtenstein, Norvège). Suite à l'élargissement de l'UE, la libre circulation des personnes a été graduellement introduite en 2006 pour l'UE-8 (Estonie, Hongrie, Lettonie, Lituanie, Pologne, Slovaquie, Slovénie et Tchéquie) ainsi que Chypre et Malte ; en 2009 pour la Roumanie et la Bulgarie, alors que le Protocole III pour la Croatie a été signé en 2016.

<sup>7</sup> Entre 2005 et 2014, leur proportion dans les HES et HEP est passée de 9 % à 11 % et dans les universités et les écoles polytechniques fédérales de 17 % à 25 %.



Données : OFS (LABB), 2015<sup>8</sup>

Figure 1 : Pays d'origine des étudiants internationaux diplômés de master en Suisse, en 2012

<sup>8</sup> Les pays avec moins de 15 diplômés sont regroupés, pour chaque continent, dans la catégorie « autre pays ».

Pour identifier les surreprésentations par groupes de pays d'origine, nous nous intéressons aux pays d'origine des étudiants internationaux et aux domaines d'études. Le tableau 1 présente le nombre absolu de diplômés par domaine d'étude et leur proportion par continent (en colonnes). Cette proportion est comparée à celle du total des étudiants internationaux (colonne grise à droite). Lorsque le taux pour un groupe spécifique est plus élevé que la moyenne de tous les étudiants internationaux, les cases sont en gris foncé; lorsqu'il est plus faible, les cases sont en gris clair. Pour avoir une idée du rapport au total de la population étudiée, la proportion d'étudiants suisses est également indiquée (colonne blanche à droite).

Les ressortissants de l'UE/AELE s'inscrivent plus souvent dans les disciplines de l'architecture et de la formation des enseignants; les Européens hors UE/AELE dans le commerce et l'administration, l'ingénierie et les sciences informatiques; les Asiatiques dans les arts, le commerce et l'administration et l'ingénierie; les Américains en sciences sociales et les Africains dans l'ingénierie, les sciences de la vie et les lettres. Cela signifie qu'il y a une tendance des diplômés des États tiers à être relativement nombreux dans les disciplines des sciences, technologie, ingénierie, mathématiques (STEM). Ceci concerne l'ingénierie, les sciences de la vie, les sciences informatiques, les mathématiques et statistiques ainsi que la protection de l'environnement. En revanche, ce n'est pas le cas pour les sciences physiques ainsi que l'architecture et le bâtiment où les ressortissants de l'UE/AELE sont relativement plus nombreux.

La distribution des diplômés de master par IES est présentée dans le tableau 2. Les ressortissants de l'UE/AELE sont surreprésentés dans les universités de Suisse italienne, Saint-Gall, Bâle, Zurich et dans les HES. Parmi les ressortissants des États tiers, seuls les Asiatiques ont une relativement forte présence dans les HES. De plus, ils sont proportionnellement nombreux dans les deux EPF. Les Américains sont principalement surreprésentés à l'Université de Genève et dans une moindre mesure à l'Université de Lausanne. Les Européens hors UE/AELE ont des proportions supérieures à la moyenne à l'Université de la Suisse italienne, à l'EPF de Lausanne ainsi qu'à l'Université de Lausanne et les Africains dans les Universités de Genève, à l'EPF de Lausanne, et dans les universités de Lausanne, Neuchâtel, Fribourg et Bâle. En comparaison avec les étudiants suisses, les HES, les universités de Genève et de la Suisse italienne ainsi que les deux EPF accueillent relativement plus d'étudiants internationaux que les autres IES.

## **Trajectoires des étudiants internationaux et taux de prorogation**

Comme nous nous intéressons au nombre de diplômés internationaux qui restent en Suisse après l'obtention de leur diplôme, nous avons transformé la base de données longitudinale des diplômés de master de la manière suivante. Nous avons créé des séquences d'état en définissant un statut par année. Durant les études, le statut renvoie au niveau d'étude (bachelor, master, doctorat). Pour les années avant le début des études et après l'obtention du diplôme de master, le statut indique si l'individu est présent en Suisse (si un permis de résidence a été enregistré) ou s'il vit à l'étranger (lorsqu'il n'y a pas d'enregistrement de permis de résidence en Suisse).

**Tableau 1 : Domaines d'études des diplômés internationaux et proportion par rapport aux diplômés de master suisses en 2012**

Domaines d'études	UE/AELE	États tiers				Tous les internationaux	Tous les Suisses <sup>°°°</sup>
		Asie	Amérique	Europe	Afrique		
Commerce/administration	360 (17 %)	73 (18 %)	48 (15 %)	64 (27 %)	17 (14 %)	562 (17 %)	1 226 (15 %)
Arts	346 (16 %)	80 (20 %)	43 (14 %)	28 (12 %)	°	508 (16 %)	344 (4 %)
Sciences sociales	255 (12 %)	37 (9 %)	78 (25 %)	15 (6 %)	14 (12 %)	402 (12 %)	865 (10 %)
Ingénierie	160 (7 %)	73 (18 %)	27 (8 %)	29 (12 %)	19 (16 %)	308 (10 %)	647 (8 %)
Sciences physiques	159 (7 %)	23 (6 %)	17 (5 %)	8 (3 %)	6 (5 %)	214 (7 %)	494 (6 %)
Architecture et bâtiment	176 (8 %)	14 (3 %)	8 (3 %)	6 (3 %)	5 (4 %)	210 (7 %)	340 (4 %)
Formation des enseignants	162 (8 %)	°	9 (3 %)	°	°	180 (6 %)	1 277 (15 %)
Lettres	104 (5 %)	10 (2 %)	10 (3 %)	13 (6 %)	9 (8 %)	146 (5 %)	512 (6 %)
Sciences de la vie	66 (3 %)	13 (3 %)	14 (4 %)	10 (4 %)	11 (9 %)	116 (4 %)	406 (5 %)
Sciences informatiques	45 (2 %)	22 (5 %)	7 (2 %)	21 (9 %)	9 (8 %)	104 (3 %)	128 (2 %)
Droit	52 (2 %)	6 (2 %)	16 (5 %)	12 (5 %)	6 (5 %)	92 (3 %)	1 252 (15 %)
Journalisme et information	67 (3 %)	5 (1 %)	7 (3 %)	8 (3 %)	°	89 (3 %)	93 (1 %)
Mathématiques et statistiques	41 (2 %)	25 (6 %)	5 (2 %)	9 (3 %)	°	84 (3 %)	108 (1 %)
Protection de l'environnement	47 (2 %)	15 (4 %)	°	12 (4 %)	°	82 (3 %)	108 (1 %)
Santé	48 (2 %)	5 (1 %)	°	6 (2 %)	°	67 (2 %)	404 (5 %)
Autres domaines d'études	46 (2 %)	°	5 (2 %)	6 (2 %)	°	65 (2 %)	268 (3 %)
Tous les domaines d'études	2 134 (100 %)	408 (100 %)	318 (100 %)	233 (100 %)	120 (100 %)	3 228 <sup>°°</sup> (100 %)	8 472 (100 %)

° moins de 5 individus

°° incluant 15 diplômés d'Océanie

°°° la catégorie «tous les Suisses» inclut les étrangers qui ont précédemment étudié en Suisse au niveau secondaire

Données : OFS (LABB), 2015

**Tableau 2 : Diplômés internationaux de master par IES en 2012**

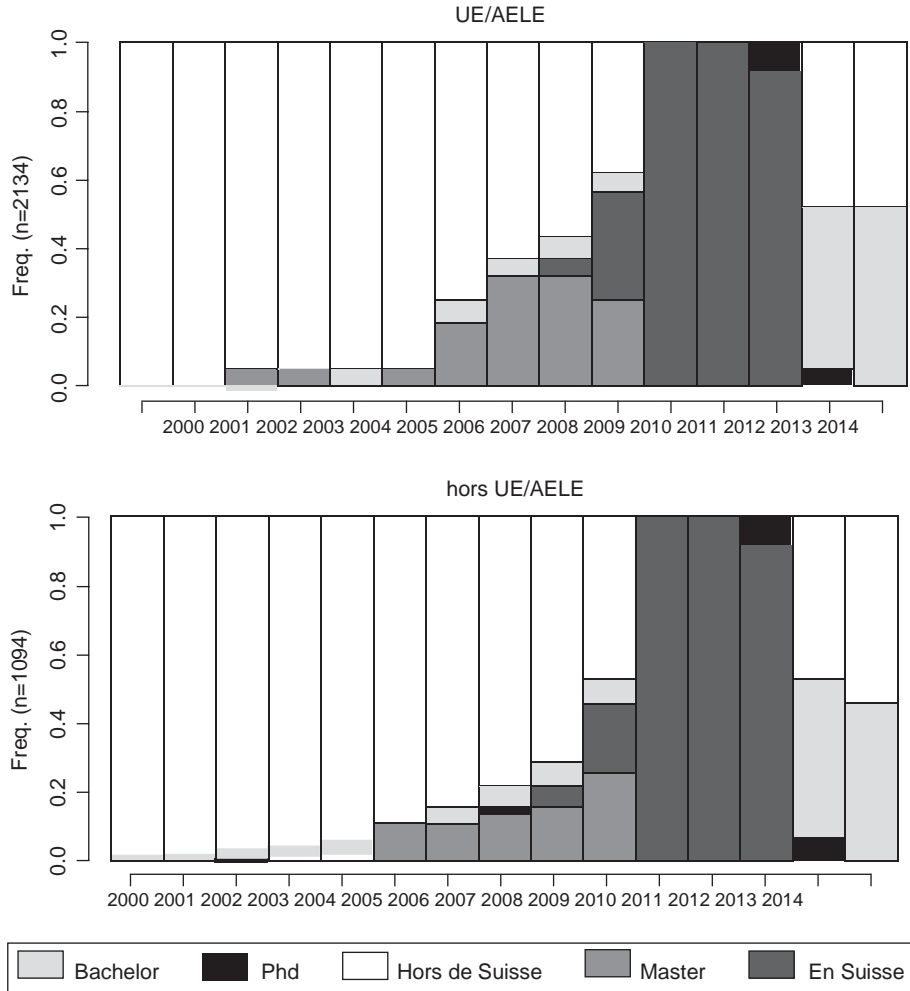
IES	UE/ AELE	États tiers				Tous les internatio- naux	Tous les Suisses
		Asie	Amérique	Europe	Afrique		
Université de Genève	276 (13 %)	48 (12 %)	107 (34 %)	32 (14 %)	32 (27 %)	498 (15 %)	647 (8 %)
EPFZ	324 (15 %)	87 (21 %)	48 (15 %)	27 (12 %)	°	492 (15 %)	1 039 (12 %)
Université de la Suisse italienne	215 (10 %)	30 (7 %)	21 (7 %)	35 (15 %)	°	305 (9 %)	95 (1 %)
EPFL	130 (6 %)	58 (14 %)	14 (4 %)	28 (12 %)	26 (22 %)	256 (8 %)	355 (4 %)
Université de Lausanne	84 (4 %)	15 (4 %)	24 (8 %)	15 (6 %)	15 (13 %)	153 (5 %)	664 (8 %)
Université de Saint-Gall	135 (6 %)	8 (2 %)	°	6 (3 %)	°	152 (5 %)	406 (5 %)
Université de Bâle	114 (5 %)	7 (2 %)	6 (2 %)	°	7 (6 %)	139 (4 %)	684 (8 %)
Université de Zurich	98 (5 %)	17 (4 %)	7 (2 %)	15 (6 %)	°	138 (4 %)	705 (8 %)
Université de Fribourg	61 (3 %)	10 (2 %)	9 (3 %)	11 (5 %)	8 (7 %)	100 (3 %)	518 (6 %)
Université de Berne	67 (3 %)	10 (2 %)	12 (4 %)	8 (3 %)	°	98 (3 %)	902 (11 %)
Université de Neuchâtel	18 (1 %)	11 (3 %)	12 (4 %)	8 (3 %)	11 (9 %)	60 (2 %)	288 (3 %)
Université de Lucerne	13 (1 %)	°	°	°	°	16 (0,5 %)	216 (3 %)
Toutes les HES	541 (25 %)	107 (26 %)	54 (17 %)	39 (17 %)	9 (8 %)	757 (24 %)	1 130 (13 %)
Toutes les HEP	50 (2 %)	°	°	°	°	54 (2 %)	777 (9 %)
Toutes les IES	2 134 (100 %)	408 (100 %)	318 (100 %)	233 (100 %)	120 (100 %)	3 228 <sup>°°</sup> (100 %)	8 472 (100 %)

° moins de 5 individus

°° incluant 4 diplômés d'autres universités, 7 diplômés avec des valeurs manquantes et 15 diplômés d'Océanie

Données : OFS (LABB), 2015

La figure 2 présente les séquences agrégées sous la forme de chronogrammes<sup>9</sup> avec la distribution des séquences d'états qui s'élève à 100% sur l'axe vertical et qui couvre les années 2000 à 2014 sur l'axe horizontal. Les séquences d'états sont: études de



Données : OFS (LABB et SYMIC), 2015

Figure 2 : Chronogrammes des ressortissants de l'UE/AELE et des États tiers diplômés de master en 2012

<sup>9</sup> Nous avons utilisé « TraMineR » (Gabadinho, Richard, Studer et Müller, 2009) et le logiciel statistique « R » (R Development Core Team, 2011), pour analyser et visualiser les séquences avec des chronogrammes.

bachelor (gris), de master (gris foncé) et de doctorat<sup>10</sup> (noir), présence en Suisse (gris très clair) et absence de permis enregistré (blanc). Les chronogrammes rendent visibles l'année d'obtention du diplôme en 2012, la distribution des études préalables de bachelor et la diminution des permis enregistrés après l'obtention du diplôme.

En comparant les chiffres pour les ressortissants de l'UE/AELE avec ceux des États tiers, on constate que le taux de prorogation des premiers est plus élevé. En 2013, une année après l'obtention du diplôme, 53 % des ressortissants de l'UE/AELE ont un permis enregistré en Suisse et ils sont encore 51 % en 2014. Les ressortissants des États tiers ont des taux de prorogation plus faibles avec 48 % en 2013 et 44 % en 2014.

Les chronogrammes pour les ressortissants des États tiers par continent d'origine (figure 3) montrent des taux de prorogation et des configurations d'études légèrement différentes. Les étudiants de l'Afrique et de l'UE/AELE obtiennent assez souvent un diplôme de bachelor en Suisse avant de poursuivre avec un diplôme de master. Les étudiants de l'Asie et des Amériques obtiennent peu de diplômes de bachelor en Suisse et, dans la plupart des cas, ils repartent rapidement après l'obtention du diplôme de master.

Le tableau 3 présente les taux de prorogation par continent d'origine, calculés sur la base des permis enregistrés. Le seul groupe de ressortissants d'États tiers, avec un taux de prorogation plus élevé que les ressortissants de l'UE/AELE, est celui des personnes provenant des États européens hors UE/AELE.

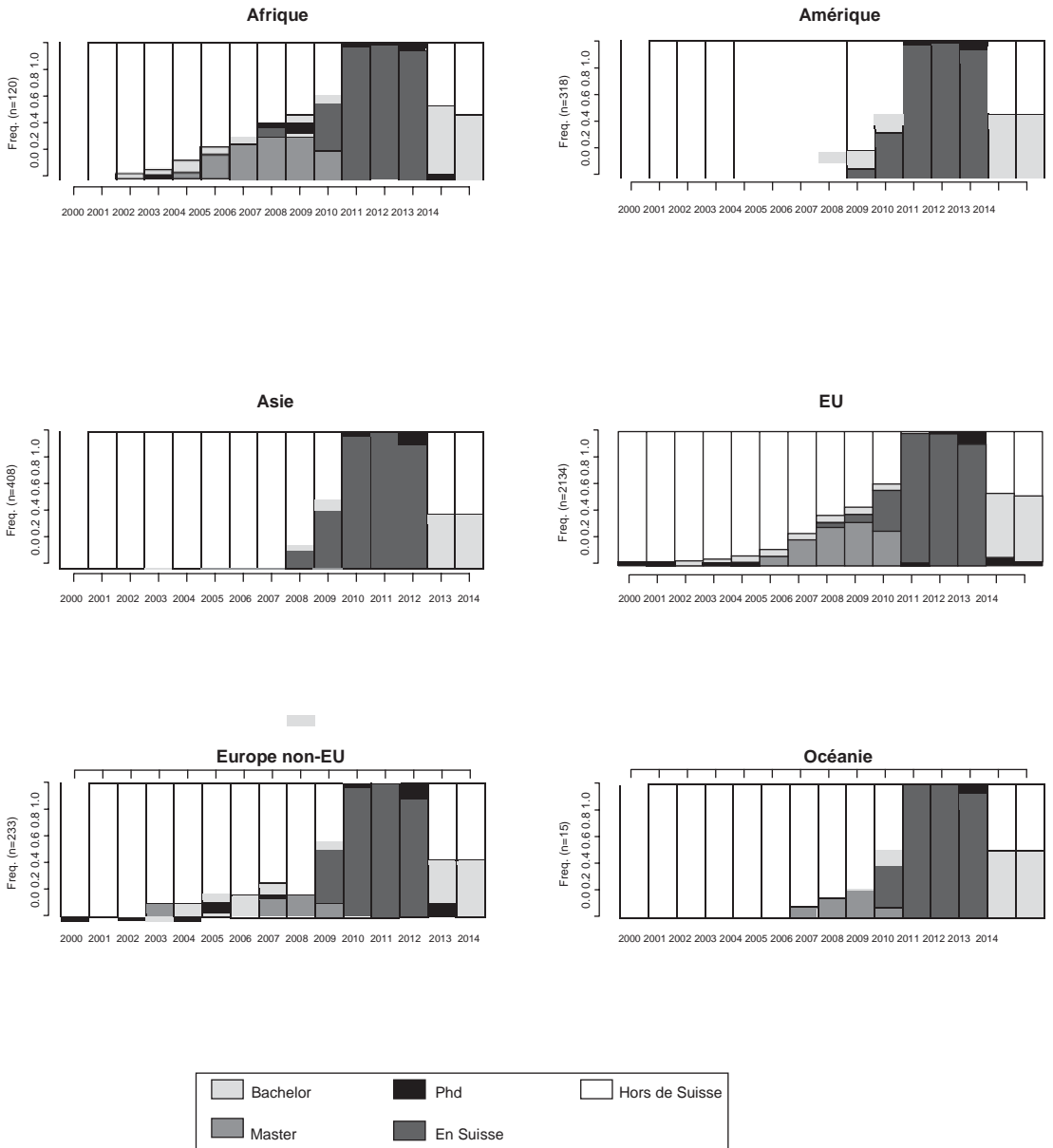
**Tableau 3 : Taux de prorogation des diplômés internationaux de master en 2012, 2013 et 2014 par région d'origine**

Taux de prorogation en 2012-2014 0, 1 et 2 an(s) après le diplôme	UE/AELE	États tiers				Tous les internationaux
		Asie	Amérique	Europe	Afrique	
Permis enregistrés en 2012	2 134 (100 %)	408 (100 %)	318 (100 %)	233 (100 %)	120 (100 %)	3 228° (100 %)
Permis enregistrés en 2013	1 136 (53 %)	175 (43 %)	145 (46 %)	139 (60 %)	64 (53 %)	1 665 (52 %)
Permis enregistrés en 2014	1 090 (51 %)	160 (39 %)	129 (41 %)	131 (56 %)	58 (48 %)	1 575 (49 %)

° incluant 15 diplômés d'Océanie

Données : OFS (LABB et SYMIC), 2015

<sup>10</sup> Les individus peuvent commencer un doctorat durant l'année d'obtention de leur diplôme de master ou dans les années suivantes. Dans le registre des étudiants, seuls le début et la fin des études sont enregistrés, mais comme il n'y a aucune information concernant les études en cours, seul le début des études doctorales peut être reporté pour les années 2012 à 2014.



Données : OFS (LABB et SYMIC), 2015

Figure 3 : Chronogrammes des diplômés de master en 2012, par continent

Le tableau 4 indique le nombre de personnes qui se sont inscrites à des études de doctorat entre 2012 et 2014, ainsi que le nombre total de doctorats commencés durant cette période. En 2012, année d'obtention du master, 9 % des diplômés de l'UE/AELE et 10 % des diplômés des États tiers se sont inscrits en doctorat. Dans un délai de trois ans, la proportion du total des inscriptions de ces derniers s'élève à 16 % et elle dépasse celle des diplômés de l'UE/AELE (14 %). Les proportions les plus élevées d'inscriptions en doctorat après le master se trouvent parmi les Européens hors UE/AELE (18 %) et les Asiatiques (17 %).

**Tableau 4 : Diplômés internationaux de master qui s'inscrivent en doctorat par région d'origine**

Inscription en doctorat	UE/AELE	États tiers				Tous les internationaux
		Asie	Amérique	Europe	Afrique	
2012	186 (9%)	47 (12%)	25 (8%)	25 (11%)	7 (6%)	291 (9%)
2013	97 (5%)	16 (4%)	20 (6%)	12 (6%)	6 (5%)	152 (5%)
2014	21 (1%)	8 (2%)	°	4 (2%)	°	35 (1%)
Total inscriptions doctorats 2012-14	304 (14%)	71 (17%)	46 (14%)	41 (18%)	14 (12%)	478 (15%)
Tous les diplômés internationaux	2 134 (100%)	408 (100%)	318 (100%)	233 (100%)	120 (100%)	3 228° (100%)

° moins de 5 individus

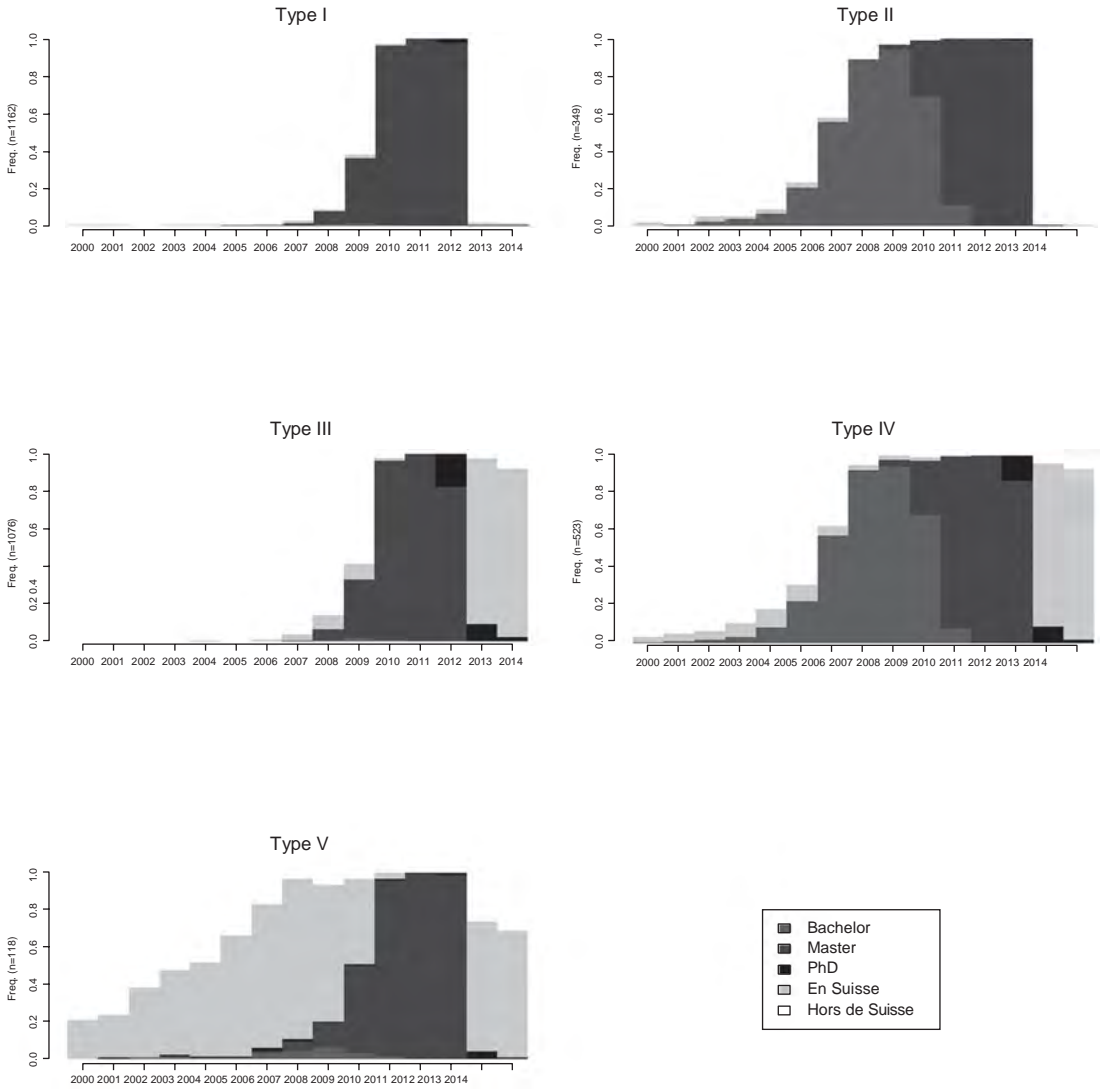
°° incluant 15 diplômés d'Océanie

Données : OFS (LABB et SYMIC), 2015

## Types de mobilité étudiante par diplôme

En regroupant les séquences individuelles des diplômés de master par similitudes (ou moindres dissimilarités) différents modèles de trajectoire ont été identifiés. Comme le montre la figure 4, les clusters varient principalement par niveau d'étude et par le fait de rester, ou pas, en Suisse.

Le cluster le plus fréquent incluant 36 % de tous les étudiants internationaux est celui d'une mobilité unique pour des études de master, sans résidence antérieure en Suisse et avec un départ directement après l'obtention du diplôme. Ce premier type de trajectoire est appelé « *Master et départ* » (type I). Le deuxième cluster présente des trajectoires d'étudiants internationaux qui obtiennent leurs diplômes de bachelor et de master en Suisse et qui repartent ensuite. Il est appelé trajectoire « *Bachelor, master et départ* » (type II). Le troisième cluster est celui des étudiants qui terminent un master et qui restent ensuite, généralement pour toute la période étudiée, jusqu'à 2014, en Suisse. C'est le type de trajectoire « *Master et séjour* » (type III). Le quatrième cluster représente les diplômés qui obtiennent un bachelor



Données : OFS (LABB et SYMIC), 2015

Figure 4 : Clusters et types de trajectoires des diplômés internationaux de master, en 2012

et un master et qui restent ensuite dans le pays hôte : c'est le type de trajectoire « *Bachelor, master et séjour* » (type IV). Finalement, le dernier cluster concerne les autres étudiants internationaux qui ont déjà résidé dans le pays hôte avant d'y étudier et pour lesquels la décision de rester ou de repartir est moins claire. C'est la trajectoire « *résidence antérieure et master* » (type V).

