

Understanding brain waste: Unequal opportunities for skills development between highly skilled women and men, migrants and nonmigrants

Yvonne Riaño 

Institute of Geography and “nccr—on the move”, University of Neuchâtel, Neuchâtel, Switzerland

Correspondence

Yvonne Riaño, Institute of Geography and “nccr—on the move”, University of Neuchâtel, Espace Tilo-Frey 1, 2000 Neuchâtel, Switzerland.
Email: yvonne.riano@unine.ch

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Abstract

Brain waste studies seldom analyse the skills development of tertiary-educated workers according to gender and country of origin. Combining statistical analyses, participatory workshops and 77 qualitative interviews on employment trajectories with highly skilled workers in Switzerland, I offer three contributions. An *intersectional* perspective reveals unequal opportunities of skills development: Swiss-born men have the highest rates of employment, income and jobs commensurate with their education, followed by foreign-born men, then Swiss-born women and lastly foreign-born women. Second, a *multiscalar* perspective shows how actions by individuals, families, employers and the state favour or constrain skills advancement among women and men. Individual perceptions of gender roles and unequal childcare responsibilities within couples constrain women's skills development. Further constraints are set by the state and employers' policies and practices regarding migration, childcare, taxation and hiring. Third, a *spatial-temporal* perspective unveils that gender inequalities arise at particular moments (migration and childbirth) and places (lacking childcare services and limited employment).

KEYWORDS

brain waste, highly skilled workers, migrants and nonmigrants, skills mismatch, unequal opportunities, women and men

1 | INTRODUCTION

In recent years, scholars have begun to examine the factors affecting tertiary-educated migrants as they attempt to transfer their professional skills to a host society's labour market. Research shows that highly skilled migrants often cannot find work commensurate with their level of education, thus remaining either unemployed or underemployed (Aure, 2013; Chiswick & Miller, 2009; Friedberg, 2000; Riaño, 2011; Pecoraro, 2016), a phenomenon understood as ‘brain waste’.

This paper focuses on two research gaps pertinent to this topic. First, migration studies seldom use a comparative perspective to understand how and why the development and application of

tertiary-educated individuals' skills varies according to country of origin and gender (Riaño et al., 2015). Second, information remains scarce on how the actions of individuals, family members, employers and the state interconnect to affect an individual's ability to practise and develop tertiary qualifications. Furthermore, brain waste studies mostly focus on Anglo-Saxon countries. Moreover, mixed methods are seldom used. This paper thus asks: (a) How do gender and country of origin impact tertiary skill development in Switzerland? (b) How do the actions of individuals, families, employers and the state interconnect to produce inequalities of skills development among women and men, migrants and nonmigrants?

With its small population and celebrated knowledge economy, Switzerland makes for an interesting case study. Its dependence on a

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highly skilled labour force has led to a sharp increase in tertiary-educated migrants (Organisation for Economic Co-operation and Development/European Union, 2015). Nearly 25% of residents—the second-largest population among OECD countries—is foreign born (Swiss Federal Statistical Office [SFSO], 2019a). In 2017, 39% of the foreign-born working-age population had completed a tertiary education. Foreign-born working-age women were more likely than Swiss-born women to have a university education (European Union [EU] born: 44%; non-EU born: 41%; Swiss born: 31%) (SFSO, 2017). Foreign-born working-age men had similar levels of tertiary education compared with Swiss-born men (EU born: 45%; non-EU born: 40%; Swiss born: 41%) (SFSO, 2017). Mobility and labour rights pertaining to migrants are not homogeneous, and thus, opportunities for skills development differ. Switzerland's immigration regime is characterised by 'dual foreigner's rights': whereas EU nationals enjoy the same residence and working rights as the Swiss (barring voting rights), the Foreign Nationals Act restricts the entry—and subsequent rights—of individuals from outside the EU or 'third-country nationals'.

Moreover, despite gender equality programmes, significant inequalities in skills advancement between women and men still exist (SFSO, 2020). Housework and childcare constrain women from fully mobilising professional skills (Levy & Widmer, 2013). In 2019, women earned less on average than men despite equal qualifications (SFSO, 2020). Switzerland lags behind OECD countries in improving family-related policies, including childcare (Tissot, 2020). Reconciling family and professional life can thus be challenging, particularly for migrants. Furthermore, despite advancements, Switzerland still needs to improve its efforts to fight racial and ethnic discrimination. There is still no general anti-discrimination legislation, the Federal Commission against Racism does not adequately correspond to an equality body, and the Counselling Centres for Victims of Racism are understaffed and underfinanced (Council of Europe, 2020).

This paper is divided into seven sections. Section 2 introduces the intersectionality, multiscale and spatial-temporal perspectives, considered powerful to explain inequalities of skill use and development. Section 3 presents the mixed methods of statistical analyses of Swiss labour-market data, qualitative interviews on employment trajectories with 77 Swiss-born and foreign-born men and women and participatory workshops. Section 4 presents the results of the statistical study of employment among tertiary-educated individuals in Switzerland by country of origin and gender. Section 5 presents a transversal analysis of the 77 interviews, examining how inequalities in tertiary skills development emerge and intertwine at the individual, couple, employers and state levels of society. Section 6 examines two contrasting cases of binational couples to understand how the division of domestic and paid work influence skills development. Section 7 concludes the paper.

2 | INTERSECTIONAL, MULTISCALAR AND SPATIAL-TEMPORAL PERSPECTIVES

Do some tertiary-educated ('skilled') individuals face more obstacles in mobilising professional skills than others with equal education? To

answer this requires a comparative perspective examining the different experiences of (a) men and women, and (b) migrants and nonmigrants. Using econometric models, Friedberg (2000) compared immigrants with natives in the United States but without considering gender. Similarly, Chiswick and Miller (2009) exclusively studied foreign-born and native men in the United States.

Few studies place the problem of unequal skills development into the wider context of why and how migrant and nonmigrant women and men employ skills. *Intersectionality* is a promising analytical approach to explain the differentiated possibilities of skills development among migrant and nonmigrant women and men. Theories of intersectionality show how multiple inequalities such as gender, class and ethnicity intersect to shape social positions of privilege and disadvantage (Cho et al., 2013). Here, I focus on gender and country of origin.

The notion of gender refers to societal representations of feminine and masculine identity, for example, men as income earners and women as (often unpaid) caregivers (West & Zimmermann, 1987). These representations influence how men's and women's skills are valued differently and therefore which professional opportunities are available. Scarborough and Risman (2017) argue that conceptualising gender as a multidimensional structure with individual, interactional and macro levels helps us understand how gender inequalities are simultaneously reproduced and contested. The individual sphere emphasises the processes associated with the development of gendered selves and gendered ways of cognitively perceiving the social world. The interactional level examines how social expectations and stereotypes implicitly frame how we perceive the behaviour of others. The macro dimension focuses on the material rules and regulations that constrain human activity, such as state legislation, which can alter gender and ethnic inequality. Additionally, the dominant 'gender culture' (Pfau-Effinger, 1998) influences social advancement.

Few studies have used a *multiscale* perspective to examine inequalities of skills development. A multiscale perspective recognises that social processes occurring across multiple scales are interconnected and comprise several actors (Williamson, 2015, p. 17). In a multiscale analysis, diverse scales are not separate levels of analysis but are mutually constituting (Schiller, 2015, p. 2276). My definition of scale is methodological, and I use it to examine how the actions of *individuals, couples, employers and the state* interconnect to produce gender inequalities of skill development. Empirically, I give particular attention to the family, which I consider crucial to understand gender inequalities (cf. Kofman & Raghuram, 2005; Riaño, 2012). Researchers show that the most persistent barriers to mobilising women's professional skills lie within the household (Riaño et al., 2015; Tissot, 2020). Couples are of particular interest. Feminist research shows that the 'gender division of labour' creates skill-development inequalities in dual-career households (Ledin et al., 2007) and affects professional outcomes for women and men (Levy & Widmer, 2013).

Country of origin refers to a foreign-born individual's country of birth. No single concept covers the complexity of the migrant experience. Country of origin relates to experience, whereas the category foreigner refers to rights that nation-states confer to citizens. Studies show that even naturalised foreigners' skills are valued

differentially (Riaño, 2011), and thus, I focus on country of origin. It is particularly important to understand that tertiary skills acquired abroad are sometimes devalued in Switzerland, creating social and employment inequalities. However, as some Swiss statistics refer to the 'foreign born' and others to 'foreign nationals', I use both concepts in the statistical section.

When using country of origin, I distinguish between nonmigrants (Swiss born) and migrants (foreign born) and differentiate the latter between EU and non-EU migrants because they are subject to different citizenship rights (more advantageous to the former). The 1999 Agreement on the Free Movement of Persons between Switzerland and the EU conferred upon citizens of both signatories the right to choose their place of employment and residence within the named territories. The Agreement also provided for the mutual recognition of professional qualifications.

Finally, how should researchers empirically approach the ways in which native-born and foreign-born women and men develop their skills? This requires a process perspective, as employment is a dynamic phenomenon that may fluctuate between stagnation, reorientation and achievement. I use a *spatial-temporal* perspective with two main concepts: critical moments and critical places (see Riaño et al., 2015). Critical moments are biographical milestones that shape skills development—choosing a career, migration, marriage, childbirth, divorce or retirement, among others. These events can result in 'a loss or gain of privilege, influence or power, and a changed identity and sense of self, as well as changed behaviour' (Glaser et al., 1971, p. 2). As for critical places, I argue that the importance of a critical moment depends on the particular characteristics of the place where a person lives (e.g., lacking childcare services and employment opportunities and conservative gender culture). In comparison with context, the wider notion of place also incorporates geography (location, size, history, economy and infrastructure), society (institutions, politics and relationships) and culture (norms, values and regimes). With some exceptions (Liversage, 2009), studies of skills development rarely use a spatial-temporal approach.

3 | METHODOLOGY: OFFICIAL STATISTICS, EMPLOYMENT-TRAJECTORY INTERVIEWS AND PARTICIPATORY WORKSHOPS

How can the 'intersection' of gender and country of origin be addressed methodologically? Intersectional studies are challenging, and thus, Cho et al. (2013) see potential for methodological advancement. Furthermore, studies of skill transferability seldom combine quantitative and qualitative methods. To understand inequalities by gender and country of birth, I use mixed methods for two reasons.

First, *statistical analyses* provide a numeric overview of tertiary-educated native and foreign-born women's and men's employment in Switzerland. Two sets of official Swiss statistics are analysed: the 2017 Swiss Labour Force Survey (SLFS)¹ and the 2018 Swiss Earnings Structure Survey (ESS).² The analysis is complemented with

retrospective analysis of the 2008 SLFS and ESS and recent information from the SFSO on gender gaps in income (SFSO, 2020), management positions (SFSO, 2019a), education (SFSO, 2018c, 2019b) and 'overeducation' (SFSO, 2018c). It also includes data on highly skilled migrant women from Gerber and Wanner's (2019) study.³

Second, to understand how the skills of tertiary-educated partners evolve spatio-temporally, I use qualitative interviews on employment trajectories, conducted in 2015, which uncover key milestones. This allows a relational and processual understanding of how couple arrangements unequally affect the skills development of both partners over time and space. I analysed the interviews using the qualitative content analysis method, an interpretative approach that condenses data and identifies key themes through deductive and inductive coding procedures.⁴ The results were validated through participatory *Minga* workshops (in Basel and Bern), a method developed in my previous research (Riaño, 2015). These participatory focus groups consist of coproducing knowledge and reflecting with interview partners on research results and on policies for encouraging workplace gender equality. The workshops were held in cooperation with the Offices of Gender Equality of Basel and Bern, with 30 research participants each.