Ces cinq types ont été attribués à chaque trajectoire individuelle pour permettre d'identifier des correspondances entre le continent d'origine et le type de mobilité en fonction du niveau d'étude. Comme cela est présenté dans le tableau 5, la trajectoire « *Master et départ* » est identifiée le plus souvent chez les diplômés asiatiques et américains. La moitié des étudiants asiatiques et américains et un tiers des Européens hors UE/AELE et des Africains arrivent directement en Suisse en vue d'étudier en master alors que 34 % des ressortissants de l'UE/AELE et 35 % des Africains diplômés de master obtiennent également un bachelor en Suisse.

**Tableau 5 : Types de mobilité des étudiants internationaux diplômés de master en 2012**

Type de mobilité étudiante	UE/AELE	États tiers				Tous les internationaux
		Asie	Amérique	Europe	Afrique	
I: Master et départ	669 (31 %)	209 (51 %)	160 (50 %)	76 (33 %)	40 (33 %)	1 164 (36 %)
II: Bachelor, master et départ	292 (14 %)	19 (5 %)	12 (4 %)	10 (4 %)	16 (13 %)	353 (11 %)
III: Master et séjour	669 (31 %)	153 (38 %)	109 (34 %)	107 (46 %)	33 (28 %)	1 079 (33 %)
IV: Bachelor, master et séjour	428 (20 %)	20 (5 %)	20 (6 %)	27 (12 %)	26 (22 %)	524 (16 %)
V: Résidence antérieure et master	76 (4 %)	7 (2 %)	17 (5 %)	13 (6 %)	5 (4 %)	123 (4 %)
Tous les diplômés internationaux	2 134 (100 %)	408 (100 %)	318 (100 %)	233 (100 %)	120 (100 %)	3 228 (100 %)

Données : OFS (LABB et SYMIC), 2015

## Taux de prorogation par domaine d'étude et par institution d'enseignement supérieur

En analysant les taux de prorogation par domaine d'étude et par IES (tableau 6), on remarque que les disciplines des STEM, qui ont été identifiées comme accueillant proportionnellement plus de ressortissants des États tiers, présentent des taux de prorogation importants ainsi que des nombres élevés d'étudiants en doctorat. Cela est valable pour les sciences de la vie, l'ingénierie, la protection de l'environnement et les sciences informatiques. Les mathématiques et statistiques ainsi que les

sciences physiques font exception ; elles n'ont pas de taux de prorogation supérieurs à la moyenne mais des taux très élevés d'inscriptions en doctorat. De plus, le domaine de la formation des enseignants, qui est étudié de manière prédominante par les ressortissants de l'UE/AELE, a le deuxième taux de prorogation le plus élevé alors que les sciences sociales présentent un taux de prorogation bas.

**Tableau 6: Taux de prorogation des diplômés internationaux de master et inscription en doctorat par domaine d'étude et par institution d'enseignement supérieur**

Domaines d'études	Taux de prorogation en 2014	Inscription en doctorat	Institutions d'enseignement supérieur	Taux de prorogation en 2014	Inscription en doctorat
Commerce et administration	270 (48 %)	42 (7 %)	Université de Genève	262 (53 %)	67 (13 %)
Arts	208 (41 %)	6 (1 %)	EPF de Zurich	245 (50 %)	156 (32 %)
Sciences sociales	169 (42 %)	54 (13 %)	Université de la Suisse italienne	105 (34 %)	13 (4 %)
Ingénierie	177 (57 %)	82 (27 %)	EPF de Lausanne	153 (60 %)	64 (25 %)
Sciences physiques	104 (49 %)	84 (39 %)	Université de Lausanne	97 (63 %)	26 (17 %)
Architecture et bâtiment	103 (49 %)	7 (3 %)	Université de Saint-Gall	57 (38 %)	10 (7 %)
Formation des enseignants	110 (61 %)	°	Université de Bâle	87 (63 %)	42 (30 %)
Lettres	81 (55 %)	32 (22 %)	Université de Zurich	65 (47 %)	44 (32 %)
Sciences de la vie	72 (62 %)	51 (44 %)	Université de Fribourg	60 (60 %)	22 (22 %)
Sciences informatiques	55 (53 %)	22 (21 %)	Université de Berne	30 (31 %)	20 (20 %)
Droit	52 (57 %)	18 (20 %)	Université de Neuchâtel	34 (57 %)	8 (13 %)
Journalisme et information	26 (29 %)	6 (7 %)	Université de Lucerne	7 (44 %)	°
Mathématiques et statistiques	36 (43 %)	25 (30 %)	Total des HES	337 (43 %)	°
Protection de l'environnement	47 (58 %)	31 (38 %)	Total des HEP	30 (83 %)	°
Santé	38 (57 %)	8 (12 %)	Toutes les IES	1 575 (49 %)	478 (15 %)
Autres domaines d'études	27 (42 %)	7 (11 %)			
Tous les domaines d'études	1 575 (49 %)	478 (15 %)	° moins de 5 individus		

Données : OFS (LABB et SYMIC), 2015

De manière générale, si les différences entre les taux de prorogation selon les domaines d'étude restent relativement modestes, elles augmentent lorsque l'on analyse la localisation géographique des IES. Toutes les universités situées dans l'ouest et dans le nord-ouest de la Suisse ont des taux de prorogation très élevés des étudiants internationaux. C'est le cas pour l'Université et l'EPF de Lausanne et pour les universités de Fribourg, Neuchâtel, Genève et Bâle et, dans une moindre mesure, l'EPF de Zurich. Par ailleurs, les HEP ont un taux de prorogation remarquable. L'EPF de Zurich et les universités de Zurich et de Bâle présentent les proportions les plus élevées de doctorants ; elles sont suivies par l'EPF de Lausanne.

Pour résumer, il convient de relever que toutes les IES où des ressortissants des États tiers sont proportionnellement plus nombreux sont situées dans la partie francophone de la Suisse. En même temps, ces IES sont principalement celles qui enregistrent les taux de prorogation les plus élevés. Bâle – situé dans la partie germanophone – fait office d'exception puisqu'elle est également fortement choisie parmi les ressortissants des États tiers. Finalement, nous avons procédé à une analyse de régression logistique, dont les résultats sont présentés dans le prochain chapitre, pour identifier quelles variables (domaine d'étude, IES ou région d'origine) sont statistiquement liées au taux de prorogation.

## **Facteurs influençant la décision de rester ou de quitter la Suisse**

Le but de l'analyse de régression est de mesurer l'impact d'une série de facteurs explicatifs sur la variable dépendante binaire « être présent en Suisse (ou non) » en 2014 pour les diplômés de 2012. Les variables indépendantes sélectionnées, qui ont été décrites précédemment, sont la région d'origine, l'IES et le domaine d'étude. Les modalités des variables fixées comme référence dans le modèle sont les suivantes : les ressortissants de l'UE/AELE pour l'origine, l'Université de Zurich pour les IES et « commerce et administration » pour les domaines d'étude. Les résultats du modèle montrent quelles variables augmentent ou diminuent le risque de rester en Suisse et si ces effets sont significatifs (cf. tableau 7). L'analyse confirme que les diplômés de master qui viennent d'Afrique, d'Amérique et d'Asie sont moins susceptibles de rester en Suisse que ceux de l'UE/AELE. Pour ces diplômés, les chances de rester en Suisse sont inférieures d'environ 44 %. Les taux de prorogation des diplômés des pays européens hors UE/AELE et d'Océanie ne sont pas significativement différents de ceux des ressortissants de l'UE/AELE. De plus, le modèle montre des résultats significativement positifs pour les universités de Genève, de Bâle et de Lausanne, tout comme pour celles de Fribourg et de Neuchâtel. Dans ces universités, la probabilité de rester en Suisse est entre 1,7 et 2,2 fois plus élevée que pour l'Université de Zurich. Pour les ressortissants de l'UE/AELE dans les HEP, les chances de rester sont même 6 fois plus élevées. En revanche, pour les universités de Berne, de la Suisse italienne et de Saint-Gall, les chances de rester en Suisse sont inférieures de 35 % à 48 % par rapport à l'Université de Zurich.

Les étudiants en sciences sociales et en journalisme ont des chances plus basses de rester en Suisse après les études que ceux qui étudient le commerce et l'administration (respectivement de 44 % et 40 %). Pour l'ingénierie et les sciences de la vie,

les chances de rester sont plus élevées par rapport au commerce et à l'administration (environ 45 % supérieures).

**Tableau 7 : Régression logistique : qu'est-ce qui détermine le fait de rester en Suisse en 2014 ?**

Variable dépendante : avoir un permis enregistré en Suisse en 2014				
Variables indépendantes		Log Odds	Erreur type	Odds
<b>Origine par continent</b>	Référence : UE/AELE			1
	Europe hors UE	0,128	0,147	1,14
	Océanie	-0,113	0,534	0,89
	Amérique	-0,546 ***	0,130	0,58
	Asie	-0,570 ***	0,116	0,57
	Afrique	-0,583 ***	0,200	0,56
<b>Domaine d'étude</b>	Référence : Commerce et administration			1
	Sciences de la vie	0,385 *	0,229	1,47
	Ingénierie	0,359 *	0,196	1,43
	Protection de l'environnement	0,265	0,272	1,30
	Santé	0,223	0,282	1,25
	Architecture et bâtiment	0,138	0,190	1,15
	Sciences informatiques	0,137	0,242	1,15
	Formation des enseignants	0,086	0,235	1,09
	Arts	-0,081	0,185	0,92
	Droit	-0,086	0,244	0,92
	Lettres	-0,171	0,207	0,84
	Sciences physiques	-0,187	0,194	0,83
	Mathématiques et statistiques	-0,340	0,267	0,71
	Journalisme et information	-0,515 *	0,272	0,60
	Sciences sociales	-0,571 ***	0,154	0,56
	Autres domaines d'étude	-0,657 **	0,286	0,52

Variable dépendante : avoir un permis enregistré en Suisse en 2014				
Variables indépendantes		Log Odds	Erreur type	Odds
Hautes écoles suisses	Référence : Université de Zurich			1
	Toutes les HEP	1,786 ***	0,493	5,97
	Université de Lausanne	0,780 ***	0,249	2,18
	Université de Fribourg	0,707 **	0,275	2,03
	Université de Bâle	0,653 ***	0,253	1,92
	Université de Neuchâtel	0,626 *	0,324	1,87
	Université de Genève	0,570 ***	0,207	1,77
	EPF de Lausanne	0,398	0,246	1,49
	Université de Lucerne	0,017	0,542	1,02
	EPF de Zurich	-0,013	0,220	0,99
	Toutes les HES	-0,227	0,228	0,80
	Université de Saint-Gall	-0,436 *	0,253	0,65
	Université de la Suisse italienne	-0,520 **	0,226	0,59
	Université de Berne	-0,649 **	0,286	0,52
	Autres hautes écoles	0,622	0,716	1,86
Constante		0,053	0,196	

Note : niveau de signification : \*p<0,1 ; \*\*p<0,05 ; \*\*\*p<0,01

Nombre d'observations : 3 228 étudiants internationaux diplômés en Suisse en 2012

## Discussion

### Rester ou partir?

En 2014, deux ans après l'obtention de leur diplôme de master, 49 % des diplômés internationaux résident toujours en Suisse. Parmi ces 1 575 diplômés, 478 ont commencé un doctorat et contribuent par leur savoir et leurs ressources à la recherche suisse. Si certains d'entre eux sont restés pour des raisons professionnelles et fournissent de la main-d'œuvre hautement qualifiée au marché du

travail helvétique, d'autres sont restés pour des raisons diverses. Ils sont toutefois 1 653 diplômés, soit 51 %, à quitter le pays avec un diplôme en poche, ce qui montre l'importance de la formation universitaire suisse pour l'acquisition de compétences, avant un retour au pays d'origine ou un départ vers un autre pays.

### **Nationalités, domaines d'étude et institutions d'enseignement supérieur**

Nos résultats montrent des différences au niveau des conditions d'accès au marché du travail et d'obtention d'un permis de séjour en fonction de la nationalité des diplômés puisque les ressortissants de l'UE/AELE ont la priorité sur le marché du travail suisse par rapport aux ressortissants des États tiers. Ceci conduit à des situations où des diplômés européens sont recrutés sans que l'employeur ne prenne en considération les candidatures des ressortissants des États tiers. Cependant, la loi sur l'immigration prévoit une disposition dérogatoire pour les ressortissants des États tiers diplômés en Suisse, si leur activité professionnelle présente un intérêt scientifique et économique prépondérant. Nous avons pu montrer que de nombreux ressortissants des États tiers ayant obtenu un diplôme dans un domaine professionnel avec une forte demande de main-d'œuvre, et parfois même une pénurie, ont pu obtenir un emploi et par conséquent un permis de résidence. En effet, pendant la période observée, la Suisse a connu une forte demande de main-d'œuvre qualifiée dans les secteurs de l'ingénierie, de la médecine, de l'informatique, des sciences de la vie et des professions juridiques (AMOSA, 2015). Cependant, de multiples facteurs influencent la décision de rester ou de partir. Ainsi, les opportunités de travail peuvent être décisives, mais d'autres aspects comme la famille, le partenariat, le mariage et les amis influencent également les décisions des diplômés. Dans le cadre de nos travaux, nous nous sommes limités aux aspects liés aux études mais d'autres recherches portant sur les taux d'emploi, les mariages enregistrés, la situation familiale, etc., seraient nécessaires pour identifier la pluralité des motivations à rester ou partir, ainsi que la manière d'obtenir un permis de résidence.

Il est intéressant d'observer que, statistiquement, les diplômés des universités de la région francophone – et de Bâle – ont une probabilité plus élevée de rester en Suisse que les diplômés des universités germanophones ou italophones. Ce résultat reflète les différences cantonales qui ont pu être identifiées dans la mise en œuvre de la politique d'intégration<sup>11</sup> : les cantons francophones et Bâle<sup>12</sup> ont des pratiques plus intégratives que les autres cantons (Manatschal, 2013). De plus amples recherches sur les pratiques cantonales de mise en œuvre des règles d'admission, de séjour, d'accès au marché du travail et d'exemption de la règle de priorité pour les diplômés d'États tiers seraient nécessaires pour expliquer plus finement les différences entre les taux de prorogation.

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<sup>11</sup> L'indicateur de la politique d'intégration tient compte de l'accès au marché du travail, du regroupement familial, des procédures de naturalisation, et de divers autres aspects.

<sup>12</sup> Index de la politique d'intégration par cantons en ordre décroissant: Jura (pas d'université cantonale), Neuchâtel, Genève, Vaud, Fribourg, et Bâle ville.

## Comparaison avec deux études nationales

En Suisse, en 2014, le taux de prorogation des étudiants de l'UE/AELE est plus élevé que celui des ressortissants des États tiers (51 % contre 44 %). Les résultats de notre recherche s'opposent à ceux d'une étude comparable réalisée aux Pays-Bas (NUFFIC, 2016) où le taux de prorogation des diplômés ressortissants de l'« espace économique européen » (EEE) s'élève à 43 % en 2013, trois ans après l'obtention du diplôme, et se situe à un niveau inférieur à celui des diplômés provenant des pays non-EEE (54 %). L'explication donnée par les auteurs néerlandais à cette différence est que les ressortissants de l'EEE sont plus mobiles, grâce aux accords avec l'UE qui garantissent la libre circulation des personnes pour étudier et travailler, aux mêmes conditions que les nationaux, dans tous les pays de l'espace. Les ressortissants des pays non-EEE ne profitent pas de cette liberté et sont, par conséquent, moins mobiles au niveau européen. En outre, ils ont généralement des coûts de rapatriement plus élevés et les différences au niveau de la sécurité et de la qualité de vie sont en défaveur d'une partie des pays non-EEE, en comparaison avec les Pays-Bas (NUFFIC, 2016). Dans le cas de la Suisse, qui n'est pas membre de l'UE, les candidats nationaux ont la priorité sur les étrangers sur le marché du travail. Néanmoins, les ressortissants de l'UE/AELE profitent d'avantages liés aux accords entre la Suisse et l'UE mais, en comparaison avec les Pays-Bas, les conditions juridiques qui s'appliquent aux ressortissants des États tiers y sont plus restrictives. En effet, les Pays-Bas appliquent les directives européennes et accordent plus de temps aux diplômés pour trouver un emploi que la Suisse (respectivement un an et six mois). On peut faire l'hypothèse que la Suisse applique de manière restrictive le critère selon lequel l'activité des diplômés non UE doit avoir un intérêt économique prépondérant. De plus, aux Pays-Bas, des organisations et des sites internet<sup>13</sup> informent et encouragent les diplômés à entrer sur le marché du travail national. C'est moins le cas en Suisse où seuls quelques sites internet des autorités fédérales ou cantonales de migration<sup>14</sup> donnent des informations succinctes pour savoir comment obtenir un permis de séjour ou chercher un travail. En résumé, et compte tenu des différences entre la Suisse et les Pays-Bas (dans la composition de la population des migrants, les liens historiques ainsi que d'autres aspects), les différences entre les cadres juridiques et la manière dont on communique aux diplômés à leur sujet pourraient partiellement expliquer les résultats opposés. De plus amples recherches comparatives seraient nécessaires afin de pouvoir identifier les effets des différentes réglementations dans ces deux pays.

## Conclusion

Cet article est une contribution aux rares études sur les trajectoires des étudiants internationaux. Il analyse les relations entre nationalité, domaine d'étude, lieu d'étude et taux de prorogation de séjour en Suisse. Nous fournissons ici des données

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<sup>13</sup> [www.nuffic.nl](http://www.nuffic.nl), [www.hollandalumni.nl/career/work-in-holland](http://www.hollandalumni.nl/career/work-in-holland), [www.studyinholland.nl/after-your-studies/](http://www.studyinholland.nl/after-your-studies/)

<sup>14</sup> [https://www.sem.admin.ch/sem/en/home/themen/arbeit/nicht-eu\\_efta-angehoerige/hochschulabgaenger.html](https://www.sem.admin.ch/sem/en/home/themen/arbeit/nicht-eu_efta-angehoerige/hochschulabgaenger.html),  
p. ex : <http://www.ne.ch/autorites/DEAS/SMIG/sejour-etablissement/Pages/Etats-tiers---Etudiants.aspx> ; <https://www.vd.ch/themes/vie-privee/population-etrangere/entree-et-sejour/etats-tiers/sejour-6-mois-pour-la-recherche-dun-emploi-pour-les-etudiants-diplomes-dune-haute-ecole-suisse/>

précédemment inconnues sur le taux de prorogation pour contribuer à la discussion sur la mobilité étudiante. La typologie des trajectoires d'étude des diplômés internationaux montre que, dans de nombreux cas, la mobilité étudiante conduit à une transition fluide dans la migration et qu'il y a différentes formes de mobilité des diplômés. Par ailleurs, nos résultats confirment que le cadre juridique joue un rôle central dans la décision de rester ou de quitter le pays hôte après l'obtention du diplôme. Le fait qu'environ la moitié des diplômés internationaux restent en Suisse montre à quel point le marché du travail helvétique bénéficie d'un apport de compétences utiles de la part des étudiants internationaux accueillis dans les différentes IES. Dans le même temps, l'autre moitié des étudiants internationaux poursuivent leur carrière à l'extérieur de la Suisse. Certains pourraient sans doute être retenus par des politiques plus incitatives et plus ouvertes. D'autres retournent dans leur pays d'origine et y rapportent des compétences précieuses. Il faut s'en réjouir, car même si la mobilité doit être encouragée, l'exode des cerveaux est à éviter. C'est vers un équilibre entre ces différents objectifs que doit tendre la politique d'accueil des étudiants internationaux.

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## **An Analysis of the Trajectories of International Students in Switzerland**

*This paper examines whether international Master students stay in Switzerland by calculating their stay rates defined as the proportion of foreign graduates that stay two years after graduation differentiating by nationality, study field and higher education institution. The paper concludes that the stay rate of EU/EFTA nationals is higher than that of non-EU/EFTA nationals. Students from Africa, Asia and from the Americas are less likely to stay, whereas students in engineering and life sciences are positively related with stay rates.*

**Keywords :** *International students, Migration, Study trajectory, Stay rate.*

## **Eine Analyse des Bildungsweges der ausländischen Studierenden in der Schweiz**

*Im Beitrag wird untersucht, ob internationale Master Absolventen in der Schweiz bleiben, indem die Stay Rates, definiert als Anteil der internationalen Absolventen, die zwei Jahre nach Abschluss noch im Land sind, nach Nationalität, Studienrichtung und Universität erfasst. Der Artikel folgert, dass die Stay Rates von EU Bürgern höher sind, als jene von nicht-EU Bürgern. Die Wahrscheinlichkeit zu bleiben, ist für Studierende aus Afrika, Asien und Nord- und Südamerika tiefer.*

**Stichwörter:** *Internationale Studierende, Migration, Studienverläufe, Stay Rate.*

## **5 Partnerships and Stay Intentions of International Students**

**Article: Staying or Leaving Switzerland after Graduation? The Influence of Couple Relationships on International Students' Intentions of Mobility.**



# Staying or Leaving Switzerland after Graduation? The Influence of Couple Relationships on International Students’ Intentions of Mobility

Annique Lombard<sup>1,2</sup>, Yvonne Riaño<sup>1,2</sup>

5 <sup>1</sup>Geography Institute, University of Neuchâtel, Neuchâtel, 2000, Switzerland

<sup>2</sup>NCCR – On the Move, Neuchâtel, 2000, Switzerland

*Correspondence to:* Annique Lombard (annique.lombard@unine.ch)

**Abstract.** In recent years, international student mobility has increased significantly, both in numbers and political significance. Unfortunately, our understanding of whether international students intend to stay in or to leave their countries of study after graduating is scant. We address this research gap using a sample of 265 international students from the Swiss Migration-Mobility Survey (2016). We examine variations in their intentions to stay in or to leave Switzerland depending on their partnership situation (single, married or unmarried, with or without children). Our results suggest that students in a married or unmarried partnership are more likely to intend to stay in Switzerland after graduation than single students. Furthermore, men are more likely to intend to stay than women and more women than men follow their partners to Switzerland. These findings emphasise the importance of studying migration intentions from the perspective of couple relationships, both married and unmarried, and taking into account gender differences.

## Introduction

This paper examines the intentions of international students to stay in or to leave Switzerland after graduation, using the variable of relationship status as the focus of study. Migration decisions are not solely individual, but are embedded in personal relationships (e.g. Boyd, 1989; Bailey and Boyle, 2004; Kōu et al., 2017). Consequently, Findlay et al. (2015:391) study international migration from the perspective of “linked lives,” stating that the lives of individuals affect and are affected by the lives of others (Settersten, 2015). Toader et al. (2016) show that for academics, couple relationships matter significantly in deciding whether to become internationally mobile or not. Despite these important conclusions, studies of international student mobility intentions (ISMI) often remain focused on individual decision-making (Van Mol and Timmerman, 2014). Studies on the post-graduation mobility intentions of international students are not only scarce but have rarely examined how couple relationships influence such intentions (Sykes and Ni Chaoimh, 2012; Efonayi and Piguet, 2014; Bijwaard and Wang, 2016; Wu and Wilkes, 2017; Li and Findlay, 1996).

Focusing on the case of Switzerland, this article examines how being coupled influences the intention of international students to stay or to leave Switzerland after graduating. This is important for five reasons: First, international student numbers are rising rapidly. According to OECD data (2017), nearly five million students studied abroad in 2015—more than double since 2000. Second, although geographers have called for “an awareness of how emotional relations shape society and space” (Anderson and Smith 2001:7), migration scholars often overlook the role relationships play in shaping intentions of mobility. Third, existing studies generally focus on registered married partnerships (Bijwaard and Wang, 2016) and neglect unmarried partnerships. The analysis should incorporate the role of different types of relationships, including married and unmarried couples (cf. Kim, 2014). Furthermore, the factors of having children as well as moving as an individual or as a couple have not been studied. Fourth, focusing on couples raises neglected issues of gender differences and their roles in ISMI (Riaño and Piguet, 2016; Sondhi and King, 2017). Finally, the study of post-graduation intentions of mobility has social, economic, and political significance. Recent studies show that the percentages of international students who remain in the host country two to five years after graduation vary between 49% for Switzerland (master’s graduates) (Lombard 2017), 38% for the Netherlands (NUFFIC, 2016), and 34% for Finland (CIMO, 2016). The countries where international students choose to live in after graduation benefit from new knowledge and innovation potential, as well as tax revenue and pension contributions. In response, a global competition to attract talented students has arisen, where countries of the global North implement policies encouraging international students to stay (Riaño et al., 2018) while countries of origin not willing to lose those resources implement “brain return” policies (Riaño and Piguet, 2016).

This paper helps to fill gaps in mobility intentions research by examining four understudied factors: 1) post-migration (rather than pre-migration) intentions; 2) the role of couples in decision-making; 3) the roles of different types of partnerships (married/unmarried; with/without children; moving with/without a partner); and 4) gender differences. Our central research question is: How does having a partner shape the intentions of international students to stay in Switzerland after graduation? Methodologically, we rely on the NCCR—On the Move Migration-Mobility Survey (2016) on the migration trajectories and living conditions of nearly 6,000 recent migrants to Switzerland. We analyse the responses of 265 international students enrolled in tertiary studies in Switzerland in 2016. The paper is structured as follows: First, we introduce the literature and the relevance of Switzerland as a case study; subsequently, we describe the conceptual and theoretical background, and the methodology; finally, we discuss the results and conclusions.

### **1. Switzerland’s significance as case study**

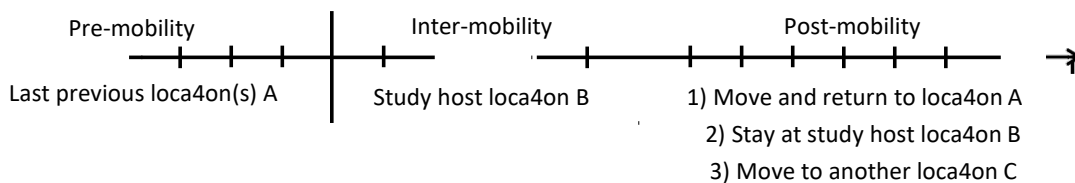
Switzerland is relevant in studying international student mobility because it has one of the highest shares of international students worldwide. In 2015, 17% of students enrolled at tertiary educational institutions in Switzerland were foreigners who had completed their secondary studies abroad—after New Zealand (21%) and Great Britain (18%) (OECD, 2017). Besides, it has centrality in both geographic and linguistic terms, offering courses in English, German, French, and Italian.