Case studies for the employment-trajectory interviews were chosen based on maximum variation sampling, which selects individuals who represent wide-ranging experiences relating to a particular phenomenon. Tertiary-educated individuals were chosen based on diverse criteria—country of birth, gender, age, family status and residential location.

The study sample was composed of 77 individuals who lived in a household with children, were more than 40 years old (allowing adequate time to study how skills evolve) and who resided in 13 different Swiss cantons (central and peripheral locations, mainly in German-speaking regions). The foreign-born participants had lived in Switzerland for between 10 and 30 years, some had Swiss citizenship, others had permanent residency visas and others 1-year renewable visas (mostly non-EU).

Women are more prevalent in the sample (59%). Men were more reluctant respondents; several suggested that we interview their wives (i.e., those responsible for reconciling family and paid work) instead. Interviewees included 41 Swiss born (24 women and 17 men) and 36 foreign born (21 women and 15 men). Among the foreign born, EU citizens constituted over 40% (nine women and six men) whereas non-EU interviewees constituted nearly 60% (12 women and nine men). Among the foreign born, EU nationals came from Croatia, Finland, Germany, Norway, Poland, Spain and the United Kingdom. Non-EU nationals came from Asia (India and Hong Kong), Eastern Europe (Russia and Georgia), Latin America (Argentina, Brazil, Chile, Honduras and Panama), the Middle East (Egypt, Iraq and Lebanon) and Southeast Europe (former Yugoslavia and Turkey).

As shown in Table 1, migration to Switzerland results from (a) work opportunities, (b) study, (c) marriage and (d) asylum seeking. The differentiated reasons follow general patterns (SFSO, 2019a). Whereas many interviewed EU citizens enter as labour migrants, non-EU women mostly enter through marriage with a conational or a

TABLE 1 Foreign-born study participants: reasons for migrating to Switzerland

	Women		Men	
	EU born	Non-EU born	EU born	Non-EU born
1. Work	Searched for/got a job (Germany)		Searched for/got a job (Germany and the United Kingdom)	Got a job (India, Georgia and the United States)
2. Study	University studies, often followed by marriage to a Swiss (Germany and Panama)		University studies, often followed by marriage to a Swiss (Germany and Brazil)	
3. Marriage				
To a Swiss	The couple usually meets abroad, while studying (Argentina, Chile, Germany, Norway and Spain)			Meets Swiss woman while she is visiting his country (Egypt and Honduras)
To a binational		Husband gets a job (Bosnia, Egypt, Hong Kong, India and Russia)		
4. Asylum seeking		Arrives with family/spouse (Iraq and Lebanon)		Arrives with family/spouse as main applicant (Iraq)

Source: Author's interviewing 2018.

Swiss citizen. By contrast, many non-EU men are labour migrants, with fewer marriage-based cases. This reflects Switzerland's immigration policy: EU nationals are free to live and work in Switzerland, whereas third-country nationals must arrive as highly skilled immigrants with a job or as family migrants. In practice, many non-EU men receive a high-skilled visa (Table 1) whereas many non-EU women receive a spousal visa and subsequently lack independent residential rights (Riaño et al., 2015). The migration status of dependants or tied migrants (Raghuram, 2004) shapes professional prospects.

The study participants are trained professionals in social and educational sciences, economics, management, law, health, natural sciences, architecture and engineering. Generally, there are no significant gender-based differences between professional orientations, with the exception of engineering, where (particularly non-EU) men dominate.

Interview participants were approached through personal contacts, leaflet advertising, the snowball method and collaboration with professional associations. As the ability to mobilise tertiary skills in the labour market is related to gendered divisions of housework and paid employment, we conducted separate interviews with both partners to ensure freedom of expression. The bargaining power of an individual within a partnership strongly depends on country of birth (Riaño et al., 2015). Therefore, three types of couples were studied: (a) Swiss couples (two native Swiss), (b) binational couples (one foreign born and one native Swiss) and (c) migrant couples (both foreign born).

4 | EMPLOYMENT SITUATIONS OF HIGHLY SKILLED WORKERS BY GENDER AND COUNTRY OF ORIGIN: INTERSECTIONAL ANALYSES OF SWISS STATISTICS

This section presents statistical analyses of different employment situations among tertiary-educated individuals who are full-time employed

in the Swiss labour market. Individuals are categorised by gender (women/men) and country of birth (Swiss born/foreign born). When data are available, foreign-born individuals are separated into EU and non-EU nationals. Four statistical indicators are used to understand skill use: employment rates, income, adequacy of paid work according to professional qualifications and employment status. The analysis is based on the assumption that a job commensurate with professional qualifications and adequate salaries and/or leadership positions are optimal settings for utilising and developing tertiary skills.

4.1 | Employment and unemployment rates

Employment rates measure the degree of tertiary-educated (foreign born and native) participation in the Swiss labour market. Table 2 shows the percentage of individuals in paid employment in each of the four studied groups. Foreign-born individuals are divided into those born in (a) EU member states, (b) non-EU European states and (c) non-European states.