Switzerland provides attractive conditions for both studying and living, including a high standard of education for relatively low cost, political stability, low crime rates, and above-average salaries (by international standards). However, following bilateral agreements with the EU, Switzerland applied a dual migration system for international students that makes it easier for students from the EU to study (and to stay) in Switzerland after graduation, whereas non-EU students are subject to the more restrictive Foreign Nationals Act. At the same time, a new law in force since 2011 allows non-EU graduates to stay in Switzerland for six months after graduation to seek employment matching their qualifications, although this continues to be restrictive as they can only take employment of proven scientific or economic interest for Switzerland (Riaño et al., 2018).

## 2. Migration intentions: Conceptual issues and theoretical background

Upon completion of their studies, international students are confronted with the question of whether to stay, return to their native countries, or move to a third destination. This question raises three conceptual issues:

1) *How to understand the movement of international students across time and space.* Elder et al. define the “life course” as “an age-graded sequence of socially defined roles and events that are enacted over historical time and place” (2003:15). This is true for international students. After graduating, they are in a key phase of their lives regarding their professional futures and family formation. This involves the crucial decision of whether to return home, move to a new location, or stay in the country of study. We propose the following model to study the trajectories of students across time and space (fig. 1): “pre-mobility”, i.e. from the country of residency to the destination country; “inter-mobility” (Switzerland in this case); and “post-mobility”, i.e. deciding whether to return, stay, or move elsewhere.



**Figure 1: Students’ trajectories in space and time (Source: Lombard/Riaño).**

2) *How to define mobility intentions.* Migration has often been considered as a one-time move (Piguet, 2013). This approach does not seem suitable to explain student migration because students often engage in repeat migrations (Vandenbrande et al., 2006). Furthermore, studies on migration aspirations have focused on pre-migration. Our case study sets us apart because we study post-migration (rather than pre-migration) decisions. Moreover, international students are young, highly educated, and already have experiences of migration, so their thoughts about possible future mobilities are more concrete than those who have never lived abroad. Thus, we choose to use the term “mobility intentions” because, in contrast to migration aspirations,

intentions are “more concrete plans of people to move” (Van Mol et al., 2017:2). We define mobility intentions as the intention to stay in or leave Switzerland after graduation. Clearly, mobility intentions depend on a person’s assessment of their *capability* to do so (De Haas, 2010; Carling, 2014). Prospective migrants are differently positioned to achieve migration, owing to differences in resources and legal regulations. These assertions are valid in the case of international

5 students, but the situation is somewhat different for them because they have already migrated at least once, giving them experience and increased capability to remigrate. In conclusion, international students do not simply choose to stay or leave, but their ability to move is shaped by their previous migration experience and social class as well as by the migration regimes of nations. As explained before, non-EU graduates are subject to more restrictive visa regulations and therefore face more difficulties than EU nationals staying in Switzerland after graduation.

10

3) *What mobility intentions tell us about actual behaviour.* Scholars assert that there might be discrepancies between intentions and actual behaviour (Van Mol et al., 2017). Cairns and Smyth (2011) show that the migration aspirations of students in Northern Ireland do not necessarily result in migratory intentions. Sykes and Ni Chaoimh (2012) show in their study of international students in five EU member states (France, Germany, Sweden, the Netherlands, and the United

15 Kingdom) that the expressed desire to stay is higher than the share of students that actually stay. The author thus points to the discrepancy between the intention to stay and the result. Nonetheless, despite such discrepancies, for Vandenbrande et al. (2006) intentions represent a good proxy for future mobility, especially when data on actual migratory behaviour is not available. Bjarnason and Thorlindsson thus conclude that migration expectations should “be treated as a measure of migration potential rather than a proxy measure of actual future migration” (2006:291).

20

4) *What influences the decision to stay or to leave the country of study.* Previous research has highlighted a variety of influences. Focusing on university students in general, Rérat (2016) recognises four theoretical perspectives to explain the logic behind migration decisions: utilitarian (factors related to the labour market), calculating (factors referring to finances), sensitive (factors related to residential amenities), and affective (factors referring to partners, family members, and friends).

25 For Rérat, the latter perspective is important because “there is rarely a solitary mobile subject; when a person decides to move, he/she takes his/her decision in regard to a specific social context and to his/her ties with others” (ibid: 273). Bijwaard and Wang’s (2016) study in the Netherlands identified employment and marriage as the most important factors influencing international students to stay, whereas unemployment correlates with leaving. These findings agree with results from Sykes and Ni Chaoimh (2012) reporting that career-related factors, such as employment and the desire for international work  
30 experience, are the strongest motivators for staying. In contrast, personal factors such as family and other relationships are among the strongest motivations for returning. Language barriers, not feeling welcome, familial obligations, and the desire to use their skills to serve their home countries all appear to be reasons to leave (Sykes and Ni Chaoimh, 2012). International students do not move across time and space alone, but are embedded in various relationships (Riaño et al., 2015, Kim 2014). Sykes and Ni Chaoimh (2012) state that familial and personal relationships are an important factor motivating students to

leave. Zimmermann and Neyer (2013) show that students who are mobile for up to one year are more often single (compared to non-mobile students) and that they have fewer social bonds. The globalisation of education has increased the possibility of students meeting partners beyond national borders (Riaño et al., 2015). Such new relationships may lead to the desire to form a stable partnership, which in the future may possibly lead to building a family, and are thus very influential in mobility decisions for both individuals (Kim 2014). Moving with a partner to study abroad or not might also influence decisions to stay or to leave. Guest worker studies, for example, have concluded that having a spouse in the home country increases the likelihood of return (Constant and Massey, 2002), whereas having a partner in the host country increases the odds of staying. Finally, having children is an important factor of analysis, although it has not received much attention. In their study of Indian students, Sondhi and King (2017) show that women with children prefer to stay in the country of study after graduation because if they return to India they have reduced freedom of mobility. This conclusion highlights the importance of gender as a theoretical perspective of ISMI. Gendered societal expectations often assign women the responsibilities of childcare and men the role of income earners, thereby impacting their mobility (Moguéro, 2004). Therefore, the movements of international female students across transnational space are often shaped by familial obligations and negotiations with their partners (Scheibelhofer, 2010; Jöns, 2011; Sondhi and King, 2017). Consequently, having children has a differentiated impact on the international mobility of men and women. Furthermore, feminist studies have shown that female academics tend to be less geographically mobile than men mainly due to familial obligations (Ackers, 2005; Jöns, 2011; Schaer et al., 2017). Also, owing to gendered societal expectations, women tend to follow men across geographical space for their professional careers rather than the other way around (Ledin et al., 2007; Riaño, 2011).

Following the former conceptual framework, we further specify our research question: How does being in a partner relationship shape the intentions of international students to stay in Switzerland after graduation, depending on (a) marital status, (b) parental status, and (c) whether they moved to Switzerland with a partner? What main differences can be observed in terms of gender?

### 3. Methodology

#### 3.1 Data

For the analysis, we relied on the NCCR – On the Move Migration-Mobility Survey (2016).<sup>1</sup> The survey examined the current life situations and migration trajectories of 5,800 EU and non-EU migrants to Switzerland between 2006 and 2016 (response rate: 37%<sup>2</sup>). The data were weighted to be representative of the whole population. To achieve a representative

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<sup>1</sup> For more detailed information, visit <http://nccr-onthemove.ch/research/migration-mobility-survey/>.

<sup>2</sup> The response rate was reached with a mixed-mode approach of an online survey and telephone interviews.

sample of the different origins, a stratified random sampling strategy and a stratification on gender was applied.<sup>3</sup> We analysed the responses of all international students in the survey, i.e. 265 individuals enrolled in tertiary studies in Switzerland in 2016. We define “international students” according to the *prior education* approach (Teichler, 2006), i.e. foreign students having completed their secondary education abroad. The sample included 42 bachelor, 101 master, and 122

5 doctoral students aged 24 to 39 (mean: 30.3), 87% of whom were EU nationals and 13% non-EU nationals. Respondents were 49% female and 51% male, 75% were in a partner relationship, and the mean length of residence in Switzerland was 3.4 years. We were limited by the questions posed in the survey. Some data was not available, such as the students’ socioeconomic situation, their year of enrolment, and their previous location before moving to Switzerland.

### 3.2 Dependent variable

10 The survey did not question whether international students wanted to stay in Switzerland after graduating. Thus, we created a proxy variable to understand the *intention to stay in Switzerland* (abbreviated to *intention to stay*) (c.f. Piguët and Efiñayi, 2011; Steiner, 2017). The time span for the analysis was set on the intention to stay *for more than three years*. Since we investigate post-graduation intentions, we estimate three years as the minimum time to complete a degree. To create the proxy variable, we first used the survey question: “How many more years would you like to stay in Switzerland?” For those

15 who replied “I do not know yet”, we applied the second question: “How often have you considered emigration from Switzerland in the last three months?” Combining replies to these two questions results in a binary dependent variable that describes the intention to stay in Switzerland for more than three years with “stay” [N = 155] and the intention to stay for three (or fewer) years with “leave” [N = 110] (Table 1). Students who considered emigrating from Switzerland “from time to time” or more frequently were coded as not having an intention to stay.

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		1) How many more years would you like to stay in Switzerland?				
		0-3 years	I do not know yet	4-20 years	Forever	
		Leave		Stay	Stay	
2) How often have you considered emigrating from Switzerland in the last three months?	Very often		Leave			
	Often		Leave			
	From time to time		Leave			
	Never		Stay			
Number of observations		30 (11%)	80 (30%)	79 (30%)	16 (6%)	60 (23%)

<sup>3</sup> Eleven groups in three geopolitical entities were considered: EU countries (Germany, Austria, France, Italy, United Kingdom, Spain, and Portugal), industrialized non-EU/EFTA countries (North America and India), and non-industrialized non-EU/EFTA countries (West Africa and South America). Register-based sampling allows the calculation of post-stratification weights to adjust for potential non-response error.

**Table 1: Proxy variable for intention to stay for more than three years (source: NCCR survey).**

### 3.3 Independent variables

Based on our theoretical framework, we tested the following independent variables: *gender* (0 = female, 1 = male), *marital status* (0 = single, 1 = unmarried partnership, 2 = married), *parental status* (0 = no children, 1 = children) and *moving with partner* (0 = moved to Switzerland without a partner, 1 = moved to Switzerland with a partner).

### 3.4 Control variables

We control for variables of age, nationality, and period of residence. The sample is divided into two *age groups* (0 = up to 30 years old; 1 = 31 years or older) and two *national groups* (0 = EU nationals; 1 = non-EU nationals). The period of residence is the *number of years since arrival in Switzerland* (1 to 10).

### 3.5 Analytical strategy

We conducted a logistic regression test to identify the impact of gender and partnership characteristics on the intention to stay, including variables of *gender*, *marital status*, *parental status*, and *moving with partner*, while controlling for age, nationality, and period of residence in Switzerland. We subsequently analysed the variable *parental status* with *gender* as an interaction variable. Furthermore, we used descriptive analysis for describing the characteristics of couple partnerships in terms of mobility: who moved with or without a partner to Switzerland, and who followed whom (in terms of gender).

## 4. Results

### 4.1 Descriptive results

First we present the descriptive statistics in Table 2: 61% of international students surveyed would like to stay in Switzerland for more than three years, and a significantly higher percentage of men (75%) than women (45%) want to stay (Chi square = 2.7271 and p-value = 0.0987).

	Total	Women	Men
<b>Dependent Variable</b>			
Intention to stay for more than three years	61 %	45 %	75 %
No intention to stay for more than three years	39 %	55 %	25 %
<b>Independent Variables</b>			
Currently married	23 %	22 %	24 %
Currently unmarried partnership	52 %	51 %	54 %

Currently single	25 %	27 %	22 %
Children	20 %	25 %	15 %
No children	80 %	75 %	85 %
Moved to Switzerland with a partner	28 %	32 %	25 %
Moved to Switzerland without a partner	72 %	68 %	75 %
<b>Control Variables</b>			
Age up to 30 years old	53 %	55 %	52 %
Age 31 years or older	47 %	45 %	48 %
EU national	86 %	84 %	87 %
Non-EU national	14 %	16 %	13 %
Years since arrival in Switzerland (mean)	3.4	3.3	3.6
Number of observations (N = 265)	100%	49%	51%

**Table 2: Descriptive statistics of partnership variables as proportions by gender (source: NCCR survey).**

Most students (52%) were in a relationship but not married, followed by married students (23%) and single students (25%).

5 Gender differences exist in terms of having children; 25% of students are mothers whereas 15% are fathers. Gender differences can also be observed in whether the student moved to Switzerland with or without a partner (32% female, 25% male).

By specifying intentions to stay (Table 3), we observe that a higher percentage of men (32%) replied that they wished to stay 10 in Switzerland forever than women (17%). For those students that did not yet know how long they wished to stay in Switzerland, the men more often replied that they never considered leaving Switzerland (38%) than the women (25%). The women, in contrast, replied more often (37%) that they were considering leaving Switzerland than the men (20%).

	<b>Total</b>	<b>Women</b>	<b>Men</b>
<b>Intention to stay in Switzerland (detailed)</b>			
Wish to stay forever	25%	17%	32%
Wish to stay more than three years	4%	3%	5%
Don't know yet, never consider leaving	32%	25%	38%
Don't know yet, considering leaving	28%	37%	20%
Wish to stay three or fewer years	11%	18%	5%
Number of observations	265	131	134

15 **Table 3: Descriptive statistics of intention variable, as proportions by gender (source: NCCR survey).**

We found further gender differences in terms of who moved first and who followed whom (Table 4). More female students (14%) follow male partners than vice versa (5%). Equally, more male students (12%) were followed by their female partners than vice versa (5%). In terms of partnership, more men (58%) than women (48%) were single at their time of arrival in Switzerland; however, these percentages changed during their stay. At the time of the survey (2016), only 25% of all international students were single: 22% of the men and 27% of the women. This shows that new couples were formed during studies abroad. Finally, our results show that men are more often (27%) in a partnership with a Swiss national than women (13%).

	Total	Women	Men
Moving with or without a partner and who follows whom			
Student and partner moved together	11%	13%	9%
Student followed the partner	9%	14%	5%
Partner followed the student	9%	5%	12%
Partner has not yet moved to Switzerland	6%	7%	5%
Partner lived in Switzerland when they met	13%	13%	12%
No partner at the moment of moving to Switzerland	53%	48%	58%
Nationality of the partner or spouse (in 2016)			
Swiss spouse or partner	20%	13%	27%
Foreign spouse or partner	55%	60%	51%
No partner or spouse	25%	27%	22%
Number of observations	265	131	134

10 **Table 4: Descriptive statistics of partnerships, as proportions by gender (source: NCCR survey).**

#### 4.2 Multivariate analysis

Subsequently, we used a logistic regression model to test whether *intention to stay* is correlated with *gender*, *marital status*, *parental status*, and *moving with partner* (Table 5).

	Model I	Model II
15 Constant	-0.593 (0.435)	-0.787* (0.449)
Gender (Ref: Female)		
Male	0.451* (0.258)	0.719** (0.282)
Marital status (Ref: Currently single)		
20     Currently married	0.686* (0.403)	1.785* (0.412)
Currently unmarried partnership	0.567* (0.322)	0.562* (0.326)
Parental status (Ref: No children)		

	Children	0.292	(0.409)	1.049*	(0.540)
	Moving with partner (Ref: Moved without a partner)				
	Moved to Switzerland with a partner	-0.290	(0.325)	-0.238	(0.330)
	Nationality (Ref: EU national)				
5	Non-EU national	0.065	(0.273)	0.039	(0.056)
	Age (Ref: Up to 30 years old)				
	31 years or older	0.157	(0.299)	0.199	(0.304)
	Years since arrival in Switzerland	0.053	(0.299)	0.056	(0.059)
	Gender (Ref: Female) x children (Ref: No children)		-1.822**	(0.744)	
10	Number of observations	265	265		
	Akaike Information Criterion (AIC)	367.9	363.8		

Note: Coefficient with significance level: \*p<0.1 and standard error in brackets

**Table 5: Regression models with dependent variable intention to stay for three years (source: NCCR survey).**

### 15 4.3 Gender differences

When interacting the variable *gender* with the variable *parental status*, we observe significant differences between women and men. The predictor effect plot (Figure 2) shows that if children are present, the coefficients by gender point in the opposite direction. Female students with children are more likely to intend to stay in Switzerland than those without children. Male students with children are less likely to intend to stay than those without children.

20

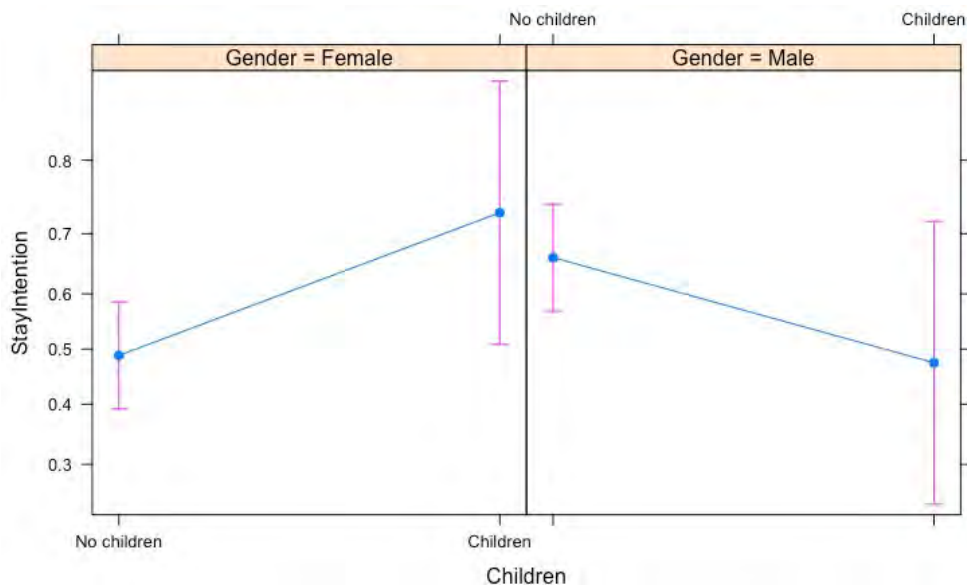


Figure 2: Predictor effect plots: Children in interaction with gender (source: NCCR survey).

### 5. Discussion

To summarise our findings, we contribute to three areas of study on ISMI: (a) whether to stay in or leave Switzerland after graduation, (b) the role that partnerships play in mobility intentions, and (c) gender differences.

(a) *The intention to stay or to leave after graduation.* Our study reveals that *two-thirds* of international students *intend to stay* in Switzerland for more than three years. Such a high percentage needs to be taken with caution however. It is probably more a measure of mobility potential than a measure of actual mobility, as previous studies have shown (Bjarnasson and Thorlindsson, 2006). The number of students who desire to stay is usually higher than the share of students who actually stay (Sykes and Ni Chaoimh, 2012). Our own study on the cohort of international students who graduated from Swiss universities in 2012 (Lombard, 2017) illustrates that: Only 49% of all master’s students are still in Switzerland two years after graduating. Regarding nationality, contrary to our expectations our study shows no significant differences between intentions to stay for EU and non-EU nationals.

(b) *The role of partnerships in the intention to stay or to leave.* Our study demonstrates that international students in relationships show a greater tendency to want to stay in Switzerland than single students, regardless of whether they are married. This result confirms our original assumption that a couple relationship is an important factor in the mobility decisions of international students. The reasons why coupled students have a greater desire to stay, however, are not clear. One possible interpretation is that some have partners who are permanent residents or Swiss nationals, which facilitates

staying in Switzerland in legal, social, and economic terms. For couples who have moved together to Switzerland, it is likely that they will develop common social networks and therefore a sense of place. Ties to place have been identified as key factors in determining potential migration (McHugh, 1984) (or potential remigration, in our case). Furthermore, once settled in the host country of study, relocation can seem more challenging for two people than for an individual, as it means finding  
5 suitable housing and employment for both, which implies more time investment, negotiation, and cost. Severing local ties has indeed been shown to be an important cost of migrating (Mulder and Malmberg, 2014) (or remigrating). Interestingly, by differentiating between married and unmarried couples, our results question the claims made in the literature that marriage is the key explanatory factor for staying (Bijwaard and Wang, 2016). Clearly, what matters is not principally being married but the relationship itself.

10

(c) *Gender differences.* Our study reveals important differences between female and male ISMI: More men than women intend to stay, more women than men follow their partners to Switzerland, women with children are more likely to stay than women without children, and men without children are more likely to stay than men with children. The information gathered by the NCCR – On the Move Migration-Mobility Survey does not explain these differences. Therefore, we look to the  
15 available literature for possible interpretations. Scholars studying student and academic mobility have concluded that ISMI is highly gendered because the idea that women will follow men still predominates (Riaño et al., 2015). Consequently, more women adapt their occupation to their partner’s activity than men. Moreover, domestic work, including caring for children and the elderly, still falls predominantly to women (Scheibelhofer, 2008; Jöns, 2011; Sondhi and King, 2017). The couple’s international mobility is thus closely entangled with gender representations, which are shaped by societal expectations of  
20 gendered behaviour (Schaer et al., 2017). Consequently, more men than women are in the favourable situation of moving abroad with their whole family (Kulis and Sicotte, 2002) and have more freedom to decide whether to stay abroad or not. Male graduates with children might consequently feel freer to stay in Switzerland than female students with children, but it is also possible that men with children left behind in their native countries would want to go back to reunite with them. Furthermore, becoming parents stands out as a key turning point in a couple’s configuration (Schaer et al., *ibid*), and thus the  
25 gender-specific division of labour within a couple household tends to emerge or strengthen after the couple has children (Riaño et al., 2015). As an example, Sondhi and King (2017) have shown that female Indian students with children prefer to stay in their country of study because they fear losing their freedom of mobility if they return. But this explanation only refers to the Indian context; it is necessary to also look at the conditions offered by the host country. Switzerland is relatively safe and education is free, making it a very attractive country in which to raise children. At the same time, reconciling family  
30 and professional life in Switzerland is particularly challenging for migrants with children because of unfavourable school schedules, insufficient childcare resources, and a lack of family networks (Riaño et al., 2015). This means that although international students may at first consider Switzerland to be an attractive place to raise children, with time they might change their minds and decide to move elsewhere.

## 6. Conclusion

This paper sheds light on how being in a couple relationship influences the intention of international students to stay in or to leave Switzerland after graduation. We carried out an original analysis of the responses of 265 international students who partook in the NCCR – On the Move Migration-Mobility Survey (2016). We examined variations among couples regarding their intentions to stay in or leave Switzerland depending on their marital status, parental status, and whether they moved to Switzerland together. A gender perspective is at the core of analysis. The statistical analysis is based on descriptive statistics and logistic regression methods.

We make several contributions to the literature. First, we contribute to the rare studies on international students mobility intentions. Second, most studies on migration intentions have focused on pre-migration intentions (e.g. De Haas, 2010; Carling, 2014). We focus on post-migration intentions, or “onward migration” (Ramos, 2017), thus emphasizing that migration is not a singular event but an ongoing process. Third, we reveal that two-thirds of the studied population intend to stay in Switzerland for more than three years. We suggest regarding this result as more a measure of mobility potential than a measure of actual mobility. The number of students who desire to stay is usually higher than the share of students who actually stay, as our previous studies show (Lombard, 2017). Fourth, we show that students with a partner show a greater tendency to intend to stay in Switzerland than students without a partner. This important result highlights the significance of the “linked-lives” approach (e.g. Findlay et al., 2015) to studying mobility intentions. Moreover, we show that marriage is not the key variable to explain intentions to stay, as previously shown (Bijwaard and Wang, 2016), but being in any type of coupled relationship. Fifth, our results show that students who came to Switzerland as a couple have a higher probability of staying than those who moved alone, and that students with children are more likely to stay than those without children. These are important results as formerly there were no differentiated results on how different types of relationships may influence future intentions of mobility. It is very important for future studies to examine why marital status, parental status, and having arrived with your partner in Switzerland favours the intention of wanting to stay. Sixth, we have revealed some important gender differences in intentions and patterns of mobility: More men than women intend to stay in Switzerland after graduation, more women than men follow their partners to Switzerland, and women with children are more likely to stay than men with children. Our results need to be further analysed through qualitative studies that examine how ideas of gender roles influence patterns and intentions of international student mobility. Furthermore, it is important to conduct longitudinal studies that show how the intentions of former international students to stay in Switzerland evolve in step with their life experiences. Finally, our findings are relevant to advancing our understanding of how emotional relationships shape patterns of international student mobility.

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## Annex

Variables	Values of new variable	No	Questions as formulated in survey
Binary stay intention	Stay intention (for more than three years)	H2	Grouped values of Stay or leave intention (See new variable below)
	No stay intention (three or fewer years)	H3	
Stay or leave intention (detailed)	1 Wish to stay forever	H2	How many more years would like to stay in Switzerland?
	2 Wish to stay more than three years		
	3 Don't know yet, never considered to leave	H3	How often have you considered emigrating from Switzerland in the last three months?
	4 Don't know yet, considering leaving		
	5 Wish to stay for three or less years		
Marital status	1 Currently married (spouse)	A8	What is your civil status? Do you have a partner? By partner, we mean being in a heterosexual or homosexual relationship.
	2 Currently unmarried partnership (partner)	A9	
	0 Currently single		
Parental status	1 Children 0 No children	F8	How many children do you have?
Moving with partner	1 Moved to Switzerland with partner (1-4)	B9	Grouped values of Order of move (See new variable below)
	0 Moved to Switzerland without a partner (0-5)	B10	
Order of move (detailed)	0 No partner at moment of moving to Switzerland	B9	Were you married or in a relationship when coming to Switzerland?  What was the situation when you moved to Switzerland in [year]: Which of you moved to Switzerland first, or did you move to Switzerland together?
	1 Student and partner moved together	B10	
	2 Student followed the partner		
	3 Partner followed the student		
	4 Partner lived in Switzerland when they met		
5 Partner has not yet moved to Switzerland			
Nationality	1 EU national 2 Non-EU national	A5	What nationality(ies) do you hold?
Partner's nationality	1 Swiss spouse or partner	A8	Type partnership (See new variable above)
	2 Foreign spouse or partner	A9	
	0 No partner or spouse	F5	
Duration stay	[2016 - year of arrival in Switzerland]	A6	In what year have you immigrated to Switzerland?

**Annexe 1: Recoding of new variables used for regression and descriptive analysis (source: nccr survey).**



## **6 Employment of International Graduates in the Swiss Labour Market**

**Article: International Graduates in Switzerland: Transitioning into the Labour Market.**



**Annique Lombard  
(University of Neuchâtel) and  
Jonathan Zufferey  
(University of Geneva)**

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**International Graduates  
in Switzerland:  
Transitioning into the  
Labor Market**

The nccr – on the move is the National Center of Competence in Research (NCCR) for migration and mobility studies. It aims to enhance the understanding of contemporary phenomena related to migration and mobility in Switzerland and beyond. Connecting disciplines, the NCCR brings together research from the social sciences, economics and law. Managed from the University of Neuchâtel, the network comprises fourteen research projects at ten universities in Switzerland: The Universities of Basel, Geneva, Lausanne, Lucerne, Neuchâtel, Zurich, ETH Zurich, the Graduate Institute Geneva, the University of Applied Sciences and Arts of Western Switzerland, and the University of Applied Sciences and Arts of Northwestern Switzerland.

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nccr – on the move, University of Neuchâtel, Rue Abram-Louis-Breguet 2, 2000 Neuchâtel, Switzerland  
Contact for the Working Paper Series: [info@nccr-onthemove.ch](mailto:info@nccr-onthemove.ch)



## Abstract

International students are potential highly skilled workers who can enter in their host country's labor market. In Switzerland, migration policies regulate the selection criteria for migrant workers, including international students who subsequently seek employment after graduation. However, Switzerland has competing national interests: on the one hand, economic efficiency requires highly skilled workers who are partially recruited abroad; on the other hand, the state has to address concerns related to immigration, social cohesion, national identity, and security. We analyze the dynamic of international graduates' integration in the Swiss labor market. We first provide an overview of the stay rates of graduate students based on register data, and then we conduct a multivariate analysis of Swiss labor market integration based on graduate surveys from the Swiss Federal Statistical Office. We complement the analysis with responses to problems encountered by the international graduates when seeking employment. We find that Switzerland accesses a pool of variously skilled graduates upon their graduation from Swiss universities. While Swiss employers recruit both European and non-European graduates, the priority rule and facilitated mobility for EU nationals are reflected in higher employment rates of EU graduates. Graduates with degrees in science, technology, engineering, and math (STEM) are more likely than non-STEM graduates to find employment in Switzerland. Yet, this factor is not as strong as expected for all non-EU nationals: STEM graduates from both EU and non-EU countries, as well as the Asia-Pacific region, are employed at a significantly higher rate than non-STEM graduates from the same region.

## Keywords

International graduates, study-to-work transition, labor market integration policies

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## Contacts

[annique.lombard@unine.ch](mailto:annique.lombard@unine.ch)

Institute of Geography, University of Neuchâtel, Rue Abraham-Luis-Breguet 2, 2000 Neuchâtel

[jonathan.zufferey@unige.ch](mailto:jonathan.zufferey@unige.ch)

Institute of Demography and Socioeconomics, University of Geneva, Uni Mail 40, 1211 Geneva

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# 1 Introduction

Developed countries compete worldwide to attract skilled workers to their labor market. International graduate students constitute a pool of highly skilled workers who could potentially be recruited and retained in the host country. Trained on site, these graduates internalize some characteristics that make them more suited for employment than other foreign workers recruited from abroad. They have experienced life in the host country and have therefore acculturated to a certain degree to the local society, culture, customs, and language. Furthermore, their training is relevant to the domestic labor market, where their Swiss degrees are immediately recognized (Felbermayr and Reczkowski 2012, Tremblay 2005). In other words, international students possess skills which can considerably accelerate their social and economic integration and have proven that they can establish themselves and thrive in a foreign context (Mayer et al. 2012).

Through an economic lens and as formulated by Ruhs (2008), three rationales speak in favor of retaining international graduates. First, to support labor expansion by complementing the skill base of the domestic workforce; second, to facilitate economic growth by employing highly qualified workers; and third, to provide fiscal benefits (while) maximizing overall gains (and) minimizing adverse distributional effects for existing residents. In addition, recruiting international graduates lessens the demographic trend of an aging society and helps to co-finance retirement provisions and other social welfare systems. Furthermore, some countries—such as the United States, the United Kingdom, Australia, New Zealand, and Canada—benefit from the high fees paid by international students, which contribute to financing the higher education system. On the contrary, universities in other countries—such as Switzerland, Germany, and Finland—not only do not ask for higher fees but subsidize the studies of international students. Several countries have identified international graduates as potential highly skilled workers and aim to retain them by providing attractive regulations for staying after graduation. First among these are the so-called traditional immigration countries—Canada (She and Wotherspoon 2013), Australia (Hawthorne 2010, 2012, Hawthorne and To 2014), the United States, and the United Kingdom—which target foreign students as possible permanent immigrants (Suter and Jandl 2006, 2008). Many other countries have followed this model, turning the issue into a competition for talent (Skeldon 2009, Boeri et al. 2012). Furthermore, the Organization for Economic Co-operation and Development (OECD) and the European Union (EU) have defined strategies (e.g. “youth on the move”, “smart growth”) for retaining international students (European Commission 2011, OECD 2016).

Our study of the labor market integration of international students focuses on Switzerland. This is an interesting case given its geographical situation at the heart of Europe without being part of the EU. On the labor market, Switzerland gives priority to Swiss residents and prioritizes EU to non-EU citizens. The combination of courses offered in English and other common European languages, as well as the good reputation of Swiss universities, attracts many students from abroad. Over the last fifteen years, the number of international students in Switzerland has more than doubled, reaching about 33,800 in 2017 (FSO 2017). Switzerland holds a 17% share of international students enrolled at higher education institutions on all levels and is positioned, in relative terms, behind New Zealand (21%) and the UK (18%). At the master’s level, every fourth student is an international student (OECD 2017).

One important aspect of fostering innovation is the recruitment of new talent, especially in the science, technology, engineering, and math (STEM) fields, which are in great demand in the labor market (AMOS 2015). Countries that aim to integrate international graduates into their labor markets can provide attractive conditions for admission and residency status policies, as well as access to employment. However, migration policies are shaped by various—and sometimes competing—state interests. Ruhs (2013) identified four interrelated policy goal dimensions: *economic efficiency* (i.e. maximizing the benefits of immigration for economic growth); *distribution* (i.e. making sure immigration does not harm the lowest-paid workers in the economy); *national identity and social cohesion*; and *national security and public order*. Achieving one policy goal can create a trade-off situation that has to be managed by the state. Thus, in order to attract international graduates as highly skilled workers, the state can adapt existing immigration policies that regulate the number, the selection, and the rights of migrant workers admitted.

Migration policies in Switzerland have been shaped by these competing objectives. On the one hand, the economy has a strong need for highly skilled workers and many of them are recruited from abroad. On the other hand, the state has to address concerns related to national identity and security, public order, and social cohesion. These competing state policy objectives—restricting migration versus attracting highly skilled foreign workers—resulted in different forms of regulations on admission and labor market access. In practice, they have a selective effect on who can obtain a residence permit and subsequently integrate into the Swiss labor market.

In addition to migration policies, study performance (Kuptsch 2006) and familial situations (Brooks & Waters 2010) also influence the employment outcomes of international graduates in Switzerland. The aim of our study is, therefore, to identify *which selective dynamic predominates the employment outcomes of international master's graduates*. We examine the employment rate of these students one year after graduation by taking degree field, study performance, familial status, and nationality into consideration. Then, to best explain the differences in employment outcomes, we test the following five hypotheses based on the existing literature:

- 1) *Study performance*: Differences in employment rates are explained by the final grades of the graduates. Graduates with high final grades have higher employment rates.
- 2) *Parenthood*: Differences in employment rates are explained by parenthood. Graduates with children have lower employment rates.
- 3) *Nationality*: Differences in employment rates are explained by the legal framework providing EU nationals with better access to the labor market than non-EU nationals. Non-EU nationals have lower employment rates than EU nationals.
- 4) *Labor market demand for STEM qualifications*: Differences in employment rates are explained by a strong demand for STEM graduates in the labor market. Graduates in STEM sectors have higher employment rates than those in non-STEM sectors.
- 5) *Third-country nationals with STEM qualifications*: Among non-EU graduates, differences in employment rates are mostly explained by employment in STEM fields. The difference between graduates in STEM and non-STEM fields is higher among non-EU nationals than among EU nationals.

## 2 Literature and Legal Framework

### 2.1 Reasons for Staying or Leaving

Studies show that international students consider a variety of reasons when deciding whether or not to remain in the host country. In his study on university students, Rérat (2016) recognizes four theoretical perspectives to explain the logic behind mobility decisions: utilitarian (factors related to the labour market), calculating (factors referring to finances), sensitive (factors related to residential amenities), and affective (factors referring to partners, family members, and friends). These factors also apply for international students (e.g. Weisser 2016). Bijwaard and Wang's (2016) study in the Netherlands identified employment and marriage as the most important factors influencing international students to stay, whereas unemployment correlates with leaving. These findings agree with results from Sykes and Ni Chaoimh (2012) reporting that career-related factors, such as employment and the desire for international work experience, are the strongest motivators for staying. In contrast, personal factors such as family and other relationships are among the strongest motivations for returning. Language barriers, not feeling welcome, familial obligations, and the desire to use their skills to serve their home countries all appear to be reasons to leave. Furthermore, international students do not move across time and space alone but are embedded in various relationships (Riaño et al. 2015, Kim 2014). Eventually, the desire of staying or is not always fulfilled due to legal restrictions which can create discrepancies between intentions and actual mobility behavior (Van Mol et al. 2018). Sykes and Ni Chaoimh (2012) show in their study of international students in five EU member states (France, Germany, Sweden, the Netherlands, and the UK) that the expressed desire to stay is higher than the share of students that actually stay.

### 2.2 Labor Immigration and Retention Policy Practices in Switzerland

The bilateral Agreement on the Free Movement of Persons (AFMP) between Switzerland and the EU entered into force in 2002, facilitating the mobility and immigration of EU and European Free Trade Agreement (EFTA) nationals. At the same time, the Foreign Nationals Act (FNA), which regulates the admission and residency policies for non-EU and non-EFTA nationals (hereafter named *third-country nationals*), became applicable and proved to be much more restrictive according to predominant economic interests in Switzerland,<sup>1</sup> resulting in the admittance of predominately urgently required qualified workers. The precedence regulation (hereafter named *priority rule*)<sup>2</sup> grants EU nationals priority access to the labor market, meaning that third-country nationals can only be hired if no suitable Swiss resident or EU national is found. The revision of the FNA and the legal amendments due to a parliamentary initiative<sup>3</sup> provided new opportunities for third-country nationals who graduated from a Swiss university, including doctoral students<sup>4</sup>.

<sup>1</sup> Art. 3(1) FNA: Admission: "The admission of gainfully employed foreign nationals is allowed in the interests of the economy as a whole; the chances of lasting integration in the Swiss employment market as well as in the social environment are crucial. Switzerland's cultural and scientific needs shall be appropriately taken account of."

<sup>2</sup> Art. 21(1) FNA: Precedence: "Foreign nationals may be permitted to work only if it is proven that no suitable domestic employees or citizens of states with which an agreement on the free movement of workers has been concluded can be found for the job." [...]

<sup>3</sup> Parliamentary initiative (08.407) "Faciliter l'admission et l'intégration des étrangers diplômés d'une haute école Suisse"

<sup>4</sup> Art. 21(3) FNA: Simplified admission for foreign nationals with university degrees: "Foreign nationals with a Swiss university degree may be admitted in derogation from paragraph 1 if their work is of high academic or economic interest. They shall be temporarily admitted for a period of six months following completion of their education or training in Switzerland in order to find suitable work."

Since 1 January 2011, third-country nationals with a Swiss university degree can apply for a permit to seek employment for a duration of six months after graduation under the condition that the work is “of high academic or economic interest”, and make use of an exception to the priority rule regulations (Vaitkeviciute 2017).

The legal restrictions and rights that graduates experience in Switzerland depend on their residence status (short-term versus long-term) and the type of permit issued related to a specific migration purpose (study, employment, marriage, family reunification, permit transformation). In practice, when a student permit expires upon graduation, EU nationals can legally stay in Switzerland, whereas third-country nationals with a permit related to their studies have restricted options. If they do not enroll in subsequent studies (e.g. PhD after master’s), they can either seek employment before graduating (if the employer requests a work permit) or they can apply for the six-month job-seeking permit. Of course, not all international graduates have a student permit—for some, the main reason for applying is unrelated to their study enrollment.

The possibility of switching between different permit statuses (and their associated rights) is one form of facilitating the study-to-work transition. In Switzerland, this pathway is not as developed as it is in other countries, such as Germany or the Netherlands (Brooke and Sykes 2012), and the six-month post-graduate job-seeking permit (including the exception of the priority rule) is the only provision for facilitated access to the labor market. However, graduates have to apply for the permit and they are eligible only under specific conditions (e.g. high academic or economic interest).

### **2.3 Labor Immigration and Retention Policy Practices Outside Switzerland**

In the European Union, the need to attract third-country nationals for academic and economic purposes, as well as to boost innovation in Europe, was emphasized as a top priority at the Lisbon European Council in 2000 and led to the creation of the European Research Area (ERA). In 2007, the European Commission’s Green Paper on the ERA aimed to increase the transnational mobility of researchers. Furthermore, the EU introduced the Blue Card (Directive 2009/50 EC),<sup>5</sup> which was designed to attract highly skilled labor by facilitating entry for third-country nationals. The EU also combined the Student Directive (Directive 2004/114/EC) and the Researcher Directive (Directive 2005/71/EC) into the Recast Directive (Directive 2016/801/EU). This provides better conditions for international students and researchers as well as for their families, including harmonized rules on admission conditions, extra-economic rights for students, increased possibilities for inter-EU mobility, the integration of students into the EU labor market, more rights for family members of researchers and effective judicial protection, and other guarantees. Most importantly (and for the first time), the directive imposes an obligation on every member state to allow third-country researchers and students to stay in its territory for at least nine months in order to seek employment or set up a business.<sup>6</sup> These graduates are required to undergo specific administrative procedures and submit the relevant documents for the permit application (Vaitkeviciute 2017).

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<sup>5</sup> Currently, a revision of the 2009 Blue Card—designed to attract highly skilled labor—is underway. The proposed changes include new schemes offering more flexibility for recent graduates and for workers in occupations suffering shortages. Furthermore, the proposal includes the abolition of parallel national schemes.

<sup>6</sup> Art. 25(1) Recast Directive: “After the completion of research or studies, researchers and students shall have the possibility to stay on the territory of the Member State that issued an authorisation under Article 17, on the basis of the residence permit referred to in paragraph 3 of this Article, for a period of at least nine months in order to seek employment or set up a business [...]”

The Recast Directive sets minimal standards and provides EU member states wide discretion regarding implementation in national law. Consequently, the implemented regulations among member states are very heterogeneous, and the UK, Ireland, and Denmark opted not to apply the directive (Directive 2016/801/EU). However, fifteen EU member states include five special incentives to retain former third-country national students: 1) simplified application procedures for authorization to stay for work or business (e.g. applicants are not subject to labor market tests or examinations), 2) lower salary requirements, 3) full access to the labor market (e.g. not restricted to the field of study or work, nor limited to reduced working hours), 4) a possibility to remain in the member state to look for work or to set up a business (e.g. for a minimum period of 1.5 years), and 5) various additional incentives (e.g. fewer years of residence required to qualify for permanent residence, exception of quota rules, orientation year with free access to the labor market and a residence permit) (EC 2017).

## 2.4 Stay Rates and Post-Graduate Mobility of International Students

A previous study based on national register data in Switzerland on international master's students graduating from Swiss universities in 2012 shows their nationalities and stay rates as a percentage of international master's graduates registered with a residence permit two years after graduation (Lombard 2017). The overall stay rate is 49% and students from the European non-EU group have the highest stay rates of all regional groups (Table 1). Germans have stay rates above the average, while North Americans, Asians, and Oceanians have the lowest stay rates.

*Table 1: International students graduating in 2012 and their stay rates in 2013/2014, by nationality*

<b>International students graduating in 2012, by nationality</b>	<b>Number and % of graduates in 2012</b>		<b>Stay rates in 2013</b>	<b>Stay rates in 2014</b>
Germany	772	24 %	54 %	51 %
France	443	14 %	49 %	47 %
Italy	339	11 %	52 %	47 %
EU-17 and EFTA (without GER/FRA/ITA)	365	11 %	51 %	49 %
European non-EU (incl. EU-8 and EU-2)	448	14 %	64 %	62 %
Asia and Oceania	423	13 %	43 %	40 %
Latin America	179	6 %	48 %	43 %
North America	139	4 %	43 %	38 %
Africa	120	4 %	53 %	48 %
<b>Total</b>	<b>3228</b>	<b>100 %</b>	<b>52 %</b>	<b>49 %</b>

Source: LABB & ZEMIS, 2015

Non-EU nationals have in average lower stay rates (44%) than EU nationals (51%). Besides the country of origin, other factors affecting the observed stay rates include the geographical location of the host university and the study field. STEM graduates have very high stay rates—engineering 57%, life sciences 62%, and environmental studies 58%—whereas non-STEM fields have lower stay rates—social sciences 42% (Lombard 2017). However, stay rates provide information based solely on whether graduates stay. They do not explain integration into the Swiss labor market, difficulties encountered while seeking work, or reasons for staying other than employment.

### 3 Data and Methods

#### 3.1 Data Sources

The study-to-work transition focuses on international master's students. The analysis relies on data from the Swiss Federal Statistical Office (FSO). The Swiss graduate survey is conducted biennially with (Swiss and international) students graduating from Swiss universities. All graduates are asked to fill out the survey one year after graduation. The survey includes particularly detailed information about studies and transitions to the labor market. Our analysis includes 3,542 international master's students who graduated in 2006, 2008, 2010, 2012, or 2014 and who still lived in Switzerland one year after graduation. We did not include the 2002 and 2004 graduate surveys in the analyses because of a low response rate among international students, who were difficult to reach since the survey was still conducted by post at the time. The survey was sent to all graduates; the response rate from 2006 to 2014 was between 53% and 60% and was slightly higher among international students. In order to correct for non-response biases, we used the weights estimated by the FSO in all descriptive analyses.

#### 3.2 Methods

We used binomial logistic regression models to test our hypotheses on the integration of international graduates into the Swiss labor market. The dependent variable indicates whether or not international graduates are active on the labor market one year after graduation. The main independent variables are nationalities (9 categories), grades (5 categories), and a dichotomic variable indicating if the study field is STEM (science, technology, engineering, and math). The models also include gender and year of graduation as control variables. A first model, which includes all presented variables, was built to test (*ceteris paribus*) nationality, study performance, parenthood, and labor market hypotheses. A second model adds an interaction effect between nationalities and STEM fields in order to test the study field hypothesis. The nationalities have been clustered in nine categories according to their geopolitical situation during the period of analysis. The three largest neighboring EU countries—Germany, France, and Italy—are analyzed individually. The other member states (without Germany, France, and Italy) of the EU-17, as well as the EFTA states, benefitting from complete freedom of movement rights, are grouped as EU-17/EFTA.<sup>7</sup> The EU-8 and EU-2<sup>8</sup> nationals had only limited freedom of movement rights until 2012, therefore they are grouped with other countries situated on the European continent that are not part of the EU as European non-EU. Non-EU nationals who fall under the stricter regulations of the FNA are grouped by continent.

Some robustness checks have been performed. First, we tested differences between nationality groups. In particular, given the transitional phases of limited freedom of movement rights (contingents and priority rules) after accession to the EU, we tested differences between EU-8 and EU-2 nationals, who appeared to have similar access to the Swiss labor market as European non-EU. In fact, the categorization presented in the paper is of the highest quality according to the

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<sup>7</sup> EU-17: Germany, Austria, Belgium, Denmark, Spain, Finland, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, the United Kingdom, Sweden (EU-15), Cyprus, and Malta. EFTA: Iceland, Liechtenstein, and Norway.

<sup>8</sup> EU-8: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia.

EU-2: Bulgaria and Romania. Non-EU European countries: Russia, Turkey, Serbia, Ukraine, Albania, a.o.

Akaike Information Criteria (AIC). We also tested models with additional control variables, but these variables did not clarify our research questions. Regarding study fields, there are important differences in labor market integration—students in medicine, for example, have a very high degree of labor market integration, which is sector-specific. The control in the models for different study fields has little influence on the other independent variables. We therefore focus on the STEM sector, as students in these fields benefit from increased political attention and regulations formulated in their favor. Since STEM students are a consistent population with a generally high level of labor market integration, we decided to facilitate the interpretation by presenting a dichotomy only between STEM and non-STEM students. Second, we run several models including Swiss graduates. Taking the Swiss population into account has a dramatic influence on most of the independent variables presented. This means that the underlying factors explaining the labor market integration of graduates are not the same for Swiss and international students.

#### 4 International Master’s Graduates’ Employment in Switzerland

Table 2 provides an overview of the characteristics—i.e. the variables used in modeling the transition to the labor market—of the master’s graduates who filled out the survey and still lived in Switzerland one year after graduation.

According to national register data, 48% of international master’s graduates in Switzerland in 2014 were German, French, or Italian, while only a third were from non-EU countries. China (3.4%) was the most prominent non-EU country of origin, followed by the United States (2.9%), Russia (2.0%), India (1.9%), and Turkey (1.5%) (ZEMIS, FSO 2015).

*Table 2: Descriptive statistics of the sample, Swiss graduate survey 2006–2014*

	Number	Percentage	Weighted percentage	Share of STEM
<b>Cohort</b>				
2006	249	7.0	7.7	33.1
2008	362	10.2	11.9	27.1
2010	636	18.0	18.7	31.3
2012	1115	31.5	29.1	30.2
2014	1180	33.3	32.5	33.8
<b>Sex</b>				
Women	1875	52.9	51.5	21.0
Men	1667	47.1	48.5	42.4
<b>Age group</b>				
24 or younger	516	14.6	14.2	50.5
25–29 years	2077	58.6	58.3	34.6
30–34 years	621	17.5	18.0	17.6
35–39 years	192	5.4	5.6	12.2
40 or older	136	3.8	3.9	5.6
<b>Parent</b>				
No	3190	90.1	89.9	32.9
Yes	352	9.9	10.1	17.8

<b>Nationality</b>				
Germany	860	24.3	23.1	31.4
France	341	9.6	10.1	37.9
Italy	241	6.8	6.8	29.0
EU-17 & EFTA	437	12.3	12.3	36.4
European non-EU	682	19.3	19.3	22.5
Africa	227	6.4	7.1	29.7
North America	106	3.0	2.9	33.7
Latin America	260	7.3	7.7	24.8
Asia & Oceania	388	11.0	10.7	42.4
<b>Grade</b>				
4 to 4.5	87	2.5	2.7	12.5
4.5 to 5	649	18.3	19.0	21.4
5 to 5.5	1392	39.3	38.9	34.4
5.5 to 6	1096	30.9	30.0	39.4
missing	318	9.0	9.4	19.3
<b>Study field</b>				
Human and social sciences	807	22.8	22.8	0.0
Economic sciences	549	15.5	17.2	0.0
Law	151	4.3	4.8	0.0
Exact and natural sciences	716	20.2	18.0	98.1
Medicine and pharmacy	100	2.8	3.0	0.0
Technical sciences	524	14.8	13.8	100.0
Interdisciplinary and other	89	2.5	2.7	0.0
Applied universities	606	17.1	17.7	0.0
<b>Total</b>	<b>3542</b>	<b>100.0</b>	<b>100.0</b>	<b>34.6</b>

Source: Swiss Graduate Survey 2006–2014 (FSO)

#### 4.1 Employment Rates of International Graduates

Altogether, the employment share of international graduates in Switzerland one year after graduation is 83%, which is very high. Germans have an outstandingly high employment rate of 93%, which is higher than that of Swiss graduates (90%). Thereafter follow French (88%), EU-17 and EFTA nationals (86%), and Italians (85%). Non-EU nationals have overall lower employment rates, with the exception of North Americans (85%). Further behind are Latin Americans (79%), European non-EU nationals (77%), Asians and Oceanians (73%), and Africans (66%).

We ran multivariate regression models in order to know which group enjoys the greatest access to employment: graduates with the best final grades, those with better legal conditions due to their nationalities, those who are in demand in the labor market, or STEM graduates from third countries. The first model expresses, *ceteris paribus*, the effect of all international graduate characteristics (see section 3.2 regarding methods) on labor market integration. Model 2 includes the same variables as Model 1 but also takes into account the interaction between STEM status and nationality. Finally, Model 3 is similar to Model 1 but reflects the effects for Swiss graduates instead of international students. The results are presented in Table 3.