Table 2 reveals a high employment rate among tertiary-educated individuals, which is typical. Switzerland has a relatively high employment rate (80%) compared to other countries (the United States: 56%; Germany: 76%) (Trading Economics, 2020). However, a hierarchy emerges according to gender and country of origin. Native and foreign-born men show higher employment rates than foreign-born women. Foreign-born (non-EU) women experience the lowest rate of employment. The gender gap grows with country of origin: the smallest gap exists between Swiss-born men and women (4%) and the largest between men and women born in non-European countries (20%). Thus, tertiary education per se does not guarantee employment for migrant women. In 2020, Switzerland's unemployment rate⁵ (3.2%) was relatively low compared to other countries (the United States: 8%; Germany: 4.4%) (Trading Economics, 2020). As shown in Table 3, country of origin, however, is influential: Swiss men lead the

TABLE 2 Employment rates of tertiary-educated workers by gender and country of birth (15–60 years old), Switzerland, 2017

	Women	Men	Gender gap
Swiss born	90%	94%	4%
Foreign born	75%	90%	15%
Born in EU28/EFTA countries	80%	92%	12%
Born in other European countries	69%	86%	17%
Born in non-European countries	65%	85%	20%

Data source: Swiss Labour Force Survey (SFSO, 2017).

TABLE 3 Unemployment rates of tertiary-educated workers by gender and country of birth (15–60 years old), Switzerland, 2017

	Women	Men	Gender gap
Swiss born	2.3%	2.1%	0.2%
Foreign born	9.6%	5.7%	3.9%
Born in EU28/EFTA countries	7.6%	4.5%	3.1%
Born in other European countries	11.0%	8.3%	2.7%
Born in non-European countries	14.0%	8.6%	5.4%

Data source: Swiss Labour Force Survey (SFSO, 2017).

lowest unemployment rate (2.1%), followed by Swiss women (2.3%), foreign-born men (5.7%) and foreign-born women (9.6%). Gender and country of origin intersect once again to disadvantage women born in non-European countries, yielding the highest unemployment rate (14%).

4.2 | Income

The income indicator measures differences in monthly gross salary between tertiary-educated Swiss and foreign individuals with full-time employment. Table 4 shows these differences by type of university and gender. Swiss and foreign men receive the highest income, whereas foreign women are the lowest earners (Table 4). Gender is central in shaping income inequalities, as Swiss women earn less than foreign men. Significantly, having a stable residence permit correlates with having a higher salary (and vice versa), suggesting that migration policies play a key role in shaping migrants' earning potentials. Finally, the gender-based pay gaps shown in Table 4 reflect the general situation in Switzerland. In 2018, men's earnings consistently exceeded those of women. The higher the managerial role, the greater the income gap. For full-time senior managers, the pay gap was 23.2%. Full-time male academics earned 16.4% more than female colleagues. The smallest gender-based pay gap (4.7%) was among services and sales staff (SFSO, 2018b).

4.3 | Adequacy of paid work according to professional qualifications

I use the term 'adequacy of paid work' to estimate the extent to which the tertiary educated are able to use their skills in the

workplace. Table 5 illustrates the degree to which employment activities are commensurate with the education of the studied groups. Four types of workplace activities are revealed. The first three, 'simple physical tasks', 'practical tasks' and 'complex practical tasks' imply that the applicable skills of tertiary-educated individuals make them overqualified for these positions. Only the fourth type, 'complex problem solving and decision making', matches the qualifications of university-educated individuals.

Overqualification affects all groups to varying degrees, but gender plays a key role in shaping inequalities. Whereas less than two thirds of Swiss and foreign women have jobs commensurate with their skill level (Type 4), more than two thirds of Swiss and foreign men do—in other words, more than 40% of all tertiary-educated women in Switzerland are underemployed. Overall data for 2018 also showed that tertiary-educated women worked in occupations below their educational level more frequently than men (SFSO, 2018c) yet, paradoxically, in 2019, more women graduated with advanced degrees than ever before (SFSO, 2019c).

4.4 | Employment status

Table 6 shows the proportion of Swiss-born and foreign-born women and men in leadership positions, particularly Categories 2 ('members of management') and 3 ('leadership role'). Gender again plays a significant role. Nearly 45% of tertiary-educated Swiss-born and foreign-born men occupy leadership positions, yet the same is true for only a quarter of Swiss-born and foreign-born women. Moreover, Swiss statistics for 2019 show a gender balance in nonmanagement positions, whereas only 18% of top managers are women (SFSO, 2019a).

In conclusion, men generally have higher rates of employment and are more likely to occupy leadership positions commensurate with

TABLE 4 Gross monthly salaries for Swiss and foreign citizens by type of university and gender, Switzerland, 2018

	Classical universities			Universities of applied sciences		
	Women	Men	Gender gap	Women	Men	Gender gap
Swiss citizens	9063	11,185	2122	8114	9914	1800
Foreign citizens	8333	10,189	1856	7584	9129	1545
Short-term permit (L)	6803	7704	901	6630	7527	897
1-year permit (B)	7631	8961	1330	6863	8197	1334
Settlement permit (C)	9919	11,894	1975	8140	9802	1662
Border-crossing permit (G)	7598	9424	1826	7523	8964	1441

Note: Employment in both private and public sectors. Standardised monthly salary: full-time equivalent: 40 h per week. Median value: For half of the jobs, the standardised salary is above the median value presented here, whereas for the other half, it falls below this value. Median value in Swiss Francs (1 euro = 1.09 (current value)).

Data source: Swiss Earnings Structure Survey (SFSO, 2018a).