Table 3: Binomial logistic regressions of labor market integration international master's graduates

	Model 1			Model 2			Model Swiss		
	coef.	(SE)	sig.	coef.	(SE)	sig.	coef.	(SE)	sig.
<b>Intercept</b>	<b>3.13</b>	<b>(0.42)</b>	<b>***</b>	<b>2.63</b>	<b>(0.45)</b>	<b>***</b>	<b>1.51</b>	<b>(0.16)</b>	<b>***</b>
<b>Nationality (ref. Germany)</b>									
France	-0.44	(0.22)		0.07	(0.4)				
Italy	-0.65	(0.23)	**	-0.06	(0.48)				
EU-17 & EFTA	-0.71	(0.19)	***	0.55	(0.43)				
European non-EU	-1.13	(0.16)	***	-0.31	(0.34)				
Africa	-1.72	(0.21)	***	-1.27	(0.36)	***			
North America	-0.74	(0.31)	*	-0.84	(0.48)				
Latin America	-1.08	(0.21)	***	-1.20	(0.37)	**			
Asia & Oceania	-1.52	(0.18)	***	-0.76	(0.31)	*			
<b>STEM (ref. STEM)</b>									
not STEM	-0.62	(0.12)	***	0.10	(0.28)		0.02	(0.05)	
<b>Grade (ref. 4 to 4.5)</b>									
4.5 to 5	-0.04	(0.28)		-0.04	(0.28)		0.14	(0.12)	
5 to 5.5	0.25	(0.27)		0.24	(0.27)		0.42	(0.11)	***
5.5 to 6	0.02	(0.28)		0.01	(0.28)		0.55	(0.12)	***
missing	-0.42	(0.3)		-0.43	(0.3)		0.38	(0.13)	**
<b>Sex (ref. female)</b>									
male	0.17	(0.1)		0.16	(0.1)		0.03	(0.04)	
<b>Cohort (ref. 2006)</b>									
2008	-0.19	(0.25)		-0.20	(0.25)		-0.03	(0.06)	
2010	-0.18	(0.22)		-0.19	(0.23)		0.21	(0.06)	***
2012	-0.27	(0.21)		-0.28	(0.21)		0.24	(0.06)	***
2014	-0.41	(0.21)		-0.43	(0.21)	*	0.23	(0.06)	***
<b>Parenthood (ref. no)</b>									
yes	-0.51	(0.14)	***	-0.51	(0.15)	***	-0.45	(0.08)	***
<b>Age group (ref. 24 or less)</b>									
25–29 years	-0.10	(0.27)		-0.07	(0.27)			(0.14)	
30–34 years	-0.20	(0.24)		-0.19	(0.24)		0.18	(0.12)	
35–39 years	0.12	(0.23)		0.12	(0.23)		0.22	(0.11)	*
40 or more	-0.07	(0.26)		-0.09	(0.27)		-0.09	(0.12)	
<b>Interaction Nationality x not STEM</b>									
France x not STEM				-0.69	(0.48)				
Italy x not STEM				-0.80	(0.55)				
EU-17 & EFTA x not STEM				-1.65	(0.48)	***			
European non-EU x not STEM				-1.08	(0.39)	**			
Africa x not STEM				-0.62	(0.43)				
North America x not STEM				0.25	(0.62)				
Latin America x not STEM				0.13	(0.44)				
Asia & Oceania x not STEM				-1.10	(0.38)	**			
Observations	3542			3542			28459		
AIC	2983			2973					

Note: \*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05

Sources: Swiss Graduate Survey 2006–2014, SFO

Model 1 shows that final grades have no significant effect on the employment rates of international graduates. This means that among international students there are no differences in employment rates between those who received the best grades and those who only had sufficient results. This surprising result does not apply to Swiss graduates (Model 3) for whom good grades offer better chances of employment after graduation. In contrast, we observe important differences by nationality. In a multivariate analysis of labor market integration, compared to the Germans—whom we use as a reference category—the other EU nationals (odds between 1.6 and 2.0 times less than Germans) and North Americans (odds 2.1 times less than Germans) have lower employment rates but competed far better than the rest of the other non-EU nationals. Non-EU international students have slightly lower rates of employment in Switzerland one year after graduation; this is clearly the case for Africans (whose odds of finding a job are 5.6 times lower than for Germans).

Furthermore, graduating with a STEM degree is significantly and positively associated with better access to the Swiss labor market (odds ratio of 1.9) although this association loses effect for Swiss nationals (Model 3). On the contrary, being a parent strongly diminishes the odds of being active in the labor market (odds ratio of 0.60). Among the other control variables, we observe that men are better integrated into the labor market than women (odds ratio of 1.2) and that no significant differences can be found by cohorts of graduating classes, nor by age group.

In order to test the fifth hypothesis, and assess the differentiated effect of STEM by nationality group, we run Model 2 with an interaction effect between these two variables. As labor market integration of STEM students actually differs by nationality groups, the effects of these interactions are commented on in the following lines and in Figure 1, which synthesizes the predicted probabilities of labor market integration according to STEM and nationality for a selected profile.<sup>9</sup>

First, looking at the labor market integration of STEM graduates, there are no significant differences between German and other EU STEM graduates, meaning that being European and having a STEM degree offers the best chances for employment. Among non-EU STEM graduates, employment rates are lower compared to German STEM graduates, but the coefficients are only significantly lower for Latin Americans, Asians and Oceanians, and Africans. For example, an African STEM graduate has 3.6 lower odds of employment than a German STEM graduate, all other factors being equal.

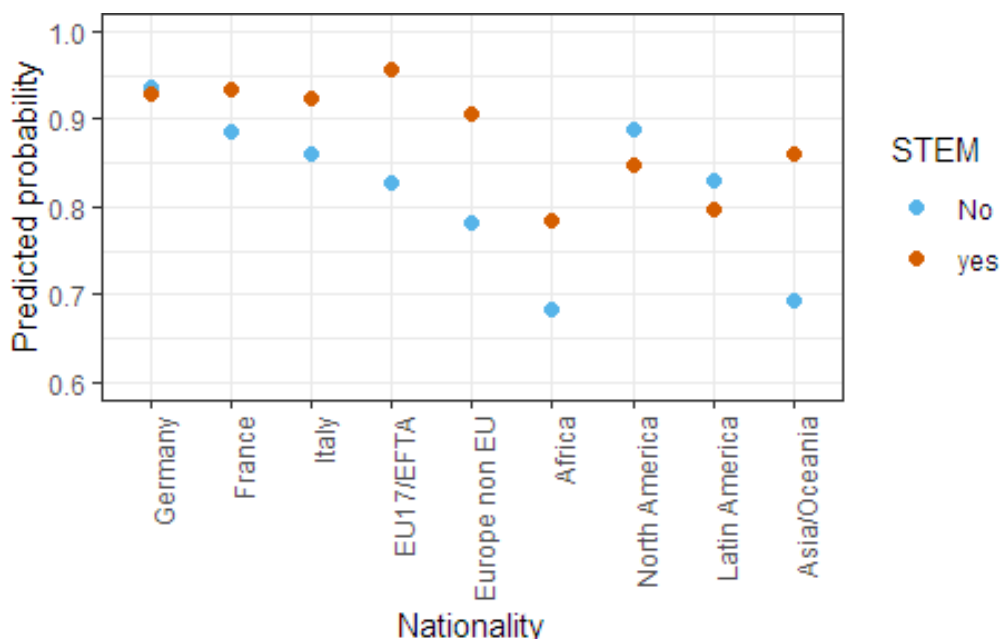
Second, there are no significant differences (coefficient = 0.10) in employment rates among Germans who have STEM and non-STEM degrees: German non-STEM graduates have an equal level of labor market integration as German STEM graduates.

Third, looking at the interaction effects for all other groups, i.e. understanding to what extent the effect of not having a STEM degree differs by nationality from Germans, significant values can be observed among EU-17, non-EU European, and Asian nationals (see also the gaps between the red and the blue points of Figure 1). This means that non-STEM EU-17, non-EU European, and Asian and Oceanian nationals have significantly lower employment rates than their STEM compatriots (odds ratios between 2.7 and 4.7). Although the interaction effects of France, Italy, and Africa are high (coefficients between -0.62 and -0.80), they do not significantly differ from Germany,

<sup>9</sup> Modal category of each variable: A woman aged 26 to 30 from the 2014 cohort, having no child and final grade between 5 and 5.5.

probably because of the low sample size in these groups. For North and Latin Americans, the interaction effects are not significant, and the coefficients are small and even positive. As a concluding remark, we can see that this interaction has minor effects on the other dependent variables.

*Figure 1: Predicted probabilities of having a job among international master's graduates by nationality and STEM status (for women aged 26 to 30 from the 2014 cohort, having no children and a final grade between 5 and 5.5)*



Sources: Swiss Graduate Survey 2006–2014, SFO

## 4.2 Difficulties Encountered while Job-Seeking

The previous section showed significant heterogeneity in labor market integration among international graduates. These differences are now put into context with difficulties encountered while looking for a job.

Besides the 83% of graduates who were employed one year after graduation, 12% were not employed, and 5% were seeking a job. We observe that Africans (22%), as well as European non-EU and Asian graduates (both 12%), had high shares of graduates seeking employment. Given this observation, we complemented additional descriptive analyses on whether or not they encountered problems while seeking employment, and what were the reasons.

Altogether, 30% of all graduates in Switzerland reported difficulties finding work (Table 4). Among the international graduates, the Germans reported the fewest difficulties (25%), even fewer than Swiss graduates (28%). French graduates (29%) reported difficulties below the average and Italians (40%) above the average. With the exception of North Americans (38%), in general, non-EU graduates encountered more difficulties: Asia and Oceania (47%), European non-EU (49%), Africa (58%).

*Table 4: Difficulties encountered while looking for a job, weighted percentages by nationalities*

	Yes	No	Did not look for a job	N
Germany	25	73	2	860
France	29	65	5	341
Italy	40	55	5	241
EU-17 and EFTA	32	62	5	437
European non-EU	49	44	7	682
Africa	58	34	8	227
North America	38	55	7	106
Latin America	44	44	12	260
Asia and Oceania	47	41	12	388
<b>Total</b>	<b>53</b>	<b>40</b>	<b>7</b>	<b>3542</b>

Sources: Swiss Graduate Survey 2006–2014

Table 5 shows that the most frequently reported reason for problems encountered while seeking a job was related to nationality. This is most strongly expressed by African, Asian, and Oceanian (85%), Latin American (83%), and European non-EU (79%) graduates. The second most frequent reason was the current economic situation, most often indicated by Italian (55%) and French (52%) graduates. The third reason indicated was the chosen field of study, mentioned relatively often by Asian and Oceanian (34%) and North American (30%) graduates. Last, the need to reconcile family and career was mentioned as an impediment to job-seeking by 12% of German and 8% of European non-EU graduates.

*Table 5: Reasons for difficulties encountered while looking for a job, weighted percentages by nationalities among those who reported difficulties*

	Nationality	Economic situation	Study field	Family and career	N
Germany	41	30	15	12	220
France	34	52	19	6	100
Italy	43	55	29	5	92
EU-17 and EFTA	44	39	21	5	138
European non-EU	79	34	29	8	337
Africa	85	37	24	1	131
North America	69	49	30	2	41
Latin America	83	34	29	5	117
Asia and Oceania	85	31	34	5	181
<b>Total</b>	<b>63</b>	<b>40</b>	<b>26</b>	<b>5</b>	<b>1357</b>

Note: Respondents could choose more than one item for explaining their difficulties finding employment

Sources: Swiss Graduate Survey 2006–2014, SFO

## 5 Discussion

When we combined the results from the regression analysis with the responses on difficulties experienced while job-seeking, we found a relatively good labor market integration of international students compared to other countries, but we also observe that some of the nationality groups that stay and seek employment in Switzerland one year after graduation encountered several problems. In this section, we discuss the result of our testing of the five hypotheses related to the overall research question: *Which selective dynamic predominates the employment outcomes of international master's graduates?*

The employment rates based on data from the graduate survey provide a more complete picture of which international graduates are employed in Switzerland one year after graduation and gives an idea of the selectivity dynamic. Still, we are limited in our interpretation, as we cannot identify the reasons why other graduates left. They either sought and found employment elsewhere, were recruited or attracted by better conditions in another country or back home, or left because they did not find employment, felt discriminated against, or simply did not intend to stay. Especially for third-country nationals, obtaining a permit for employment or another reason (e.g. marriage or family reunification) after graduation is crucial, as without one they must leave the country. In the case of relatively low employment rates, we further complement the analysis with the responses on impediments to job-seeking, as this provides further explanation as to whether these problems are related to nationality—and therefore to the legal migration framework—or to the study field and profile on the labor market. With the five hypotheses, we discuss the employment of international master's students in Switzerland one year after graduation.

### 5.1 Final Grades

*Differences in employment rates are not explained by the final grades of the international graduates*

We reject the hypothesis of study performance. There is no evidence showing that international graduates with higher final grades also have higher rates of employment. Even though Swiss national strategies for innovation (SBFI 2016), as well as Swiss higher education and research institutions, aim to retain the “best and brightest”, final grades are not a factor that can explain Swiss labor market integration of international graduates. It seems that other factors play more significant roles in determining employment.

### 5.2 Parenthood

*Differences in employment rates are partially explained by whether or not international graduates are also parents*

We confirm the hypothesis of parenthood. There is evidence for lower employment of international graduates that have children, but this effect is also observed for Swiss graduates. From a life course perspective, both Swiss and international graduates are of the age for family building and important career decisions. International graduates, however, have in general less support in terms of childcare from their families. Furthermore, employment is delayed due to maternity leave and family duties one year after graduation.

### 5.3 Nationality

*Differences in employment rates are explained by the legal framework providing EU nationals better access to the labor market than non-EU national graduates*

We confirm the hypothesis of nationality. In general, even when controlling for confounding effects, we observe that EU nationals are positively related to higher employment compared to non-EU nationals. As expected, all EU nationals had relatively high employment rates (85%–93%). EU and EFTA nationals not only have better legal conditions for staying in Switzerland, but they also benefit from the priority rule of the labor market, and so are employed to a greater extent than non-EU nationals.

Surprisingly, German graduates' employment rates were even higher than those of Swiss graduates and their stay rates were above the average. French, Italian, and EU-17 graduates also performed well in labor market integration but had stay rates below the average. This difference between Germans and other EU nationals can partly be explained by the greater size of the labor market in German-speaking Switzerland. French and Italian speakers also have an advantage due to common national languages, but these labor markets are smaller than in the German-speaking regions.

Among non-EU nationals, North Americans had strong results similar to EU-17 and EFTA nationals. At the same time, North Americans had the lowest stay rates, meaning that the few who stayed were employed to a very high extent. Compared to other non-EU graduates, North Americans reported relatively few difficulties experienced while job-seeking and, if they did, these were mostly related to their study field and the economic situation.

With regard to employment rates, European non-EU nationals from countries like Russia, Turkey, Serbia, Ukraine, Albania, Croatia, and Macedonia rank between EU and non-EU nationals. This result corresponds to their partial rights to freedom of movement during the transition period. Interestingly, European non-EU nationals had the highest stay rates of all national groups even though their legal opportunities were restricted. Very high stay rates, combined with relatively low employment rates and more difficulties encountered due to nationality, imply that in many cases European non-EU graduates obtained permits unrelated to employment. Possible explanations include the geographical proximity of these countries, strong national diaspora and social networks in Switzerland, and binational marriages or marriages with a foreign person residing in Switzerland.

Further behind are Latin American, Asian and Oceanian, and African graduates, who have lower employment rates and relatively lower stay rates. With the exception of North Americans, non-EU graduates reported relatively more problems in job-seeking due to their nationalities. Other problems encountered while job-seeking—that were not directly related to the legal framework—can also reflect perceived or real discrimination in the Swiss labor market. Furthermore, the economic situation was mostly reported by French and Italian graduates. The formulation of the survey question is not country-specific, so we do not know whether this refers to the economic situation in their home country or in Switzerland. Given that the economic crisis in 2008 affected France and Italy more strongly than Switzerland, we assume that they refer to the economic situation of the home country. Also, we do not find significant negative cohort effects on employment rates after 2008. Furthermore, we observe that, compared to EU graduates, non-EU graduates more often replied that they were not looking for a job one year after graduation. These

shares were elevated for Latin American and Asian and Oceanian graduates. Independent of nationality, considerations of how to reconcile family and career for graduates who have children can be a great challenge and a reason for not seeking or finding adequate employment, and underline our results we found related to parenthood.

#### **5.4 STEM Qualification**

*Differences in employment rates are partially explained by the strong demand for STEM graduates in the labor market.*

We confirm the hypothesis of labor market demand for STEM qualifications. Graduating with a STEM degree is significantly and strongly related to higher employment rates. All other factors being equal, studying in a STEM field opens the doors for employment after graduation. STEM graduates are in demand on the labor market and are recruited by Swiss employers.

#### **5.5 Nationality and STEM Qualification**

*Among non-EU graduates, the differences in employment rates are only to a limited extent explained by employment in STEM fields.*

We reject the hypothesis of third-country nationals with STEM qualifications. Considering the interaction effects, the results provide a mixed picture of the effect of having a STEM degree for different nationality groups. In general, the greater the geographical distance from Switzerland, the larger the gap between STEM and non-STEM graduates. Yet, there are some exceptions. For German graduates, for example, there are no differences in labor market integration between STEM and non-STEM graduates, as both groups of German international graduates have very high labor market integration. Italian and French non-STEM graduates, however, encounter more difficulties than their STEM fellows. In the case of EU-17, European non-EU, and Asian and Oceanian graduates, there is a gap in the employment rate between STEM and non-STEM graduates—non-STEM graduates encounter more difficulties in job-seeking, but it is predicted that STEM graduates will have the same high probabilities as German STEM graduates. African graduates have a particularly low level of labor market integration for both STEM and non-STEM graduates. Hence, since stay rates among Africans are above average, other types of residence permits (e.g. marriage, family reunification, further studies) determine their ability to stay. Even though having a STEM degree improves the chances of being employed after graduation in general, we do not find a significant interaction effect on North Americans and Latin Americans, meaning that having a STEM degree does not predominantly explain their relatively high levels of successful labor market integration.

## 6 Conclusion

Switzerland accesses a pool of variously skilled students upon their graduation from Swiss universities. Swiss employers recruit European and non-European graduates, but the priority rule and facilitated mobility for EU nationals result in higher employment rates for EU graduates. Studying in a STEM field enhances the chances of employment in Switzerland but, due to the exceptions of the priority rule, this effect is not as strong as we expected for all non-EU nationals. In general, European non-EU and Asian and Oceanian STEM graduates are employed to a significantly higher degree than their non-STEM fellows.

### 6.1 International Students' Transition from Studies to Employment

EU and EFTA national graduates access the Swiss labor market through the pathway of bilateral agreements, which accompanies measures for securing wages and working conditions but does not limit the number of migrants. These graduates benefit from entry and employment rights in the host country through treaties negotiated between Switzerland and the EU that apply to all occupational fields. Therefore, the selection criteria for employment are not limited by migration policies but are mostly shaped by labor market demand and the entrepreneurial environment.

Non-EU national graduates found employment, in most instances, through permanent skilled migration or temporary labor migration pathways, both of which are regulated by the FNA and related to regulations on the entry and admission of migrants. Due to the priority rule, recruiting graduates through these pathways disadvantages non-EU nationals compared to EU and EFTA nationals and creates additional bureaucratic procedures for employers. These additional administrative requirements reduce the incentives to recruit third-country nationals. Nonetheless, due to a need for skilled workers, non-EU STEM graduates were also recruited where the demand met the workforce offered by third-country nationals.

Alternatively, temporary labor migration (short-term contracts) is another possible pathway to employment, especially in the case of graduates who apply for trainee or internship programs. Whether or not employers undertake the additional administrative efforts required to recruit third-country graduates for a short time is unknown to us but less likely. Thus, mostly for EU nationals, a short-term contract may be a useful opportunity to gain work experience abroad before moving on.

The study-migration pathway could be an opportunity to make use of the priority exception rule and the six-month job-seeking permit. The introduction of this pathway in 2011 did, however, not show a significant effect, as we cannot identify any cohort effect in employment after 2011, nor can we observe that third-country nationals are predominately employed in STEM fields (with the exception of European non-EU and Asian and Oceanian graduates).

### 6.2 Competing Interests and the Effectiveness of Migration Policies

As with most nation-states, Switzerland uses immigration, integration, and naturalization policies to admit and regulate migrants' conditional access to residence and citizenship status. In general, Switzerland does not foresee a subsequent stay of third-country nationals upon graduation. Case-by-case control of access to the labor market and residence permits serves the interests and concerns of

the nation-state to protect national identity and social cohesion, as well as to guarantee national security and public order. Since the enactment of agreements between Switzerland and the EU in 2002 gave EU nationals the same employment rights and benefits as Swiss nationals, accompanying measurements were put in place to fight wage and social dumping. With these restrictions, including limited economic and social rights, Switzerland aims to prevent undesired distribution effects that could be damaging to Swiss residents, especially low-skilled workers. The FNA is designed so that the admission of third-country nationals should be in the interests of the economy as a whole. According to international law, Switzerland is also required to admit foreign nationals on humanitarian grounds, such as the unity of the family (FNA). Considering the limitations and considerable leeway of the implementation of these regulations, Swiss migration policies predominately reflect interests of economic efficiency in admitting mostly highly skilled migrants and those who are in demand on the labor market.

Our results show that overall, these policies enable the employment of a substantial share of international master's graduates who were recruited and integrated into the Swiss labor market, whereas STEM qualifications make up a considerable part of all study field qualifications. A crucial point in the discussion is, however, the definition and interpretation of the selection criteria. The wording of the priority rule ("the economic interest of the economy as a whole"), as well as of the six-month permit and the exception rule ("if their work is of high academic or economic interest") describes these selections with economic or academic criteria. Focusing on STEM graduates is only one of many possibilities for differentiating and testing how these selection criteria are implemented by the authorities, and it is justified by the discourse on the high demand for STEM graduates. Similar results could, however, be expected for graduates in the field of medicine, as an example.

As a global leader in innovation, economic stability, high salary levels, and other favorable conditions, Switzerland is attractive to researchers, innovators, and other highly skilled workers. However, other countries have similarly high standards and even larger research infrastructures, and many of them offer better legal conditions (e.g. facilitated transition to a permanent residence permit, more rights for family members of employees, more time allowed for job-seeking, easier integration into the labor market). If Switzerland aims to increase its economic competitiveness by continuing or increasing the recruitment of specialized and talented highly skilled workers among international graduates, the following adaptations could be considered: 1) change the conditions of permanent skilled migration, 2) change the conditions of temporary labor migration, 3) conclude additional bilateral or multilateral agreements, or 4) adapt the study-migration pathway.

The first two options are regulated by the FNA, and the selection criteria could either be less strict—so that more third-country graduates would be encouraged to stay and seek a job—or the admission criteria could be stricter or more selective but include more rights for those who are admitted. With these measures, graduates could be more or less precisely targeted for recruitment in Switzerland. However, we have to be aware that if a graduate wants to stay in Switzerland, circumventing the employment-related selection criteria is possible through marriage or adding more years of study. It can therefore be assumed that given a stricter and more selective legal framework, more graduates would make use of these alternative pathways instead of attempting to fulfill the legal conditions of employment. However, adapting the study-work pathway could have a direct impact on international graduates' opportunities for employment. Even with more relaxed regulations, the demands of the labor market and the available employment opportunities would to a great extent decide which graduates successfully integrate into the Swiss labor market.

Besides reformulating the selection criteria, other non-legal measures could be of great potential, such as better provision of information on legal opportunities—especially the six-month permit and the exception rule—as well as information for employers (large, small, and medium-sized enterprises) on how to manage the bureaucratic requirements for hiring third-country graduates. Such improvements could foster the retention of STEM and other graduates who can contribute to the Swiss labor market. Furthermore, in order to encourage graduate retention, Switzerland could provide a more streamlined study-to-work pathway, better access to information (e.g. dedicated website for graduates seeking employment), career coaching, and even a symbolic welcome upon arrival—rather than having to sign a document stating that one must leave immediately upon completion of their studies, as in some cases still is the practice. Last but not least, affordable and accessible childcare would be a crucial incentive for job-seeking graduates with young children.

### **6.3 Outlook for Future Research**

Our results contribute to the discussion of trade-offs between security, national identity, social cohesion, and the interests of economic efficiency with regard to retaining international graduates. Labor market opportunities and demand-driven decisions are shaped by the legal frameworks provided by national regulations, but also very concretely by an employer's readiness to undertake the administrative efforts required in order to hire third country nationals. From a Swiss labor market perspective, more research should be done to better understand whether and how the current legal framework restricts employers from recruiting third-country national graduates, and whether there is a possibility to facilitate employment practices by implementing study-to-work transition policies. Finally, a complementary analysis of international graduates' mobility intentions using qualitative interviews would deepen the understanding of their employment situation in Switzerland as well as other personal reasons on an individual basis.

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## **7 Policies of Migration and International Student Mobility**

**Article: How to Explain Migration Policy Openness in Times of Closure? The Case of International Students in Switzerland.**  
*Globalisation, Societies and Education*



## How to explain migration policy openness in times of closure? The case of international students in Switzerland

Yvonne Riaño, Annique Lombard and Etienne Piguet

Institute of Geography, University of Neuchâtel, Neuchâtel, Switzerland

### ABSTRACT

Since the 1990s, Swiss immigration policies have placed increasing restrictions on non-European Union (EU) immigrants. However, in 2011, based on the initiative of Jacques Neiryneck, the Swiss Parliament approved a law facilitating the admission and integration of non-EU nationals with a Swiss university degree. How can this policy openness in times of closure be explained? Drawing on the narratives of stakeholders during parliamentary debates, and interviews with key political actors, we propose a unique explanatory approach combining: (1) the convincing *narratives of steering* crafted by parliamentarians, (2) an appropriate *temporal and geographical context*, and (3) the *biographical capacity* of the policy initiator to effect policy change. This model will be useful for studies of migration policy change in general.

### KEYWORDS

Policy change; migration policies; student migration; third-country students; parliamentary debates; narratives of steering

## 1. Introduction

As the increase in globalised human mobility continues, contemporary states face a major dilemma: how to control migration flows while simultaneously attracting highly skilled workers? As a result of this tension, migration policies are becoming increasingly selective. The term 'designer immigration' (Hawthorne 2012) refers to policies that control the selection of migrants according to how their skills may be beneficial for the knowledge economy. Using this line of reasoning, international students are often viewed by governments as ideal immigrants, not only because they can fill highly skilled labour gaps that many Organisation for Economic Co-operation and Development (OECD) countries face, but also because their assumed cultural assimilation into the host country is seen as having a positive effect on their labour market performance compared to skilled immigrants from overseas (Robertson 2011; Chiou 2017).

In the context of the global race for talent at the onset of the twenty-first century, Anglo-Saxon countries put policies in place to encourage international students to remain after completion of their tertiary studies (Bedford and Spoonley 2014; Geddie 2015; Chiou 2017). Such policies, also known as 'study-to-work' policies (Mosneaga 2015), 'student switching' (Robertson 2011) and 'two-step migration' (Hawthorne 2012), were implemented much later in the European Union (EU). In 2009, the Council of the European Union introduced the blue card, which aimed to make Europe a more attractive destination for highly educated persons from outside the EU. The EU blue card, however, has remained relatively unattractive compared to the policies that individual member states implemented to attract international students (EUbusiness 2016). As the conditions of study-to-work transition policies in the EU differed from country to country, in 2016 the European Parliament approved a directive harmonising entry and residence rules in order to facilitate an easier path for students and researchers from non-EU countries. The directive entered into law the day

after its publication (22 May 2016) in the European Official Journal. Member states now have two years in which to enact individual national legislation. Currently, students are allowed to stay at least nine months after completing their studies in order to seek employment or start a business, and have the right to bring family members to Europe who are entitled to work during their stay (*Official Journal of the European Union* 2016).

In Switzerland, international students also became a favoured source of highly skilled migrants as policies facilitating their admission and residence came into effect in 2011. Following Jacques Neiryck's initiative in 2008, the Swiss Parliament approved amendments of the Foreign Nationals Act, and of the Regulation on Admission, Residence and Employment concerning non-EU nationals, that can be summarised as follows: (1) international students are no longer required to submit a declaration confirming their intent to leave Switzerland immediately after completing their tertiary education; (2) graduates of Swiss universities are provisionally admitted to stay in Switzerland for six months after graduation to seek employment matching their qualifications; (3) graduates are not subjected to the priority rule giving Swiss and EU citizens priority over jobs if the prospective employment is of 'high scientific or economic interest' for Switzerland; and (4) the years spent by graduates studying at a Swiss university may be counted retrospectively to obtain long-term residence status (Federal Office for Migration (FOM) 2010; Vaitkeviciute 2017). These changes represented a significant opening-up of migration policy differing from the former restrictive policies aimed at avoiding competition from non-EU nationals. How can this policy liberalisation be explained? Surprisingly, there are no empirical studies answering this question (Riaño and Piguet 2016). Despite the increasing global trend of implementing policies that encourage the retention of international students upon completion of their studies, an empirical understanding of how these political debates evolve – and why they ultimately result in policy change (or not) – remains scant (Hawthorne 2012; Haugen 2013; Mosneaga 2015). Overall, studying why migration policy changes from a restrictive to a more liberal stance remains underexplored (Menz 2016). This paper aims to fill a part of this research gap by achieving a deeper understanding of why policy openness in times of closure occurs.

## **2. Switzerland as case study: policy openness in times of closure**

Switzerland is an interesting case study for the analysis of study-to-work policies for international students for four reasons. First, at nearly 25% of the total resident population (FSO 2016), it has the second-largest foreign-born population among the OECD countries and depends heavily on highly skilled foreign labour. Switzerland is a small country, and has experienced a deficit of skilled workers since its industrialisation in the nineteenth century. Second, nearly 31% of all tertiary students (including Bachelor, Master and PhDs) enrolled in Swiss universities in 2016 had obtained their secondary education abroad and were foreign nationals (FSO 2017). This represents the second-highest share of international students of all OECD countries after Luxembourg (44%; 2016). The numbers of international students increased more than threefold between 1990 and 2016 (from 9200 to 33,000), corresponding to an increase in percentage among the entire student population from 12.8% in 1990 to 30.7% in 2016 (FSO 2017). Third, unlike Anglo-Saxon countries, where international students have become a highly profitable industry, most Swiss universities do not charge an international student fee and tuition fees are already low because of generous state funding. This suggests that studying international student mobility in Switzerland may offer an alternative understanding to the marketisation perspective, currently used for English-speaking countries. Fourth, as opposed to Anglo-Saxon countries that have traditionally facilitated the permanent settlement of migrants and their naturalisation as citizens, Switzerland has been reluctant to recognise itself as a country of immigration and to grant citizenship rights to immigrants. Since the 1930s, Switzerland's immigration policies have largely been oriented around a protectionist narrative giving this paper an interesting case study with which to examine the shift in immigration policies to a more liberal approach.

Switzerland's immigration regime is currently characterised by dual foreigner's rights. In 2002, a bilateral agreement between Switzerland and the EU came into effect that gave EU nationals the same living and working rights as the Swiss – with the exception of voting rights. Since then, legislation regarding foreigners no longer applied to EU citizens but only to individuals from countries outside the EU, known as 'third-country nationals'. In 2008, the Foreign Nationals Act came into effect, which restricted the entry of third-country nationals to highly skilled individuals. International students from third-countries were only allowed to stay in Switzerland until they had completed their tertiary degrees. There was no direct path allowing them to seek employment and apply for a work permit after graduation. However, in exceptional cases, students who were considered to be of 'high scientific value' were granted work permits.

In the years following the implementation of this law, academics and entrepreneurs in Switzerland expressed dissatisfaction about its seemingly arbitrary application and the difficulties they experienced when trying to hire students from third-countries. In April 2008, Jacques Neiryck – a naturalised Belgian immigrant, a parliamentarian from French-speaking Switzerland, and a professor of electrical engineering at the Swiss Federal Institute of Technology in Lausanne (EPFL) – submitted a draft bill to the Swiss Parliament to modify Article 27 of the 2005 Foreign Nationals Act. The aim was to 'facilitate the admission and integration of third-country foreigners who have graduated from a Swiss university' (Curia Vista 2017). However, this idea was not entirely new. Between 2000 and 2007, Neiryck – along with two other parliamentarians representing French-speaking cantons, Luc Barthassat and Didier Berberat, submitted three motions to Parliament to facilitate the hiring of foreign PhD students. All three parliamentarians were critical of the increasing influence of the nationalist Swiss People's Party in shaping restrictive immigration policies. Although the earlier initiatives helped to pave the way, Neiryck's proposal was unique in that it: (a) included all foreign graduates (not just PhD students), (b) was co-signed by representatives from all political parties and linguistic regions, and (c) contained a wider range of persuasive arguments than earlier proposals.

What is the process of submitting and approving a draft bill in Switzerland? The powers of the state are divided into three independent branches: the executive, the legislature, and the judiciary. The Federal Council – the supreme executive and governing authority – is composed of seven power-sharing federal councillors elected by the Swiss Parliament. Legislative power is vested in the Swiss Parliament where the most important political decisions are made. However, the last word on the country's laws often rests with the people. The Parliament passes new legislation and amendments and is composed of two chambers: the National Council, which provides representation based on population size, and the Council of States, which has a fixed number of seats per canton. As the National Council and the Council of States have equal power they must both agree before a law is passed (Swiss Confederation 2017).

The 246 members of parliament (MPs) represent the interests of different language communities (German, French, Italian, Romansh) and political parties in Switzerland. Any member of the National Council or the Council of States can submit an initiative to introduce a new law, amend an existing law, or add a new provision to the Constitution. Given the volume of legislation MPs handle, it can be difficult to reach an informed opinion on any given issue. Therefore, before a draft bill comes before Parliament, it is discussed by parliamentary committees with the goal of agreeing on a common position, which can then be supported by MPs. The committees are able to discuss legislation in detail, clarify specific issues, hear experts from the administration or from the interest groups concerned, and address questions to federal councillors. They also serve as a testing ground to see whether a consensus can be reached for certain proposals across party lines. Draft laws are debated up to three times by each chamber to make sure that identical decisions are reached. Although this can be a difficult process, each chamber is often ready to make compromises and adjustments. By the time a draft bill is debated in Parliament, most of the work has already been done by the committees (Swiss Confederation 2017).

Accordingly, the political committees of the National Council and the Council of States met between 2008 and 2010 to discuss Neiryck's draft bill to facilitate the admission and integration of non-EU graduates from Swiss universities. These meetings included the preliminary examination and subsequent vote to proceed with the initiative in both chambers of Parliament (2008), followed by hearings with stakeholders (students, university and administration representatives), the debate in both chambers on a preliminary draft (2009), and the resolution of differences and final approval by the Swiss Parliament (2010). Finally, the new law was enacted on 1 January 2011. However, the new law was not widely communicated to the broader public by the federal administration. The Swiss Federal Institute of Technology in Lausanne assumed the role of disseminating the information to their own students, presumably in a bid to increase their own attractiveness with prospects of future work permits (canton administrator, personal interview, 21 December 2016). This exemplifies an increasing trend whereby universities are becoming important actors in selecting and attracting immigrants (Brunner 2017).

### **3. Studying migration policy change: the role of narratives of steering**

Birkland states that public policy involves 'the decisions (including both actions and non-actions) of a government or an equivalent authority' (as cited in Sabatier and Weible 2014, 9), such as law, regulations, statutes, executive decisions, and government programmes. How, then, should policy change be theoretically addressed? The role of ideas in shaping policy-making has gained scholarly attention in recent decades (Bleich 2002; Schmidt and Radaelli 2004; Menz 2016). Cairney (2012, 15–16) states that 'policy-making is not just about people exercising power to pursue their interests. It is also about the role of ideas'. Menz (2016, 627) takes this further by stating that, 'policy actors instrumentally use discourse to shape the policy debate, influence the agenda and legitimise certain policy choices'.

However, this ideational approach has received limited attention from migration scholars. For instance, Menz (2016, 627) recognises that it offers 'considerable analytical leeway in accounting for change, something other institutional approaches struggle with'. Similarly, Boswell, Geddes, and Scholten (2011, 4) draw attention to 'the potential for narratives to provide a coherent and compelling account of complex phenomena, in a way that can engender support and motivate action'. They stress the importance of exploring how 'policy narratives' or 'narratives of steering' constructed by diverse types of actors influence immigration policy agendas. Their concept of narratives of steering refers to 'the factual beliefs espoused by policy-makers and others engaged in political debate about the causes and dynamics of the problems they are seeking to address, and about how policy could impact these dynamics'. According to them, 'the success of a narrative in influencing policy agendas depends to a large extent on its consistency and, through this, its capacity to identify, define and constitute a policy issue or problem' (Boswell, Geddes, and Scholten 2011, 4).

In this paper we focus on the argumentative power of narratives of steering to convince policy elites of the need for policy change rather than on their cognitive underpinnings. Following this conceptual framework we have formulated the following research questions:

- What narratives of steering were used by Neiryck in the Swiss Parliament to gain support for the initiative?
- What narratives of steering were used during parliamentary debates by parliamentarians and stakeholders to support or oppose Neiryck's initiative?
- Why did the narratives in favour of accepting Neiryck's initiative find broad consensus among Swiss Parliamentarians?

### **4. Methods: text analysis of parliamentary debates and policy elite interviews**

The research questions stated above required a qualitative approach to capture the narratives, representations, and the political dynamics. The two methods used were analysis of the minutes of

parliamentary debates and policy elite interviewing. The minutes of the debates conducted over the 2008-2010 period by members of the National Council and the Council of States were analysed to grasp the narratives mobilised in favour and against the bill. In Switzerland, all parliamentary debates are recorded and transcribed in detail, constituting an invaluable source of data. These minutes are in German and French and are made available upon request for scientific purposes.

The final report prepared by the Political Commission of the National Council (PCNC 2010), which summarises the parliamentary debates and the reasons for accepting Neiryck's initiative, was also examined. The Curia Vista database (2017), which contains a summary of parliamentary discussions since 1995 and can be consulted online, provided additional information on the timeline of the bill, and on similar motions previously submitted. Furthermore, an in-depth interview (in French) was conducted with Jacques Neiryck regarding his motivations and views on the political process. This was complemented by an interview (in French) with the head of the Department of Employment in canton Vaud inquiring about how the policy change was communicated to the cantons and to the broader public. The minutes of parliamentary debates, as well as the interviews, were analysed using deductive coding (i.e., themes from the conceptual framework) and inductive coding (i.e., themes emerging from the minutes of the parliamentary debates and the interviews) techniques of qualitative text analysis. All statements having the same code were grouped together in order to establish the main strands of narrative running through the text. Subsequently, we analysed each one of the narrative strands against and in favour of the initiative.

Although access to political elites for interviewing generally involves many challenges (Rice 2010), Jacques Neiryck was open to being interviewed at his home. We combined biographical and semi-structured techniques for the interview, beginning with questions relating to the history of the initiative – from the moment when the problem was identified – to the acceptance of the initiative by the Swiss Parliament. This biographical approach proved successful as he was able to recap the sequence of events. This was followed by semi-structured interview questions. A total of nine topics regarding the initiative were discussed, including: how the idea began; to what extent it adds to the existing law; how support was gained from other Parliamentarians; the relatively moderate opposition during parliamentary debates; canton Zurich's opposition during the consultative procedure (considering the high percentage of highly skilled workers concentrated in this canton); how to explain support for the initiative in a political system characterised by restrictive migration policies; feedback on the implementation of the law; and the future of the initiative during a severe shift to the political right.

## **5. Uncovering competing narratives of steering**

### **5.1. Narratives of steering by the initiator of policy change**

What was Neiryck's motivation to initiate the policy change? During the interview, he described his personal experience as a professor and parliamentarian as motivating factors:

My motivation is my personal experience. [...] When one is a parliamentarian, people who have problems contact you. And there were several foreigners who had studied here, who had graduated here, who were asked to leave within fifteen days. And, indeed, the existing Foreigners Act stated that a foreign student had to sign his commitment that he was to leave Switzerland once he obtained his diploma [describes case studies]. There was also a Tunisian who had forged a career at the EPFL, who had a doctorate, who had worked as a research assistant, etc.; he was a computer scientist and the University of Applied Science and Arts Western Switzerland was lacking computer scientists, and so he was appointed. But the Canton refused to give him a work permit, a residence permit. So that's my motivation! From that time onwards, I put this parliamentary initiative together, on the basis of a text that was written by a lawyer from Freiburg who handled such issues. (J. Neiryck, personal interview, 15 April 2016)

At the time, Neiryck was one of only two professors at the Swiss Federal Institutes of Technology who were also parliamentarians, and therefore in a key position to receive feedback from international students and companies experiencing difficulties obtaining post-graduation work permits from immigration authorities. Thus, while presenting his initiative before the political commission

of the National Council, Neiryck introduced himself as a ‘representative of the students associations, academic institutions and economic circles’ (Minutes of Swiss Parliamentary Proceedings 2008–2010), positioning himself as a bridge between these groups. A vital personal point revealed during the interview was his arduous road to becoming a Swiss citizen, an experience that led him to conclude that immigration authorities are not able to adequately judge the ‘scientific value’ of immigrants:

I was hired [as an EPFL professor] in Switzerland as a Belgian citizen, but it is interesting to note that I was subject to the jealousy of the people who made the decisions at the cantonal services regarding my naturalisation, and instead of taking 12 years to become naturalized it took 24 years, with two refusals. So, the problem is that some decisions important for the scientific development of the country are made by officials who have absolutely no idea of the consequences of their decisions. (J. Neiryck, personal interview, 15 April 2016)

Now we examine the narratives of steering used by Neiryck before Parliament to legitimate changing the existing immigration law. His main argument was that ‘the law as it stood was a suicidal act that was contrary to the [economic] interests of the country’ (Neiryck 2016), and that Switzerland’s lack of highly skilled personnel required a shift in policy that attracted international students and encouraged them to stay:

To stay on top of the economy, Switzerland must develop expertise in specialized fields, ranging from biotechnology to wealth management. This implies massive recruitment of technicians, engineers, researchers, and financial analysts, well beyond our national borders. The world beyond the European Union is an indispensable recruiting pool for a small country such as ours, constrained by a declining demography. Switzerland would benefit considerably by attracting young talent, by training it according to its norms and by doing everything to encourage them to stay in our country. Unfortunately, Article 27 of the Foreigners Act does exactly the opposite. (Minutes of Swiss Parliamentary Proceedings 2008–2010)

By preventing foreign graduates from staying in Switzerland after graduation, Neiryck repeatedly argued that the Foreigners Act was effectively wasting public funds used to train foreign students, causing a loss of valuable human resources trained in Switzerland, to foreign economic competitors:

The cost of training an engineer, a doctor, a scientist is between half and one million Swiss francs. Section 27 of the Foreigners Act costs us therefore, at the very least, some tens of million of francs every year. But this public money, lost for Switzerland, is not lost for everyone. Because of this, Switzerland provides to our competitors abroad highly qualified personnel in the fields of industry, medicine, banking, and insurance for free. (Minutes of Swiss Parliamentary Proceedings 2008–2010)

Furthermore, he lamented that Swiss administrators failed to recognise that highly skilled graduates are potential entrepreneurs who contribute to the Swiss economy through job creation:

Another argument put forward by the administration relates to the fact that it fears an influx of foreign students who would eventually settle in Switzerland to become unemployed. For the administration, the number of jobs in Switzerland would remain the same, independent of the quality of the people involved. Any new residence permit pushes a Swiss towards unemployment, especially if the foreigner is well qualified. It is thus an individual that needs to be a priori excluded. This argument ignores the de facto situation: a highly skilled graduate creates jobs, often by launching his own start-up. In the Ecublens Science Park, there are currently 120 start-ups in demand. I remind you that two-thirds of our researchers are foreigners. So, are we going to kill this branch of development? (Minutes of Swiss Parliamentary Proceedings 2008–2010)

Finally, another key point in Neiryck’s argumentation is that students from non-EU countries will not return to their home countries to serve as agents of economic development but will rather go to Switzerland’s economic competitors:

We must refute at the outset an argument often invoked that foreign students are trained in Switzerland with the sole purpose of returning home to contribute to its development. This argument is misleading since nothing obliges a young scientist to return to his home country. Young researchers from developing countries do not return because it is impossible for them to exercise their profession. They often move to the United States. In addition, some students, especially the Chinese, do not come from countries in development, but from developed countries, that compete with Switzerland. Thus, Switzerland trains many managers for the global

economy, and spends public money for this purpose, but does not allow itself to recruit them and to profit from such an action. (Minutes of Swiss Parliamentary Proceedings 2008–2010)

What kind of narrative does Neiryneck construct about international students? It is clear that students represent a way to increase Switzerland's economic advantage in a globalised world. However, Neiryneck's narrative of profit and economic advantage, which inevitably follows the liberalisation of immigration law, is rather narrow. Students are imagined as young, mobile, trained in fields such as engineering, biotechnology, medicine, and wealth management, and fully assimilated into Swiss culture. Moreover, he only applies the masculine form when referring to international students, a feature that is also characteristic of parliamentary debates.

Neiryneck's narrow representation of international students is reflected in the highly selective wording of the final legislation. Only students whose prospective jobs are of particular scientific or economic interest to Switzerland are able to obtain a work permit in Switzerland. Scientific and economic interest is defined as follows:

[activities of scientific interest ] 'are, as a general rule, activities in the fields of applied research and product development, applying new technologies, or using the acquired know-how in activities of high economic interest' [...] a 'high economic interest may be present if there is a well-defined need in the labour market for the completed discipline of study, which is highly specialized and corresponds to the job description, and if filling the position directly results in creating additional jobs or new mandates for the Swiss economy'. (FOM 2010, 3)

This wording seems to fit Neiryneck's view that students of economic value are above all engineers, bio-scientists, doctors, and wealth managers.

Finally, Neiryneck's narrative about students *not returning* to their home countries illustrates a shift in views about students from non-European countries that is present in much of the parliamentary debate. Until the 1980s, Swiss development policies viewed foreign students as agents of innovation for so-called 'countries in development' upon their return. Swiss universities were thus expected to play a capacity-building role. This view, and the concern over 'brain drain', a term prominently used in public discourses in the 1980s, is, however, no longer present in the twenty-first century. Foreign students are now primarily viewed as agents of innovation for Switzerland's economy.

## **5.2. Narratives of steering by parliamentarians and stakeholders**

The parliamentary debates concerning Neiryneck's draft bill were shaped by supporting and opposing voices. Opposition came early in the debate from representatives of federal and cantonal administrations using a protectionist logic claiming that native Swiss workers would be at risk of unemployment. This narrative was used over subsequent hearings, however, the majority of parliamentarians agreed to proceed in favour of the draft bill. Overall, 15 out of 23 cantons and 4 out of 5 political parties represented in the Federal Parliament backed the initiative. Only one party, the far-right Swiss People's Party, opposed it. Finally, when the draft bill came before the Swiss Parliament in 2010 for the final vote, it was approved by nearly 80% of parliamentarians at the National Council and by 100% at the Council of States.

The minutes of the parliamentary debates show that, in terms of procedure and language, political debates in Switzerland are disciplined and respectful. Debates are preceded by an introduction of the issues by the elected president of the political commission. This is followed by opinions and questions from the participants and concluded by the commission's president who presents potential alternative actions. A vote on these alternatives follows and the session is subsequently finished. This disciplined debating culture is clearly an expression of Switzerland's democracy, largely based on consensus, which makes Switzerland a particularly interesting context for studying political discourse and policy-making processes.

Which narratives of steering did parliamentarians and stakeholders use in an attempt to direct the opinions and voting behaviour of MPs either in favour of or against the draft bill? We start with the arguments *against*. As previously mentioned, opposition was mainly expressed by representatives of

the federal and cantonal administrations using a protectionist-oriented narrative of steering. In their view, since ‘it is imperative to protect native Swiss workers from foreign competition and unemployment, the current law should not be changed’ (Minutes of Swiss Parliamentary Proceedings 2008–2010).

Accordingly, a representative of the FOM argued that ‘the new law represents a change of paradigm in Swiss immigration policies because, so far, the principle has been that native workers should not face competition from third-country nationals’ (Minutes of Swiss Parliamentary Proceedings 2008–2010). Thus, in order to protect native workers from unemployment, the existing legislation should not be changed. Another FOM representative maintained that ‘Swiss cantons are interested in having a strong economy, however in times of upheaval, they do not want to have foreign students under their social budget’. In the representative’s view, ‘universities never follow economic needs and fluctuations, and they want to hire students even when the economy is not doing well’ (Minutes of Swiss Parliamentary Proceedings 2008–2010). Thus, it was better to keep the current law’s flexible, case-by-case system, which protects Swiss cantons from having to support unemployed foreigners when the economy is in decline. The same argument was made by one of the members of the Swiss Federal Council, pleading for a demand-driven approach, claiming that ‘allowing students to stay and seek employment would depart from well-established principles of controlling foreign access to the labour market on a case-by-case basis’ (Minutes of Swiss Parliamentary Proceedings 2008–2010). Finally, a representative of the labour market authority in canton Zurich argued that ‘the canton’s economy needs foreign skilled personnel, particularly in the areas of information and communications technologies, medical technology, engineering and construction, and financing and advisory services, but the European Union provides sufficient and highly qualified personnel for those needs’ (Minutes of Swiss Parliamentary Proceedings 2008–2010). The representative also expressed concern over ‘creating a privileged group over other highly skilled migrants from non-EU countries without a Swiss degree, which complicates the administrative procedure of issuing work permits’ (Minutes of Swiss Parliamentary Proceedings 2008–2010).

Which narratives of steering were used by stakeholders and parliamentarians *in favour* of the draft bill? Analysis of the minutes of parliamentary debates show three main narratives of steering: (a) Switzerland’s image suffers under the current law, (b) Switzerland needs to be competitive in a globalised economy and take advantage of global opportunities, and (c) foreign students trained in Switzerland have the advantage of already being culturally assimilated.

We start with the arguments expressed by stakeholders during the hearings. A representative of the Network for the Dialogue between Science and Politics argued that

the message is quickly passed among foreign students that Switzerland is very restrictive, which damages the country’s image. For these students, the law seems so strict and unavoidable that many would assess the situation as being hopeless and wouldn’t even consider applying to stay. Thus, instead of going to the Federal Institutes of Technology in Zurich or Lausanne, these students would go to Berkeley. (Minutes of Swiss Parliamentary Proceedings 2008–2010)

Moving on to the arguments of debating parliamentarians, an MP argued that students who do not stay in Switzerland would inevitably become competitors. Their argument highlighted the fact that

students from outside the EU now come from countries that are Switzerland’s commercial competitors, particularly the BRIC countries (Brazil, Russia, India, China). When these students return to their countries of origin they will be hired by competitor firms and thus Switzerland has given these firms the tools to win over us. (Minutes of Swiss Parliamentary Proceedings 2008–2010)

Another parliamentarian argued further that Asian students trained in Switzerland could be used as key agents for Swiss companies in order to take advantage of global economic opportunities. As an example, the argument was presented that

in the canton of Vaud, a large Swiss informatics company has a subsidiary in Vietnam. It would be of more interest for the company to employ Asian students (rather than Europeans), especially Vietnamese, in order to establish a good relationship with the subsidiary in Vietnam. (Minutes of Swiss Parliamentary Proceedings 2008–2010)

Finally, the idea of capitalising on the acquired cultural assimilation of foreign graduates, was presented by another parliamentarian who posed the question ‘whether it was not to Switzerland’s advantage to hire a student from outside of the European Union, who has been trained in the Swiss system, rather than a European student trained in France, Germany, or Spain?’ (Minutes of Swiss Parliamentary Proceedings 2008–2010).

Overall, the protectionist approach defended by Swiss administrators did not resonate with parliamentarians. As stated in the Report of the Political Commission of the National Council (PCNC 2010), the commission supported the liberalisation of the Foreigners Act for the following reasons: first, it noted the considerable differences in how the individual cantons implemented the Foreigners Act, often to the disadvantage of international students and to the detriment of Switzerland’s position as a powerful educational and economic centre. Second, the former law made it difficult, and sometimes impossible, for third-country students – who represent, according to them, well over 30% of all foreign students in Switzerland – to remain in Switzerland after completing their tertiary education. Consequently, the country failed to keep highly skilled specialists who, instead of taking employment in Switzerland or creating their own business, went elsewhere. Third, educational costs in Switzerland were heavily subsidised by the federal and cantonal governments. Instead of profiting from this investment, Switzerland’s competing economies were the beneficiaries. Subsequently, the Foreigners Act was changed in 2011 to facilitate the admission and labour market integration of third-country nationals with a Swiss university degree.

## 6. Explaining policy openness in times of closure

How can this policy-shift towards openness in times of restrictive immigration policies be explained? We propose three complementary explanations: the role of *narratives of steering*, the role of the *geographical and temporal context*, and the role of the *biographical capacity* of the policy initiator.

### 6.1. The role of narratives of steering

Asked in the interview why he believes his initiative succeeded, Neiryck responds that ‘good sense prevailed’. His economic narrative states that in the global competition for highly skilled workers, Switzerland ultimately loses out on this valuable pool of human resources – which it has paid to educate – to competing economies. This narrative of economic benefit appealed to parliamentarians from different political orientations. Also, his argument fulfils Boswell, Geddes, and Scholten’s (2011) proposition that for narratives to succeed in influencing policy agendas they need to be plausible, compelling, and resonate with perceived interests. Moreover, Neiryck uses real case studies and dramatic statistics on public spending to persuasively argue that the former law not only affects third-country students, but ultimately Switzerland’s global position as an educational and economic centre. He describes this particular immigrant group as unproblematic, highly specialised, trained according to Swiss cultural norms, and being in high demand in the labour market. By representing them as young, innovative entrepreneurs, he plausibly highlights their potential contributions to Switzerland’s global competitiveness. In conclusion, Neiryck’s narratives of steering are more persuasive than the protectionist narrative used by representatives of the administration.