Nationality	Skill level	Women	Men
Swiss citizens	1. Simple tasks	2%	2%
	2. Practical tasks	12%	12%
	3. Complex practical tasks	27%	21%
	4. Complex problem solving and decision making	59%	65%
Foreign citizens	1. Simple tasks	2%	2%
	2. Practical tasks	13%	11%
	3. Complex practical tasks	28%	21%
	4. Complex problem solving and decision making	57%	66%

TABLE 5 Adequacy of paid work: level of skills used at work by employees with tertiary education by nationality and gender, Switzerland, 2018

Note: 1 = Simple physical or manual tasks. 2 = Practical tasks (e.g., sales, care, driving, security, use of machinery and data). 3 = Complex practical tasks that require knowledge in a specialised field. 4 = Tasks that require an ability to solve complex problems and make decisions based on specialised theoretical and factual knowledge.

Data source: Swiss Earnings Structure Survey (SFSO, 2018a). Population universe: employees in the private and public sectors.

TABLE 6 Employment status of tertiary-educated workers by gender and country of birth (15–60 years old), Switzerland, 2017

	Women				Men			
	1. Self-employed	2. Members of management	3. Leadership role	4. No leadership role	1. Self-employed	2. Members of management	3. Leadership role	4. No leadership role
Swiss born	12%	7%	19%	62%	17%	13%	31%	39%
Foreign born	12%	7%	21%	60%	12%	12%	31%	45%
Born in EU28/EFTA countries	12%	6%	24%	58%	12%	13%	31%	44%
Born in other European countries	9%	8%	16%	67%	13%	8%	33%	46%
Born in non-European countries	11%	6%	21%	62%	13%	11%	29%	47%

Data source: Swiss Labour Force Survey (SFSO, 2017).

their education than women. Gender and country of birth intersect to make skilled migrant women the most disadvantaged among the four studied groups—they have the lowest incomes and employment rates and occupy the fewest leadership positions. Using a longitudinal perspective, I observe that these patterns of labour-market inequalities have not changed since our statistical analysis in 2008 (Bühler & Riaño, 2014).

5 | HOW DO UNEQUAL OPPORTUNITIES OF SKILLS DEVELOPMENT ARISE? A MULTISCALAR ANALYSIS

Along with statistical analyses, the qualitative interviews on labour-market trajectories reveal the powerful role of gender. I uncovered three types of professional integration among the interviewees: (1) employment according to skill level, (2) employment below skill level (i.e., underemployment) and (3) not employed (unpaid domestic labour and actively looking for employment). More women than men fall into the latter two categories. Although the interviewed women and men who live as couple partners often begin with similar educational levels and desire for professional advancement, gender-based inequalities develop and consolidate among them over time and space. Women, especially those born outside the EU, experience more barriers than men in achieving similar positions in the labour market, as well as maintaining their professional skills over time. Using statistical data, Levy and Widmer (2013) conclude that 75% of men in Switzerland follow linear professional trajectories (education–employment–retirement), whereas 75% of women follow far less homogeneous careers.

Why is gender such a powerful factor? As the interviews reveal, in Switzerland's prevailing gender culture (Pfau-Effinger, 1998), only women are expected to reconcile unpaid care work and paid employment. This creates barriers to professional skills development, particularly for mothers. This culture permeates the individual, couple and employers and the state levels of society. The interviews show that even women who come from progressive gender cultures sometimes adopt conservative Swiss values (case study Andersen–Dürig, Section 6) but also contest them (case study López–Aklín).

At an *individual level*, many interviewees (either consciously or unconsciously) seemed to have internalised the notion that women alone should reconcile unpaid and paid labour, which influences career choices. The *Rabenmutter* (crow mother), an 'uncaring' mother who prioritises her career over her children, is a culturally powerful symbol. Furthermore, many highly skilled migrant women arrive in Switzerland with a tertiary education and report feeling the pressure of the 'biological clock'. Having children shortly after migrating to Switzerland constrains their flexibility to study further, learn the language and actively seek employment.

At the *couple level*, the interviews reveal that in Swiss-German society—even among several highly educated couples—exists the belief that external childcare impacts children negatively. As women handle the majority of childcare responsibilities, it is harder to find

employment matching their qualifications. The family's financial resources are often invested in supporting the man's education and professional advancement—with the purpose of securing a good family income.

Foreign-born women with a tertiary education who start a family in Switzerland often take on the bulk of childcare responsibilities and struggle to acquire competency in German without regular or full-time employment in their field. Migrant men in binational marriages often receive more support from their Swiss partners in pursuing their careers compared with foreign-born women in the same situation. As Switzerland's gender culture views men as the main income earners, Swiss-born women develop strategies to support their foreign-born husbands in obtaining employment commensurate with their skills, either by assuming a higher share of housework, mobilising personal networks to help their husbands obtain a job and/or coaching their spouses through the job application process. Examples of Swiss-born men doing the same for their foreign-born spouses are less common.

Finally, at the level of *employers and the state*, childcare, taxation and migration policies, as well as hiring practices, are embedded in traditional ideas of gender roles. This makes it particularly difficult for tertiary-educated women to practise and advance their skills. For example, although there are differences between the cantons, there is often a lack of widely available, low-cost external childcare. Most crèches are privately run and relatively expensive. Schoolchildren have a 2-h break for lunch with no school provision of food or supervision during that time. Swiss working parents often rely on the grandparents for help, but this is not an option for many migrants, particularly those from non-EU countries whose families often live far away. The absence of family support networks is particularly challenging for migrant women. Further, men are only entitled to 1-week paternity leave and women receive just 14 weeks. In 2018, 45% of women in Switzerland worked part-time, compared with only 11% of men. Moreover, nearly 25% of women worked less than 50% of the time in 2018, compared with 7% of men (SFSO, 2018b). This drop to part-time work is linked to family planning, which almost exclusively affects mothers. A part-time job in Switzerland often carries fewer opportunities for skill advancement and offers insufficient social security coverage (e.g., pension funds). Management positions are expected to be full-time. Studies show that once women work part-time, many are unable to get full-time work later on. Because most part-time employees cannot obtain management positions, this puts many tertiary-educated women on dead-end professional trajectories (SFSO, 2018b). Several interviewed men reveal that although they were willing to share childcare duties, their employers (or prospective employers) were reluctant to hire them on a part-time basis, even when they asked for 80% (although this depends on the company they work for as some institutions such as academia are more flexible). Many companies traditionally give leadership positions to those who put the company above the family. Furthermore, Switzerland taxes husbands and wives as one, whereas other countries handle the two partners apart. Aggregating a couple's income discourages the lower earner,

often the woman, from entering the labour market because her income will be taxed at the higher earner's top rate.