In examining the recent liberalisation of labour migration schemes in Europe, Menz (2016, 628) also observes how policy elites successfully use the global competitiveness narrative by claiming that a ‘so-called global battle for brains is underway, in which countries with restrictive migration policies lose out in gaining access to an otherwise readily available global talent pool’. The success of such

narrative can also be interpreted in Cerny's (1990, 225) sense that contemporary states have become 'competition states' whereby political actors try to capture global economic potentials.

However, the Swiss case is unique in that the main narrative of steering is not simply about global economic competitiveness but also about a return on public funds investments. As previously stated, the Swiss state heavily subsidises the university costs of international students providing Neiryneck with a compelling argument that Switzerland loses the brains it has trained to its international competitors. Moreover, in a federalist country where each canton is governed semi-autonomously, the narrative concerning disparities of practice within these regions finds particular resonance among Swiss MPs in enacting policy change.

## **6.2. The role of the geographical and temporal context**

We propose that the effectiveness of narratives of steering to effect policy change largely depends on how favourable the *geographical* and *temporal context* is. *Temporally speaking*, global and local events had a positive effect on policy change, for example: the globally circulating narratives at the outset of the twenty-first century about the need to attract international talent to be globally competitive (Geddie 2015); the regulations implemented by the EU in 2009 to facilitate the post-graduation retention of third-country students; and the motions that Neiryneck and other MPs had previously submitted to liberalise immigration policy effecting international students. Moreover, the debate on depleting poor countries of their best and brightest seemed to no longer concern Swiss policy-makers, which worked in favour of the argument to retain international students. Also, in 2008, at the time the initiative was introduced, the steady increase in the numbers of EU migrants resulting from the 2002 Agreement on the Free Movement of Persons with the EU was not yet visible to the Swiss public.

Looking at the *geographical context*, Switzerland is a small country – both in size and population. The elected MPs only serve on a part-time basis, as many work as entrepreneurs, academics, and trade unionists, for example. This particular context allows initiators of policy change, such as Neiryneck, to be in close contact with key stakeholders, and to know, first hand, the interests of the groups they represent. Moreover, Switzerland's political system based on transparency, stakeholder participation, disciplined debate, and political consensus make it a uniquely favourable context for a powerful narrative of steering to succeed.

## **6.3. The role of biographical capacity**

The concept of *biographical capacity*, which we define as the biographical experiences equipping a person with the knowledge and personal contacts to occupy a legitimate position to push for change, further explains why policy change can occur. Occupying both roles of university professor and MP, Neiryneck was in daily contact with international students sharing their negative experiences in obtaining a work permit. This enriched his understanding of the issues and motivated him to represent their interests in the Swiss Parliament. Furthermore, as a former immigrant, he was in a good position to understand the arbitrary decision-making by immigration authorities. Moreover, he had spent over 20 years in Parliament, which gave him an in-depth knowledge of the system, along with personal contacts with other MPs. This helped to further facilitate his in-house political support of the initiative. Embodying the double role of academic and experienced MP gave him the credibility required to argue before Swiss parliamentarians. Finally, through his life and work experiences in Europe, Africa, and the United States, he developed the conviction that research knows no national borders and promoted the idea of 'research without passport', as stated in the interview. Thus, as an EPFL professor, parliamentarian, former immigrant, and world citizen, Jacques Neiryneck had specific motivations and legitimate expertise with which to successfully defend his initiative in Parliament. *Biographical capacity* is an invaluable tool when analysing and seeking to understand policy change from the perspective of a policy-maker's actions.

In brief, we propose an original three-fold approach to explain policy liberalisation towards non-EU students, which involves assessing (a) the effectiveness of the *narratives of steering* used by policy elites to convince MPs of the need for policy change, (b) how favourable the *spatio-temporal context* is for such narratives to succeed, and, (c) to what extent a policy initiator's *biographical capacity* places him/her in a legitimate position to push for change.

## 7. Conclusion

Using the concept of *narratives of steering*, this paper examined the recent policy shift in Switzerland to facilitate the international mobility and labour market integration of non-EU graduates of Swiss universities, despite prevailing restrictive policies towards non-EU immigrants. Conducting qualitative analysis of the minutes of the parliamentary debates leading up to the approval of the new policy, and in-depth interviews with key political actors, has proven invaluable in uncovering the narratives constructed by policy elites and the key dynamics underlying policy change.

This paper demonstrates that 'designer migrants' (Hawthorne 2012) are allowed special streams of entry and labour market integration – even during periods of general closure in migration management – because they are viewed by policy elites as valuable assets that help increase Switzerland's economic competitiveness. Indeed, in times of strict migration management, policy-makers employ a utilitarian discourse to justify their selectiveness towards migrants who supposedly contribute most to economic growth (Piguet 2006; de Haas, Natter, and Vezzoli 2016).

However, despite striking similarities with the competitiveness discourse used by policy-makers in Europe (Menz 2016), Canada (Geddie 2015), and New Zealand and Australia (Bedford and Spoonley 2014), the narrative used by Neiryck – highlighting the forced departure of international students upon graduation resulting in a loss of millions of francs – appears to be a uniquely Swiss one. Whereas in Anglo-Saxon countries, higher education institutions have capitalised on the opportunity of recruiting international students as alternative sources of revenue to ensure their financial sustainability (Choudaha 2017), in Switzerland the state covers the majority of their educational costs. By arguing that Switzerland's loss of public investment is a gain for other global competitors, Neiryck uses a powerful economic narrative to convince MPs of the need for policy liberalisation.

This study shows that *narratives of steering* by policy elites are significant in influencing policy change in international student migration. We pose the question, however, if narratives of steering, per se, are sufficient enough to effect policy change? We suggest that by viewing narratives of steering as not being performed in a vacuum but in specific *temporal and geographical contexts*, such as: location, size, political system and policy-making history of a country or a region, one can see favourable or unfavourable conditions for such narratives to succeed. We also suggest that using a perspective that views policy change as, not simply pushed forward by abstract actors, but by specific individuals whose *biographical capacity* placed them in a particularly advantageous position to effect policy change, given a favourable spatio-temporal context. In proposing this concept, we understand *biographical capacity* to be the life experiences equipping a person with the knowledge and personal contacts to occupy a legitimate position to push for change.

Although the new law facilitating the migration and retention of international students from third-countries represents an important opening-up in an otherwise closed political system, it is, however, highly selective. Only individuals with a Swiss degree, in a profession with proven shortages in the labour market, or the ability to develop new products and technologies for a globally competitive market, stand to profit from this change. Similarly, this conclusion echoes de Haas, Natter, and Vezzoli's (2016, 30) observation that migration policies increasingly aim to affect the selection of immigrants rather than volume. The growing emphasis on specific criteria demonstrates that 'the real aim of most migration policies seems to be to increase the ability of states to control who is allowed to immigrate'. Our case study clearly demonstrates this assertion.

Some questions remain for future research. First, to what extent is the window of opportunity opened by the new law merely a symbolic one? Second, considering the legislative autonomy the

cantons enjoy, to what extent will the difference in the implementation of the law persist? Third, as third-country migrants are increasingly required to fit into narrow profiles, what will the implications of such selective policies be in terms of stratification of residential and labour rights? Fourth, in a country where immigration policies have created tension between the protectionist interests of nationalist parties and the needs of a knowledge-oriented economy since the 1930s, what is the future of international student mobility policies? Will the current liberalisation continue? Will it be reversed? These questions need to be empirically addressed.

In summary, our study contributes to the literature on policy change in international student mobility by proposing an explanatory model that combines three dimensions: (a) effective *narratives of steering* crafted by policy elites to influence policy change, (b) a *temporal and geographical context* creating favourable conditions for those narratives to succeed, and (c) policy elites having the *biographical capacity* to influence policy agendas. This theoretical model will be useful for studies of migration policy change in general. This research is also of interest for scholars seeking to explain spatial variations across countries and regions on why migration policy changes – from a restrictive stance to a more liberal one or vice versa.

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## ORCID

Yvonne Riaño <http://orcid.org/0000-0002-3463-6977>

Annique Lombard <http://orcid.org/0000-0003-2915-4700>

Etienne Piguet <http://orcid.org/0000-0002-5114-8385>

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## **8 Discussion and Conclusion**

The present thesis revolved around international students' study trajectories and their post-graduation mobility decisions. It was accompanied by a review of literature on student mobility and migration theories and was embedded in an adaptation of the aspirations and capabilities framework. This concluding chapter summarizes the main findings on international students in Switzerland and discusses the results with regard to aspects of aspiration and capability. This is followed by an overview of the overall contributions and avenues for future research. The thesis concludes with a discussion of the political relevance of ISM.

### **8.1 Factors Affecting Post-Graduation Mobility of International Graduates**

As the number of international students in Switzerland rises, the topic gains economic, societal, and political relevance. In 2014, the share of international students among master's students at Swiss universities reached 20%. From a total of 3,228 international master's students graduating in 2012 in Switzerland, 1,575 (49%) were registered with a residence permit in Switzerland two years after graduation. In sum, about half of the international master's graduates decided (and were able) to stay in Switzerland. Among these graduates, 478 (15%) subsequently enrolled in doctoral studies within two years and many more integrated into the Swiss labour market. Various important factors influenced their post-graduate mobility decisions, ranging from individual aspects (such as personal relationships) to structural aspects (such as differences in the cantonal implementation of migration and labour market policies). Finding employment is one of the most important drivers for staying in Switzerland post-graduation. In fact, study-to-work transitions are taking place to a high extent: About 83% of the international master's graduates who stayed in Switzerland found employment within one year. Given the legal framework, EU nationals were more likely to be employed than non-EU (third-country) national graduates, and having a STEM degree led to a higher rate of employment compared to non-STEM degrees.

#### *Nationality in Relation to Positive and Negative Liberties, Capabilities, and Aspirations*

One of the main findings is the difference in stay rates between EU nationals (51%) and third-country nationals (44%) that can, to a great extent, be explained by higher positive liberties

(“freedom to...”) and negative liberties (“freedom from...”) of the former. The bilateral Agreement on the Free Movement of Persons (AFMP) grants EU nationals the right to live and work in the EU and Switzerland, regardless of their professional qualifications. In contrast, only a limited number of highly qualified third-country nationals are admitted to the Swiss labour market, and the priority rule disadvantages them considerably.<sup>25</sup> In addition to the professional qualifications, a third-country applicant is required to fulfill criteria related to his or her long-term professional and social integration. These criteria include professional and social adaptability, language skills, and age. Thus, third-country graduates have altogether lower levels of both positive and negative liberties and, therefore, lower mobility capacities. With regard to their mobility decisions, EU nationals with high positive and negative liberties realize preponderantly voluntary stays and voluntary moves to their home country or to other countries. In contrast, third-country nationals with lower positive and negative liberties make voluntary moves home or to seek opportunities in other countries, voluntary stays (if they are granted a residence permit), but also to a certain extent involuntary moves homewards or onwards (e.g. if they did not find employment in Switzerland).<sup>26</sup> Also in contrast to EU nationals, third-country nationals do not benefit from the rights outlined in the AFMP to fair and equal working conditions within the EU. Thus they are more limited in their employment opportunities in the EU and have, therefore, fewer mobility options. With regard to differences by country groups, the interplay of capacities and aspirations possibly explains the high stay rate of Europe non-EU nationals (56%) compared to other non-EU nationals (39%–48%). The comparisons of the relatively more advantageous opportunity structures in Switzerland (e.g. employment, research, or education, unemployment rates, and salary level) (FSO 2017) compared to their origin country

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<sup>25</sup> The priority rule Art. 21 FNA: “(1) Foreign nationals may be permitted to work only if it is proven that no suitable domestic employees or citizens of states with which an agreement on the free movement of workers has been concluded can be found for the job. (2) Domestic employees include: a. Swiss nationals; b. persons with a permanent residence permit; c. persons with a residence permit authorising them to work. [In force since 1 of July 2018 also ‘d. temporarily admitted persons; e. persons who have been granted temporary protection and have a permit entitling them to take up employment.’] (3) Foreign nationals with a Swiss university degree may be admitted in derogation from paragraph 1 if their work is of high academic or economic interest. They shall be temporarily admitted for a period of six months following completion of their education or training in Switzerland in order to find suitable work.”

<sup>26</sup> Theoretically there can also be cases of involuntary stays of persons who are not free to move for legal reasons but aspire to do so (e.g. asylum-seeking graduate, person with a pending residence permit request, or whistleblower).

make Europe non-EU nationals more likely to aspire to stay in Switzerland than other country groups where this difference is smaller (e.g. North America). Furthermore, because of the less beneficial legal conditions, third-country national graduates might take longer than EU nationals to find a position that corresponds to their qualifications. With regard to nationalities, according to Swiss migration policies the main ways for third-country nationals to overcome migration policy barriers are either to be recruited by an employer or to start a business in Switzerland. However, there are other possibilities to obtain a residence permit, for example, through personal relations or social ties.

#### *Social Ties in Relation to Positive and Negative Liberties, Capabilities and Aspirations*

Social relations and personal networks are a form of capabilities that can help to overcome legal restrictions regulating residency in Switzerland. Being a family member (including a spouse) of a co-national, Swiss, or other foreign national residing in Switzerland can provide eligibility for a permit through marriage or family reunification. To a certain extent, a spouse or partner, relatives, or friends and their networks can also be helpful for job-seeking. With regard to aspirations, the partnership status of international students influences their post-graduation mobility intentions. A married or partnered international student is more likely to intend to stay in Switzerland than a single student. Marriage to a Swiss or foreign resident living in Switzerland comes with increased positive liberties that facilitate access to a residence permit. Relations without being married do not directly include legal advantages, but indirectly increase mobility capacities (for staying or moving, depending on the origin of the partner) due to the support of the partner and their network for integrating and job-seeking. Above all, being in a relationship influences mobility aspirations, as a couple will probably want to stay together, also during a move. Thus, the couple can either remain in Switzerland where the student graduated, or move to another place. Moving in a couple, however, means higher costs and efforts (for coordinating a double career and family responsibilities) than for a single person, and might require more time for finding a suitable living situation. Thus, the higher stay rates of Europe non-EU nationals (56%) compared to third-country nationals (44%) can partly be explained by strong social ties such as marriage, relationship, or diasporic networks. In fact, the main Europe non-EU countries (Russia, Turkey, Balkan states) are known to have strong social networks in Switzerland.

### *Employment in Relation to Positive and Negative Liberties, Capabilities and Aspirations*

For third-country nationals, finding employment has a direct effect on their positive liberties by allowing residence in Switzerland (and free movement within the Schengen area), and, at the same time, it increases negative liberties by reducing mobility restrictions. Employment therefore provides more freedom and time for future mobility decisions. Nevertheless, a third-country national's residence permit is related to the duration of stay and depends on the employment contract. Leaving a job implies a reduction of mobility capabilities, thus employment creates a certain dependency. With regard to aspirations, employment is the result of aspiring to stay and, in turn, increases aspirations for staying due to labour market integration providing a certain stability and financial capital. Whereas, if an international graduate mainly aims to gain international work experience and income before returning home, the acquired capabilities in the form of human and financial capital soon lead to higher aspirations for leaving.

### *Qualifications in Relation to Positive and Negative Liberties, Capabilities and Aspirations*

Obtaining a degree in Switzerland increases capabilities for post-graduation mobility on the highly skilled pathway to employment as well as on the study-to-work pathway. The effect is, however, not the same for all qualifications. According to the FNA, the law is designed to target highly skilled workers for the Swiss labour market, mainly if there is a scarcity of skilled labour creating strong demand, or if the employment is of high academic and economic interest for Switzerland. Altogether, STEM graduates seem to adequately fulfill these criteria, as these degrees correspond to better employment rates than in other study fields. International graduates are numerous and overrepresented in STEM fields, compared to Swiss graduates. Their stay rates are higher than those of non-STEM graduates and they enroll substantially above the average, often in subsequent doctoral studies. However, with regard to the study-to-work transition, the higher likelihood of employment of STEM graduates compared to their non-STEM colleagues varies strongly by nationality. First, non-EU STEM graduates were less likely to find a job than EU STEM graduates. This means that regardless of their degree field, many non-EU STEM graduates residing in Switzerland were still not employed one year after graduation; this was especially observed for Latin Americans and Africans. In other words, employment was more

likely for Europe non-EU or Asian and Oceanian STEM graduates. Theoretically, non-EU STEM graduates could have benefitted from supportive legislation, or most probably from the six-month permit and the exception rule. One possible explanation for their relatively low employment in Switzerland is that third-country STEM graduates had higher capabilities for mobility than their non-STEM national fellows and could therefore choose opportunity structures for post-graduation employment elsewhere (if these were perceived to be more advantageous). Further explanations could be that negative liberties in the form of labour market entry barriers were still too high to overcome for either the graduates or the employers in Switzerland, that the costs and efforts were too disadvantageous for both sides, or that Swiss employers recruited STEM graduates preponderantly among EU nationals.

#### *National Languages in Relation to Positive and Negative Liberties, Capabilities and Aspirations*

The differences in stay rates among speakers of different languages can to a certain extent be explained by capacities of language skills. For many international graduates, the language barriers issue may affect labour market integration. Francophone international graduates have an advantage integrating into the labour market in French-speaking Switzerland, whereas graduates proficient in German are more likely to integrate into the larger German-speaking labour market. This is an advantage for German nationals, and a possible partial explanation for their exceptionally high employment. The officially bilingual canton of Fribourg provides opportunities for both German- and French-speaking graduates and also has a high stay rate.

#### *Policy Implementation in Relation to the Perceived Geographical Opportunity Structures*

The national legal framework for the highly skilled pathway and the study-to-work pathway is basically the same all over Switzerland but the cantonal migration and labour market authorities have some leeway in their implementation. With regard to regional differences in the stay rates of international master's graduates, there are possible explanations related to the cantonal implementation practice. Political attitudes and (liberal versus restrictive) culture seem to play an important role. The Swiss French-speaking region including Basel had higher overall stay rates than the German- and Italian-speaking cantons, and this result is in line with findings on the implementation of integration policies in Switzerland that found a more liberal attitude in the

same group of cantons (Manatschal 2013). Also, the issuance of the six-month job-seeking permits varies considerably by canton. Surprisingly, the distribution of the effective number of these permits provides a dissimilar picture. Approximate numbers of the permits issued indicate that only very few third-country graduates make use of this opportunity and that the issuance of these permits concentrates on the cantons of Vaud, Basel, Zurich (SFM & NCCR unpublished),<sup>27</sup> Geneva, and St. Gallen. All other cantons issued five or fewer permits over the last seven years, according to administrative register data (SEM 2018).<sup>28</sup>

### *Regional Environment of Universities as Part of Perceived Geographical Opportunity Structures*

Significant observed differences between Swiss regions in the stay rates and employment rates reflect differences in the geographical opportunity structures. Higher education institutes are part of this infrastructure, with a network of stakeholders in the economy, research, and innovation. The environment of the University of Lausanne (stay rate of 63%) and the ETH Lausanne (stay rate of 60%), for example, has an enterprise-friendly and very interconnected professional environment. The surrounding area of the ETH Zurich (stay rate of 50%) also provides numerous opportunities for employment and research. While their stay rate was slightly above the average, these graduates represented the second highest absolute number of graduates who stayed in Switzerland for two years (245). The University of Geneva hosted the highest absolute number of international graduates who stayed in Switzerland (262). The presence of a great number of international NGOs as well as freedom of cross-border mobility might be responsible for this accentuated presence. In Basel, too, the geographical proximity to the border and the presence of strong actors in research and employment (e.g. in the pharmaceutical sector) may partly explain their high stay rate of 60%. Lower stay rates for the University of Lucerne (44%), St. Gallen (38%), the university of Italian-speaking Switzerland (34%), and the University of Bern (31%) can partly be explained by smaller regional labour market opportunities for international graduates and a lower labour market demand in the tertiary sector (FSO 2017).

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<sup>27</sup> Data from the ongoing research project “scope for shaping Federalism: migration policy in the cantons” from the SFM and the NCCR – on the move with survey data on the implementation of Federal law in the cantons in 2017.

<sup>28</sup> Data requested from the SEM in 2018 on the „temporary permit for maximal six months for job-seeking for third-country nationals with a Swiss tertiary degree“ issued per cantons from 2011 to 2017 (SEM 2018).

### *Migration Policy Amendments in Relation to Perceived Geographical Opportunity Structures*

Amendments to laws related to migration directly shape the geographical opportunity structure and the ways it is perceived. In general, legal amendments cause either an increase or decrease in positive and negative liberties. Furthermore, the selection criteria defining to whom it applies has a more or less selective effect on the mobility capacities of specific groups of international graduates. The mere perception of restrictions for accessing the Swiss labour market has a negative influence on aspirations and can lead to the adaptation of strategies for seeking employment elsewhere. The aspirations of a graduate make the difference between a voluntary stay, a voluntary move, and an involuntary move. In the last years, two major changes affected the legal framework governing international graduates in Switzerland. First, the 2011 amendments to the FNA that led to new legal opportunities for third-country nationals graduating from a Swiss university, in particular, a new regulation which provided a study-to-work pathway with a six-month permit for job-seeking under certain conditions. First, the permit has to be requested and does not apply automatically, and second, such a permit is only granted to third-country graduates “if their work is of high academic or economic interest” (FNA). Those graduates who apply for and receive a residence permit benefit from the exclusion of the priority rule, which is an increase in negative liberties, and from the right to stay and seek a job, which is an increase in positive liberties. The selection criteria and their implementation can result in an overall more liberal policy implementation or, on the contrary, shift the policies towards a more selective and restrictive admission practice if admitting only graduates with a very specific qualification profile. The other major legal amendment was the “initiative against mass migration” that was accepted by a narrow majority of 50.3% of voters and led to changes in article 121a of the Swiss Constitution on the “control of immigration” that entered in force on 9 February 2014. The initiative aims to control and limit immigration to Switzerland including both non-EU and EU nationals, and puts at risk the well-established FMPPA and related agreements. The legal consequences of the implementation of this initiative—as well as the message it sends to prospective international students about Switzerland as a host country—are still very uncertain.

## 8.2 Overall Contributions

Initiating the process of data preparation that links the administrative data of the student registry to the foreigner registry, the NCCR – On the Move, and the Swiss Federal Statistical Office (FSO) created a valuable source of information on international students. With this thesis, we made available previously unknown data on international students' post-graduation mobility. The technically limited observation period covers the time from immigration and study enrolment to graduation in 2012, and identifies subsequent student mobility until 2014. Considerable effort and time have been invested in the data request and preparation, as well as the coding of the data into a sequence format that enables the visualization and analysis of the study trajectories of a cohort of international graduates in Switzerland. The methodological adaptation of sequence analyses (Gabadinho et al. 2009, 2011) of students who enrolled on more than one study level and their subsequent stay rates is a valuable application of the method. My main contribution to the trajectory analysis was to identify differences in stay rates by origin, higher education institution, and study field, which led to further analyses of STEM graduates and reflections on regional differences in the implementation of migration policies.

In addition, in the course of the cluster analysis, I found five types of degree-related mobility: “master’s and leaving”, “bachelor, master’s, and leaving”, “master’s and staying”, “bachelor, master’s, and staying”, and “previous residence and master’s”. These types of trajectory patterns show that besides the classic form of degree mobility—arriving, obtaining a degree, leaving—which was found in 36% of the cases, another 33% of graduates stay after obtaining their master’s degree. As much as 27% had already obtained a bachelor degree in Switzerland before their master’s degree (of whom 16% stayed and 11% left), and 4% were previous residents. Thus, patterns of study trajectories are complex but can be classified as described above.

A review of studies on stay rates shows that administrative register data of cohorts of graduates is currently the best data for calculating stay rates on an internationally comparable basis. Furthermore, it is more reliable than, for example, calculations based on graduate surveys. Switzerland’s stay rate of 49% two years after graduation was very similar to the Netherlands and Finland, both with 48% three years after graduation. Given the longer observation period of an earlier cohort (2008/09), their stay rates five years after graduation can be taken as an

approximate estimation of the evolution of stay rates in Switzerland. In the Netherlands, 38% of the graduate cohort still was registered five years after graduation (Nuffic 2016), and 44% in Finland (Cimo 2016).

By complementing these results with responses to the Swiss Graduate Survey, we brought together two valuable data sources on the employment of international graduates in Switzerland. Additionally, by taking into account the problems encountered while job-seeking and the shares of STEM degrees by nationality groups, we contributed to a better understanding of the selection dynamics in the transition of international graduates into the labour market. We found significant effects in employment by nationality, thus differences in the legal framework make EU nationals more likely to be employed than non-EU nationals, and having a STEM degree is positively related to employment rates. Also, parenthood is negatively related to employment for both Swiss and international graduates, whereas the effect is stronger for foreigners with less support for childcare from family and relatives. To our surprise, the positive effects of STEM qualifications for third-country nationals were rather limited. Thus, national strategies and legal incentives for retaining third-country STEM specialists are attained to a limited extent. Also, better grades have no significant effect on the employment of international graduates. This either means that the best and brightest benefit from better opportunities elsewhere, or that these graduates return and contribute their skills to their home country, or that employers value other factors over good grades, such as language proficiency or prior experience, for example.