Most importantly, gender disadvantages intersect with the disadvantages of being foreign born, thus creating more barriers towards skills development for foreign-born women. Also, not all highly skilled workers are equally treated by the Swiss state and by Swiss employers. Their opportunities of skills development depend to a large extent on whether they arrive to Switzerland as an employee, a refugee, a spouse, or a student (Sandoz, 2019). Swiss policy makers see it as essential to support the labour-market integration of refugees, whereas the same is not the case for migrant spouses (Riaño, 2011). Migrant spouses are seen as belonging to the family realm and thus not being the responsibility of the Swiss state. Assistance by the state is thus 'reserved for women who enter the country as refugees, since they are represented as individuals in fragile situations who need public support' (Riaño, 2011, p. 1538). Nationality also makes a difference. Sandoz (2019, p. 240) reports that Swiss employers tend to favour the recruitment of 'certain nationalities, in particular highly-skilled workers from rich Anglophone countries, while disadvantaging married women and citizens of non-EU/EFTA'.

Furthermore, migration policies are based on traditional gender roles. Many tertiary-educated women arrive in Switzerland as trailing spouses and are not sufficiently recognised by the state as immigrants with economic potential. Programmes to prevent the loss of professional qualifications for accompanying family members are extremely rare (Bachmann, 2016). Women who arrive as spouses lack independent residence rights for the first 3 years. In the interviews, many stated that these factors led to unexpected gender inequalities in their relationships. Further challenges for migrant spouses include an absence of professional networks, limited knowledge of the Swiss labour market and not having linguistic competency in the Swiss-German dialect⁶ or standard German. Although some high-demand professions such as computer science, engineering, medicine and mathematics are more favourable for labour-market integration, migrant women in the same profession as migrant men report being generally disadvantaged. Gerber and Wanner's (2019) statistical study show that tertiary-educated women who arrive for family reasons, have children and come from non-EU countries are more likely to be excluded from the labour market. Furthermore, having children increases their risk of exclusion from the labour market compared with migrant women without children. Moreover, as Bachmann (2016) shows, most labour-market integration programmes are designed for low-skilled occupations, and tertiary-educated migrants are expected to adjust their professional goals accordingly and halt skills development. Migration and employment policies favour EU citizens over non-EU citizens, benefitting the former's employment chances. Interestingly, although foreign-born men, particularly those from non-EU countries, face the same obstacles as foreign-born women described above, they still benefit from Switzerland's gender bias, whereas foreign-born women are expected to reconcile housework and paid employment with little institutional support.

6 | EMPLOYMENT TRAJECTORIES OF COUPLES AND STRATEGIES TO DIVIDE LABOUR: A SPATIAL-TEMPORAL ANALYSIS

The 77 interviews on employment trajectories with Swiss-born and foreign-born women and men unveiled diverse family-work arrangements among couples and their effects, including (a) the man works full-time and the woman takes on both domestic and professional work, posing barriers to her professional advancement; (b) the partners share paid and household work, creating opportunities for the professional advancement of both or (c) in binational couples, the foreign-born individual has less bargaining power than the Swiss-born partner and risks being unable to develop professional skills.

As argued earlier, the employment-related bargaining power of individuals within a couple is strongly linked to their country of birth. Studying how work-family arrangements among *binational couples* influence skills development is particularly interesting for this study, as they exemplify asymmetric power dynamics within a relationship: the native partners' formal citizenship and Swiss social and cultural capital facilitates skill utilisation, compared to foreign-born partners. Understanding how binational couples deal with such inequalities is important. Second, research on binational couples is scant, although in 2018, 35% of Swiss residents were married to a person of a different nationality (SFSO, 2018d).

This section examines the employment careers of two contrasting binational couples: Andersen-Dürig and López-Aklin.⁷ The first case illustrates typical processes by which foreign-born women become unemployed or precariously employed despite high education levels. The second case illustrates that even within a conservative gender culture, migrant women with tertiary education do not necessarily lose their skills—the outcome depends largely on the profession and the couple's strategies in dividing paid and unpaid labour.

6.1 | Case study: Andersen-Dürig

Ms. Andersen was born and raised in a Scandinavian country and studied agronomy there. Mr. Dürig was born and raised in Switzerland and studied forest science. The couple met in Scandinavia while Mr. Dürig was travelling. At the time of the interview, the couple was living in a small town in central Switzerland and had two children. Mr. Dürig was satisfied with his job as a project manager in a Cantonal Office. By contrast, Ms. Andersen struggled. Despite her Swiss citizenship, she gained paid employment only 11 years after completing her university studies. At the time of the interview, 26 years after graduation, she had a care-assistant job helping disabled people, a position clearly not commensurate with her educational qualifications. Although Ms. Andersen and Mr. Dürig began with the same qualifications and personal motivations, gender-based inequalities arose over time. Why?

It began with Ms. Andersen's migration to Switzerland in 1989, the same year she graduated in Agronomy, where she thought she would face no professional difficulties, given her qualifications and

knowledge of German. After Ms. Andersen arrived in Switzerland, they got married, she became pregnant and her husband took over a forestry consulting firm in a small and conservative town. He was entirely committed to his new firm. He was also determined to build a family home, which put pressure on him to earn enough money. When their first child was born in 1990, she became responsible for childcare in the absence of day care facilities or nearby family networks. Being young, Ms. Andersen felt pressured to adapt to a local culture in which mothers commonly stayed at home. She applied for jobs but found that local candidates were preferred. Applying elsewhere was impossible due to a lack of mobility and scheduling flexibility arising from her childcare responsibilities. In the place where she lived no labour-market integration programmes for highly skilled existed that could help her. By migrating to Switzerland, Ms. Andersen reluctantly entered into a conservative model of gender roles and faced professional dequalification. In retrospect, the couple realised they had never discussed how to distribute household work so that they could both advance their careers. Ms. Andersen says that in Scandinavia she was accustomed to professional couples reconciling family and career without difficulty, and she had assumed things would be the same in Switzerland. Mr. Dürig wrongly assumed that it would be easy for his wife to get a job. Below, both partners reflect on their decisions.

Ms. Andersen:

On childcare: I was almost around the children too much. They could have also developed well in a crèche ... Generations of Scandinavians grew up in childcare centres ... and one cannot say that children became disturbed people [laughs].

Today, I would certainly start immediately with courses to improve my German ... That is very important ... Also, I would be much more conscious about what to do regarding my professional perspectives ... I should have started much earlier with occupational retraining or continuing education ... Also, I would have looked differently at the issue of external childcare.

Mr. Dürig:

On having children: The child came too quickly ... We would probably do that differently today. Because otherwise the freedom [for my wife] to carry out further studies and everything else is gone ... I think that if we had fostered her language [knowledge] and further education, things would have turned out differently...

And I should have probably worked less ... maybe I just didn't want to (laughs) ... Yes, it would have been possible...

The choices made by these partners at key biographical transition points are clearly bound to the specific gender culture of the place where they lived. Migrating to Switzerland created unforeseen power asymmetries. Subsequently, a lack of access to childcare, the financial burden of building a house and the barriers to the labour market that Ms. Andersen faced as a foreign born further reinforced their gender-based inequalities in household labour division. However, Ms. Andersen adopted several strategies to maintain her skills and/or acquire different ones, including caring for disabled people. This exemplifies how many migrant women resort to jobs that are outside of their preferred professional field but involve less competition from natives and are compatible with childcare duties. Unfortunately, this results in underemployment and deskilling.

6.2 | Case study: López-Aklin

Ms. López was born and raised in southern Europe where she graduated in mathematics in 1994. Mr. Aklin is Swiss born and studied environmental engineering in Switzerland. Ms. López came to Switzerland in 1997 and got her first skilled job in 1998. Her first child was born in 2002. At the time of the interview, Ms. López had not yet obtained Swiss citizenship. She lived with her partner in a small town in central Switzerland and had three young children. The couple held jobs that matched their qualifications and had long-term prospects. Despite Mr. Aklin's advantage in the Swiss labour market due to his citizenship, gender, professional networks and local cultural capital, Ms. López could utilise and develop her skills as a mathematician.

This shows that tertiary-educated migrant women in binational couples are not necessarily doomed to disadvantage. First, a scarcity of mathematicians in Switzerland created a unique employment opportunity for Ms. López, who later became a mathematics teacher at a Swiss high school. Her gender was also instrumental: the school wanted a female teacher as a role model for female students. Second, the couple strategised to codevelop their professional skills. After migrating to Switzerland, they postponed having children so that Ms. López could improve her language skills. They spoke German at home and chose to live in a flat-sharing community so that she could practise with native speakers. Her husband's friends helped her find work at an insurance company, then at a market research institution. Mr. Aklin and Ms. López eventually had three children. The couple's values regarding professional advancement and childcare helped Ms. López develop her skills. She wanted to work 4 days a week (whereas many women in Switzerland with young children work 2 or 3 days), so they placed their children in day care. Also, because Ms. López arrived in Switzerland at an older age than Ms. Andersen (above), she was less susceptible to pressure from the local conservative gender culture. Finally, her husband reduced his workload after the first child so that he could look after the children 1 day a week, thus facilitating her professional advancement. Interestingly, Mr. Aklin advanced professionally despite reducing his workload. This case study shows the crucial role played by the Swiss partner in facilitating the foreign partner's career development. The quotes below reflect the partners' values

regarding childcare, Mr. Aklin's commitment to supporting his wife's career and the will to share household duties so that they could both advance professionally.

Ms. López:

... From my experience in Spain, it was always clear to me that my children would go to a crèche.

At that time it was rather easy for mathematicians to get a job. Mathematicians and physicists were in great demand in Switzerland. That was in 1998 and virtually every company was looking for mathematicians or something similar.

Mr. Aklin:

Yes, that was always clear to me because she [Ms López] made a huge effort to come to Switzerland, to integrate, to look for a job, and therefore I cannot just say 'I work full time and you stay home'. Therefore, I tried to work three days of the week [at an industrial company] and then they said, no, that it's not enough, they wanted four days of the week, and then somehow we finally agreed on me working three days and a half [laughs].

What do we learn from these contrasting case studies? First, exploring the intersections of gender and country of birth with family-work arrangements deepens our understanding of how skilled individuals end up in disadvantaged (or advantaged) circumstances of employment. Second, there is nothing inevitable about migrant women wasting their tertiary skills. Individuals can mobilise their agency to creatively influence their futures. A couple's shared commitment to support the woman's professional development appears to be central. Third, the above two cases show that gendered inequalities in career trajectories often emerge at *critical biographical moments*. Elsewhere, I have emphasised the importance of studying *critical moments* (Riaño et al., 2015). Gender research has largely focused on childbirth and shown that while having a child usually impacts women's careers negatively (Kahn et al., 2014), it often affects men's positively. But including international and internal migration as a critical biographical moment is crucial because it can jeopardise the worth of migrants' skills—research has shown that 'the social and cultural capital of migrants has no universal value per se but is place-specific' (Riaño, 2011, p. 1544; cf. Aure, 2013; Chiswick & Miller, 2009). Moving to Switzerland changed Ms. Andersen's likely career path. Internal migration can have the same effect, for example, moving away from large urban centres to peripheral locations where opportunities for skills development—particularly for foreign-born individuals—are limited.