The analyses of post-graduation mobility intentions underline the complexity of the decision-making process regarding future mobility. Sixty percent of respondents to the Swiss Graduate Survey replied that they did not yet know how long they wished to stay in Switzerland. This reply shows that post-graduation mobility intentions often change or are adapted during the stay abroad. Mobility intentions are influenced by various factors including aspects which are not found in registry data. Nevertheless, in our analysis of the NCCR – On the Move Mobility- Migration Survey we were able to analyze replies of international students regarding their personal partnerships. We showed that in addition to marriage, which proved to be an important factor in mobility decision (Bijwaard and Wang 2016), living in an unmarried relationship is positively related to intentions to stay in the host country, at least in Switzerland. Significant

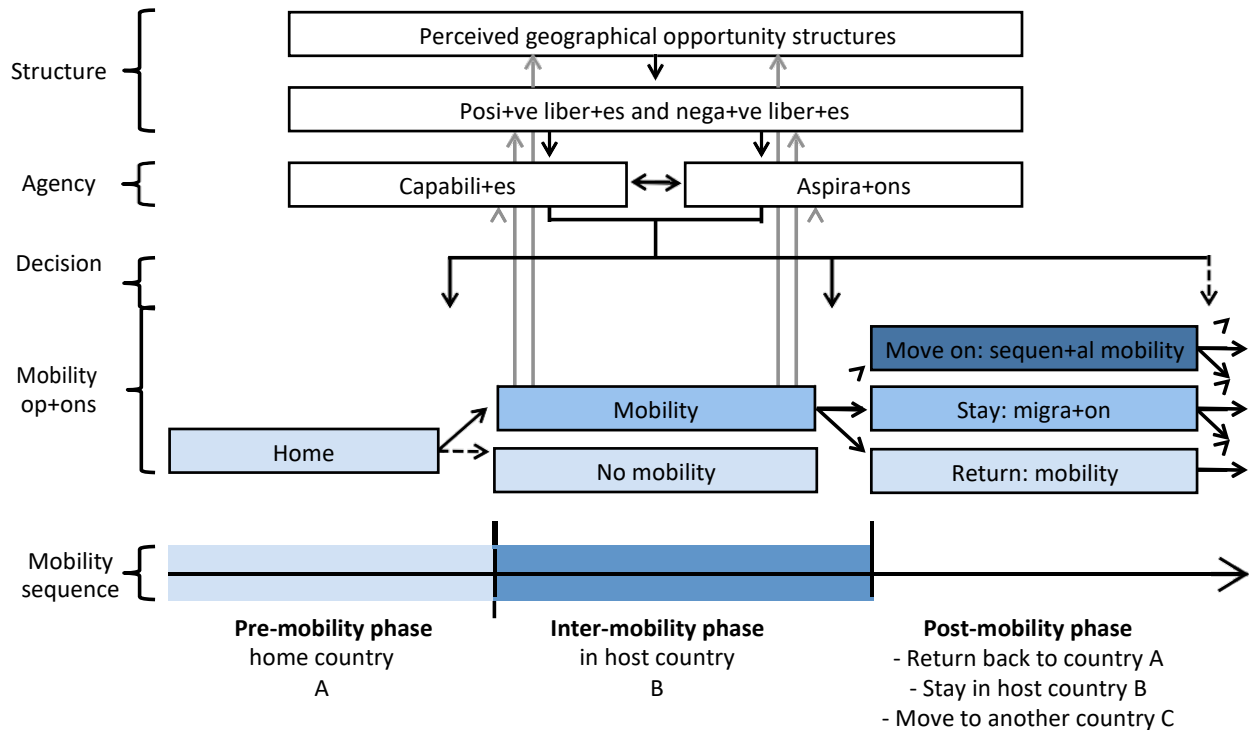
differences by gender indicate that gender roles—in relation to family obligations and career plans—may play an important role in mobility decisions (c.f. Schaer et al. 2016). With regard to observed gender differences, men manifest clearer and higher intentions to stay. However, from the register data analysis, we know that the stay rates of women are actually higher than those of men, an interesting deviant that we are not able to explain with the current data. With our results we complement the existing list of main factors influencing mobility decisions. In the case of couples, mobility decisions are not made individually. Many types of important personal relationships seem to strongly influence mobility behaviour. Thus, we highlight the importance of non-statistical measurable social factors such as relations to family back home or abroad, family obligations or expectations, parental leave, and the reconciliation of family and career.

The article examining Neiryck's parliamentary initiative in Switzerland contributes to the literature on policy changes in ISM. We described the arguments and examples used by Neiryck to successfully pass the initiative in the Swiss context, and we emphasized the importance of three dimensions which influence policy agendas: effective narratives of steering, temporal and geographical context, and biographical capacity. The analysis on the structures and changes in migration law led to an overview of the legal framework and enable us to better situate Switzerland in the international context.

Finally, I applied the aspirations-capabilities framework of de Haas (2014) to the case of the post-graduation mobility decisions of international students and specified mobility as “the freedom to move (once or several times) or to stay”. I extended the framework through the conceptualization of mobility sequences as the outcome of a series of mobility decisions, including each time a decision-making process evaluating positive and negative liberties resulted in capacities and aspirations for mobility options. By differentiating the mobility options as stay, return, or move on, this framework helps to move beyond the simplified understanding of migration as a one-time decision between migration or non-migration. Furthermore, the framework includes the temporal axis structured by study phases and critical moments in education trajectories that situates the individuals' mobility sequence in time and space.

This framework can be applied to mobility in a broader sense by including forms of mobility that convert into mobility, migration, or sequential mobility as shown in Figure 6.1.

Figure 6.1: Adapted Aspirations-Capabilities Mobility Framework



Source: Lombard 2018 (based on the aspirations-capabilities framework from de Haas 2014)

### 8.3 Avenues for Future Research

Throughout this conclusion, limitations of the analyses and interpretations were mentioned and additional clarifications proposed. During the research process and the redaction of this thesis, seven main topics came up for future research.

First, with regard to statistical data on international students in Switzerland, the newly created dataset—the result of linking the registers on students and foreigners living in Switzerland—is a valuable data source that could be further analyzed. With a few adaptations, the trajectory analysis could be applied on the doctoral or bachelor study level as well as the master’s. From a methodological point of view, a series of decisions were taken in order to make the most out of the dataset. The introduction of social security numbers for students in 2010 has technically enabled the linking of the datasets in the first place. However, the linked dataset only has become qualitatively sufficient since 2012. Therefore, the observation period is limited, focusing on the

cohort of students graduating in 2012 and their post-graduate data from 2013 and 2014. With each additional year, the interpretation of the data would reveal more about the mid- and longer- term stay rates of international graduates (c.f. Finn 2014, Nuffic 2016). Furthermore, analyses of the effects on stay rates due to the amendments of the FNA in 2011 (e.g. the six-month permit and exemption rule), changes in the scope of the application of the AFMP (e.g. contingents and priority rule in the transitory phase for countries that recently joined the EU), or the consequences of the 2014 “initiative against mass migration” would be of great interest for estimating the impact of policy changes.

Second, it would be an improvement to combine information on post-graduation mobility intentions with information on actual mobility behaviour by differentiating among those who leave—whether voluntarily or involuntarily—and those who stay voluntarily. For the interpretation of the results, there is a big difference between graduates who have aspirations to stay but insufficient capabilities to do so and those who do not want to stay. By differentiating these cases, graduates with high capabilities who found better professional opportunities elsewhere could be identified. Also, it would be interesting to know whether these students return to the home country or move on to another destination country, as mentioned in the study of Lindberg et al. (2014) on grant recipients at the ETH Zurich, in which they found that 50% of graduates returned to their country of origin. Such information would provide a more complete view on eventual mobility outcomes. This information would also enable a discussion on the economic and developmental consequences of student mobility for the home country, including brain drain, brain gain, or brain circulation (c.f. Baruch 2007, Lindberg et al. 2014, Lowell et al. 2004, Heim et al. 2012). At present, the dataset only enables a discussion from the Swiss point of view as a host country, without taking into account where the students go when they leave.

Third, mobility aspirations, motives, and strategies change over time as a consequence of—or preparation for—important life events such as moving in with a partner, marriage, or childbirth, as well as career opportunities. These events are of great importance during and after the studies and heavily influence individual or family-related mobility decisions. In the trajectory analysis, I was limited to the period which included the arrival in Switzerland, the studies, and the subsequent two years after graduation. As already stated by Findlay et al. (2015), it would be

interesting to analyze trajectories of international students within a broader life course perspective (Elder et al. 2003). With regard to international students with children, the register of children born in Switzerland (BEVNAT) administrated by the FSO could technically be linked to the current data set.<sup>29</sup> The Graduate Survey and other complementary register data, such as the Swiss Labour Force Survey (SLFS), could also theoretically be added to the current dataset.<sup>30</sup>

Fourth, while social, societal, cultural, and other personal factors greatly influence the mobility intentions, experiences, and decisions of international students, they represent only a very limited part of the quantitative analyses that take partnership status into account. However, studies with qualitative approaches provided interesting results on Swiss (e.g. Guissé and Bolzman 2015) and other national contexts, for example on students' experiences of the host country's culture (Chiang 2014, Gunawardena and Wilson 2012). A study on Germans in Switzerland showed that their main reasons for dissatisfaction were the unavailability of childcare, difficulties finding housing, and societal intolerance towards foreigners (Steiner 2017). These aspects also concern international students, and may be part of the reason for deciding not to stay in Switzerland. Qualitative methods, such as interviews with students about their current or past mobility experiences, would certainly show interesting results on how Switzerland is perceived as a host country, and which personal aspects act as incentives to stay or leave.

Fifth, the results of the analysis on the employment rates of international master's graduates contribute to the discussion of trade-offs between security, national identity, social cohesion, and economic interests with regard to retaining international graduates. With the current dataset, we were limited in the interpretation, as there is no further information on the underlying dynamics that led to the observed migration and employment behaviour of the international graduates. Furthermore, we do not know to what extent graduates who left wanted to stay in Switzerland. This aspect, however, is important for identifying how to create incentives or improve the legal conditions for those graduates Switzerland strategically aims to retain. Furthermore, a complementary analysis of their mobility intentions with qualitative interviews would be of great interest in order to deepen the understanding of the employment rates of international graduates

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<sup>29</sup> [www.bfs.admin.ch/bfs/de/home/statistiken/bevoelkerung/erhebungen/bevnat.html](http://www.bfs.admin.ch/bfs/de/home/statistiken/bevoelkerung/erhebungen/bevnat.html) (last accessed 17 August 2018)

<sup>30</sup> [www.bfs.admin.ch/bfs/en/home/statistics/work-income/surveys/slfs.html](http://www.bfs.admin.ch/bfs/en/home/statistics/work-income/surveys/slfs.html) (last accessed 30 August 2018)

in Switzerland. Also, from a Swiss labour market perspective, it would be interesting to better understand how Swiss employers experience the current legal framework when recruiting third-country graduates, and whether it is possible to facilitate the recruitment practice by using the study-to-work pathway policy.

Sixth, further analyses of the differences in cantonal implementation of the six-month job-seeking permit for third-country nationals graduating from a Swiss university would be of great interest. It would be interesting to investigate to what degree third-country national graduates are informed about the existence of this opportunity, which ones opt to apply (self-selection), and which ones eventually receive the permit (authorities' selection). Regional differences in policy implementation and selection criteria could be examined through interviews with cantonal labour market and migration authority officers as well as important stakeholders (e.g. employers, start-up environments, pharma sector, or recruitment organizations).

Seventh, more detailed results on stay rates could considerably improve previous estimates on the overall financial effects of student mobility on the host country. In their comparative study on Germany, Switzerland, the Netherlands, Poland, and Spain, Münch & Hoch (2013) created cost-benefit calculations based on two scenarios including estimated stay rates of 20% or 30% two years after graduation. The authors state that the overall effect depends on the effective stay rates and the duration of the subsequent stay, concluding that the more (and the longer) international graduates stay and take up employment, the higher the economic income for the host country is. With regard to the current public and political discussions on migration policies and how to handle immigration in general, a more accurate estimation with recent data—including the stay rates of international graduates in Switzerland—would be another great contribution.

#### **8.4 Political Relevance and Outlook**

International students in Switzerland and the question of whether they stay or leave after graduation is of relevance on both the national and international level. Migration policy-making cannot be discussed separately from global trends. It is, therefore, important to consider the wider political-economic geographies and policy evolution in other countries. This section concludes with a discussion on trends and changes and possible policy recommendations.

### *Similarities in Policies and the Competitive Edge Leading to a Race for Talent*

Over time, several countries introduced a series of strikingly similar ISM policies and initiatives to attract and retain international students (e.g. Bedford & Sponley 2014, Chiou 2017, Shachar 2006). Geddie (2015) has observed how these policies travel across geographical and political boundaries, and how they change and adapt to the national context. She states that “new policies in competitor jurisdictions were important sources of inspiration, motivation or justification for changes” (Geddie 2015: 245). With an increasing number of players competing for talent, the patterns of mutual causality and interdependency multiply. If one country provides greater incentives that better respond to the needs of highly skilled workers, this undermines the effectiveness of migration policies in other countries. In Shachar’s words, “advanced industrial countries are trying to outbid one another in an effort to attract highly skilled migrants to their domestic industries in order to gain (or retain) a relative advantage over their international competitors in the knowledge-based economy” (2006: 154). This dynamic has led to a progressive “race for talent” (Reich 1991, Skeldon 2009, Boeri et al. 2012).

### *Switzerland and the Policy Competition for Attracting and Retaining Talent*

With the six-month job-seeking permit, Switzerland introduced an opportunity for employment that is similar to regulations in EU countries, which either introduced programs on their own initiative or by implementing the Recast Directive. However, Switzerland is currently lagging behind other EU host countries which have introduced similar transition permits for a longer duration, such as, for example, Germany (18 months) or France and the Netherlands (both 12 months). In addition, the current revision of the Blue Card Directive promises even better conditions for researchers and international students upon graduation in the EU. With regard to policies, Switzerland is not leading other countries in providing the most attractive conditions but is rather one step behind. Furthermore, Switzerland competes more directly with European countries than the popular (anglophone) study destinations, for example, Canada or Australia. In addition to long-term permits, these two countries provide benefits in the naturalization procedure for highly skilled workers. Besides migration policies, countries compete in other policies and also in other aspects, as for instance in providing good conditions for research and

development, an environment conducive to innovation and business, favourable fiscal conditions, high salary levels, and other benefits. In this regard, Switzerland is in many respects attractive for its infrastructure, economic and political stability, and high standards of living conditions.

### *Swiss Employers' Competition for Recruiting Talent*

The competition for the most demanded workers is generally taking place between employers who have the resources to offer attractive employment conditions. An EU graduate benefits from free movement without a skill-based selection but directly depends on labour market conditions. In contrast, a third-country graduate can be recruited and employed on the highly skilled pathway, but additional selective administrative obstacles must be passed. First of all, the employer is responsible for requesting the work permit and providing proof that they could not find any Swiss or European candidates for the position. The graduate therefore depends on support from a potential employer in order to justify the need for their specific skill profile. Second, the employer competes with other employers for work permits that are limited by a quota system in each canton and with a national reserve. In this working permit category of third-country nationals, graduates compete with workers recruited from abroad. Thus, whether or not an employer undertakes the additional effort depends on the expected benefits of employing the graduate, which in turn depends on the candidate's qualifications and profile, and the demands of the international labour market. Furthermore, a third-country graduate who is competing with an EU candidate has a lower chance of employment. In the end, it is the labour market dynamics and the employers that predominantly shape employment outcomes.

### *Contradictory Policy Aims: Economic Efficiency Versus the People's Concerns*

The Swiss state has the role of the judiciary with supervisory authorities on the cantonal and federal level. Thus, with regard to international students, the state defines migration policies on entry, residency, and access to the labour market. The state imposes limitations on employers who want to recruit international workers according to their needs for specific skills. In general, migration policies are shaped by interrelated policy dimensions based on sometimes competing interests of the state. These dimensions listed in policy dimensions by Ruhs (2013) are economic

efficiency, distribution, national identity, social cohesion, national security, and public order. Furthermore, achieving one of these goals can create a trade-off with another dimension. Thus, the state has to manage how to regulate the number, selection, and rights of migrant workers admitted. For decades, the Swiss federal administration has attempted to refine migration policies in order to achieve contradictory migration policy aims: on the one hand, to meet the needs of the economy, and on the other hand, to limit migration in order to conciliate xenophobic concerns. Thus, Piguet states that in “trying to formulate an immigration policy [the Swiss government is] caught between economic demands and the fear of popular xenophobia” (2006: 87). Liberal policies providing opportunities for more immigrants to work and live in Switzerland can have effects on—or be perceived as a problem with regard to—policy dimensions, such as distribution, national identity, social cohesion, national security, and public order, and thus foster xenophobia. In fact, concerns over immigration led to a series of popular initiatives intended to limit the number of immigrants, but these were all rejected with clear majorities.<sup>31</sup> In 2014, however, the “initiative against mass migration” passed with a slight majority. As a consequence, the Federal Council and the Parliament had three years to implement the new Article 121a and introduce a new admission system while ensuring national economic interests and the priority rule.<sup>32</sup> When Croatia acceded to the EU, Switzerland was prevented from ratifying the additional Protocol III on the extension of free movement for Croatians. Thus, the popular initiative jeopardized the AFMP and consequently the mobility rights of EU nationals in Switzerland. In response, the EU downgraded Switzerland from full

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<sup>31</sup> Popular initiatives related to immigration before 2014 include initiative “für eine Regelung der Zuwanderung” [for a regulation of immigration] (2000), “für die Begrenzung der Einwanderung” [for the limitation of immigration] (1988), “IV. Überfremdungsinitiative” [IV. initiative against overforeignization] (1977), “gegen die Überfremdung und Überbevölkerung der Schweiz” [against overforeignization and overpopulation of Switzerland] (1974), and “Überfremdung (Schwarzenbach)” [overforeignization (Schwarzenbach)] (1970).

<sup>32</sup> Art. 121a Federal Constitution of the Swiss Confederation on Control of immigration: “(1) Switzerland shall control the immigration of foreign nationals autonomously. (2) The number of residence permits for foreign nationals in Switzerland shall be restricted by annual quantitative limits and quotas. The quantitative limits apply to all permits issued under legislation on foreign nationals, including those related to asylum matters. The right to permanent residence, family reunification and social benefits may be restricted. (3) The annual quantitative limits and quotas for foreign nationals in gainful employment must be determined according to Switzerland's general economic interests, while giving priority to Swiss citizens; the limits and quotas must include cross-border commuters. The decisive criteria for granting residence permits are primarily a application from an employer, ability to integrate, and adequate, independent means of subsistence. (4) No international agreements may be concluded that breach this Article. (5) The law shall regulate the details.”

association to partial association in the EU research program Horizon 2020 from 15 September 2014 to 1 January 2017 when Switzerland ratified Protocol III. The EU also suspended Switzerland from the Erasmus+ programs and the parliament introduced transitional solutions. In 2016, the Swiss Parliament agreed to implement Article 121a with measures to draw on the potential workforce of people residing in Switzerland in a way that should be compatible with the AFMP.<sup>33</sup> Nevertheless, the aftermath of the initiative has implications for international students: It creates insecurities in political relations with the EU and in international cooperation for research, and it damages the image of Switzerland as a welcoming host country. In 2018, an international survey ranked Switzerland the eighth most popular country for foreigners to move for work; three positions lower than in 2014. The authors named the changes in regulations as reasons that led to the perception that “Switzerland is less welcoming than it used to be” (Strack et al. 2018: 1). However, the dissatisfaction with how Article 121a was implemented nourishes the current frustration of people who think that too many migrants are present in the country. On the international level, the climate for negotiating with the EU (e.g. institutional agreement, stock market equivalence) is currently difficult, and on the national level.

### *Contradictory Aims: National Education Policies Versus International Competitiveness*

Education in Switzerland is the responsibility of the government, from the beginning of compulsory education up to and including the tertiary level: “The Confederation works with the Cantons to coordinate, maintain the quality, and ensure the competitiveness of the entire higher education sector in Switzerland” (Higher Education Act). The relatively low study fees do not cover the costs of tertiary education, which is subsidized for Swiss and international students. Nevertheless, Swiss universities compete on a global level with higher education institutions that are organized and financed differently (e.g. private institutes, industry-public university partnerships, egalitarian versus elitist). Thus, the marketization and internationalization of higher education and the global race for talent challenge the ideology of “meritocratic nationalism” that has long been present in European countries with the following assumptions: “Students compete

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<sup>33</sup> Information about the implementation of the “Masseneinwanderungsinitiative” [initiative against mass migration] can be found at [www.sem.admin.ch/sem/de/home/themen/fza\\_schweiz-eu-efta/umsetzung\\_vb\\_zuwanderung.html](http://www.sem.admin.ch/sem/de/home/themen/fza_schweiz-eu-efta/umsetzung_vb_zuwanderung.html) Information about the “Fachkräfteinitiative” can be found at [www.fachkraefte-schweiz.ch/de/](http://www.fachkraefte-schweiz.ch/de/).

for top jobs and college slots in a national system of schooling; nations invest money in education so that their citizens can out-smart and out-compete citizens from other nations; and educational justice is defined largely as the provision of equal educational opportunity for those living within the borders of the nation” (Brown & Tannock 2009: 385). Nowadays, the “best qualified” is not necessarily a national citizen but can—under some conditions—also be a foreign candidate. Thus, competition is no longer taking place on a national but increasingly on an international level. This raises important questions of social justice, inclusion, opportunity, fairness, and equality.

### *The Increasing Importance of Skills as Selection Criteria*

Internationally, migration policy regimes became more complex through a differentiation of policy instruments. In fact, as a consequence (and against the common assumptions), migration policies have become less restrictive but more selective. Policies increasingly aim to affect the selection—rather than control the volume—of migration. According to an international comparable analysis (de Haas et al. 2016), migration policies became highly differentiated according to specific migrant categories and skills were increasingly used as criteria for migrant selection. International students and highly skilled workers benefitted most from liberal policy changes, while access for others became more difficult. In Swiss migration policies, the needs of the economy have constituted a preponderant driving force for decades. This selective logic was directly applied in the set-up of the two-circle model, where the admission criteria are based on qualifications and the economic interest as a whole. Furthermore, the definition of the national economic interest “shifted from the aim of satisfying equitably the manpower demands of all economic sectors and regions to the aim of privileging the more competitive activities” (Piguet 2006: 85).

### *Attaining Contradictory Policy Aims in Switzerland*

Switzerland attracts a relatively high number of mobile students who study for one or more semesters or for a whole degree at a Swiss higher education institution, and a considerable number of international students graduate each year. Most of the prospective highly skilled workers reside in Switzerland in a very crucial moment for job-seeking: the months before

graduation. A high share of international graduates is employed within one year, while others have no intention to stay and therefore leave. Yet, some third-country nationals are forced to leave when their student permit expires upon graduation. In some cases, this leads to the departure of persons who potentially aspired to work in Switzerland but did not find employment before graduation. Recent changes in post-graduation policies leading to the opportunity to apply for a six-month job-seeking permit could have an effect on this latter group of graduates. Unfortunately, we do not yet know how impactful this effect is, which graduates benefitted most, and whether they eventually found employment, but we do know that in some cantons the practice is established and graduates make use of it. It provides a chance for in-situ trained students who finished their studies with a Swiss certificate and who have previous experience of living in Switzerland. It is, however, a selective measure as it reaches out to a group of people according to their skill profile. For some graduates, this new policy is out of reach if their qualifications are not sufficiently in the national economic or scientific interest. In sum, the results showed that a relatively high number of international students aspired to stay for some more years in Switzerland, and that among those who stayed after graduation a high share found employment in Switzerland within one year. Current migration and labour market policies restrict and control access to the labour market but also provide opportunities for employment in Switzerland, though under selective conditions that are formulated broadly so that the cantonal authorities have the freedom to decide on every single case. Besides the pathway of employment, other less skill-selective permits are issued for other reasons. Our results showed that under the current framework, the origins and professional qualifications of international graduates have a significant impact on their employment and stay rate. The graduates who are most in demand have a good chance of being recruited via the highly skilled pathway, and the additional study- to-work pathway is a great opportunity for graduates to enter the Swiss labour market and benefit from the exception rule instead of leaving Switzerland immediately. This is also in the interest of employers, who have more time to recruit international talent trained in Switzerland.

### *Policy Recommendations*

According to a uniquely competitive logic, it is in Switzerland's interest to retain the brightest, the most talented, and the most economically promising graduates, and to keep up with—or even

to outbid—other countries that have equal or better legal conditions and opportunities. According to a simple economic logic, assuming that most of the graduates who stay in the host country for some years contribute financially to the domestic economy, it is in Switzerland’s interest to retain as many graduates as possible as long as the net effect is positive. In practice, however, this competitive policy goal must be balanced against other policy aims. Given the political context, changing the admission criteria for attracting and retaining more knowledgeable and skilled graduates for fostering entrepreneurship, innovation, development, and research, in short the economy as a whole, would be possible but would also include a trade- off in competing policy interests. Further liberalizing access to the labour market could foster concerns over immigration and preexisting xenophobia. Even though students and highly skilled workers are not perceived as problematic immigrants, they contribute to a higher total number of foreign residents. From a social integration point of view, the prior experience of living in Switzerland makes it easier for international graduates to acculturate than newly arriving foreign workers. As young people students help to counter the demographic trend of an aging society, and they also help financially by paying taxes and contributing to social security benefits. In that respect, international students who are recruited upon their graduation in Switzerland could be a better option than recruiting workers from abroad. Overall, it seems that the current legal framework is well suited to react flexibly to the economic and politic situation in Switzerland. Nevertheless, some elements could be improved to make better use of the existing post- graduation employment opportunity structures. For example, Switzerland could 1) actively inform international students about this legal framework upon their arrival, 2) provide information on applying for the six-month job-seeking permit on the websites of the cantonal migration offices, 3) promote the six-month job-seeking permit on an informative website and with a descriptive name for the study-to-work pathway,<sup>34</sup> 4) found an organization on the internationalization of higher education in Switzerland that provides information and support for

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<sup>34</sup> Examples of websites providing information on the legal framework and procedures for applying for a permit: Germany’s “make it in Germany” ([www.make-it-in-germany.com](http://www.make-it-in-germany.com)), the Netherlands’ “orientation year” ([www.hollandalumni.nl](http://www.hollandalumni.nl)), and France’s “autorisation provisoire de séjour APS” ([www.campusfrance.org](http://www.campusfrance.org)).

international students,<sup>35</sup> and 5) provide information on the six-month job-seeking permit on other information channels (universities, international offices, etc.). On the policy level, Switzerland could reformulate the selection criteria to either be a) more welcoming and less strict so that more graduates would be induced to seek a job (and those who pass the selection procedure would be admitted to stay), or b) stricter and more selective so that fewer graduates would be induced to seek a job and only the very demanded would be admitted to stay. Switzerland could increase the duration of the job-seeking permit to nine, twelve or eighteen months in order to provide more time for graduates to find employment and to increase the attractiveness of Switzerland's migration policies.

### *Closing Remarks*

International student mobility is a great opportunity to accumulate academic credentials and international experience for improving one's professional and personal life. This opportunity is, however, not accessible for all students, and over the last few years ISM has shifted away from a development framework towards a model following the logic and pressure of global competitiveness. Competition creates winners but also losers among countries of origin and countries of destination. Mobility provides benefits in many aspects but it also creates distance between people and their loved ones, and the personal costs to students are often underestimated because they are difficult to measure. Nevertheless, ISM also has great potential to close existing gaps in higher education by spreading applicable knowledge where it can increase capabilities. Combining education and international mobility at a young age is promising, not only because education is one of few things that increases when it is shared among people, but also because cross-cultural encounters during youth may be among the best strategies to counter xenophobia and improve intercultural understanding.

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<sup>35</sup> E.g. Nuffic in the Netherlands ([www.nuffic.nl](http://www.nuffic.nl)) or the British Council in the UK (<https://study-uk.britishcouncil.org>).

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