Fourth, the former point demonstrates that *crucial moments* are intertwined with *critical places*. The ability to utilise skills depends on certain characteristics of the host country, including its geography

(location, size, history, economy and infrastructure), society (institutions, politics and relationships) and culture (norms, values and regimes). Thus, depending on its gender culture, the host country may offer varying degrees of institutional support for reconciling employment and family work, and its particular norms and values may therefore influence how women and men integrate differently into either household labour or the general workforce. I define a *critical place* as one that has a marked influence on opportunities, either positively or negatively. An example of negative influence would be a critical place that makes it difficult for migrant women to use and practise skills, whether due to stereotypical gender-based divisions of labour, prevailing discrimination against foreigners or geographical location. From the point of view of its gender culture, Switzerland can be interpreted as a critical place, albeit with regional variations.

7 | CONCLUSIONS

This paper breaks new ground in the study of brain waste by examining the system of advantages and disadvantages that Swiss-born and foreign-born women and men face when attempting to transfer tertiary skills to the Swiss labour market. Through an innovative combination of statistical analyses, qualitative interviews on employment trajectories, and participatory *Minga* workshops, I have reached the following conclusions.

First, an *intersectional* perspective reveals unequal opportunities of skills development: Swiss-born men have the highest rates of employment, income and occupy leadership positions in jobs commensurate with their education, followed by foreign-born men, then Swiss-born women and lastly foreign-born women. Moreover, brain waste particularly affects (native and foreign) women; many do not end up using tertiary qualifications. Regarding unemployment, country of origin plays a significant role as foreign-born men are more frequently unemployed than native women. Last, gender intersects with origin as foreign-born women (particularly non-EU) are the most disadvantaged among the four studied groups. They have the lowest income, lowest rate of employment, highest rates of overqualification and only a few occupy leadership positions. Strikingly, our analysis of 2008 statistical data shows that these inequality trends have not changed in the past decade.

Further, 'dependant' spousal visas for migrants do not favour skills development, and qualifications earned abroad risk devaluation by prospective employers. Accompanying spouses may also lack professional networks, knowledge of the Swiss labour market and linguistic competency. As most labour-market programmes are designed for low-skilled occupations, skilled migrant women who are forced to downgrade their professional goals become 'marginalised elites' (Riaño, 2015). Foreign-born (particularly non-EU) men face similar obstacles to foreign-born women; however, Switzerland's gender culture favours male career development, which often helps to compensate for existing disadvantages.

Second, this paper uses a *multiscalar* perspective that shows how actions by individuals, couples, employers and the state interconnect

to produce gender inequalities of skills development. At an individual level, women and men consciously or unconsciously internalise the idea that only women must reconcile care work and paid work. At the family level, in many couples, the woman handles the majority of childcare. This constrains her efforts to advance her skills and obtain employment matching her qualifications. At the level of employers and the state, childcare, taxation, migration policies and hiring practices are embedded in traditional ideas of gender roles and biases towards migrant women from third States, which makes it particularly difficult for these women to practise and advance their skills.

Third, this paper applies a *spatial-temporal perspective* to understand how couples' employment trajectories evolve over time and space. Arrangements between partners regarding how to distribute domestic and paid work significantly shape their respective opportunities of skills development. However, there is nothing inevitable about women wasting tertiary skills. The results that a couple's shared commitment to supporting the woman's professional development, and women's agency reshapes gender hierarchies (cf. Raghuram, 2004). Finally, inequalities of skills development among partners appear at critical places and moments, particularly childbirth and international and internal migration. The latter are significant but understudied critical moments. Crossing national and internal boundaries can devalue migrants' skills and moving to locations with poor external childcare and limited job opportunities can reinforce barriers to skills development.

What do these results mean in theoretical and methodological terms? For a start, they advance our theorisation of brain waste and inequalities of skills development: such inequalities of skills utilisation cannot be understood simply as either equality or inequality. There is a complex hierarchy of inequalities, depending considerably on gender and country of birth. Further, tertiary-educated individuals can simultaneously occupy positions of privilege and disadvantage, such as in the case of foreign-born men and native women; or mainly privilege, as in the case of native men; or mainly disadvantage, as in the case of foreign-born women. Studying brain waste from the perspective of *intersectionality* helps us understand how systems of inequality of skills development emerge, function, and are maintained. Using a *multiscalar perspective* helps reveal how systems of skills development inequalities emerge and intertwine at the individual, couple, employer and state levels, how can they be contested by the creative agency of groups and individuals and how they can be transformed by the opportune and concerted interventions of state and private actors. Also, using the *spatial-temporal perspective* of critical moments and critical places allows a spatial and temporal understanding of brain waste. Inequalities of skills development do not simply emerge in abstract contexts but at specific critical moments (cf. Liversage, 2009) and in specific critical places (cf. Aure, 2013). This spatial-temporal perspective deepens our understanding of brain waste and intersectionality. From a methodological point of view, qualitative interviews on employment trajectories appear most effective in addressing intersections of gender and country of origin from a spatial-temporal perspective. Furthermore, participatory *Minga* workshops not only

contributed to validating the research results but also strengthened the recognition of the research participants as experts.

Finally, countries such as Switzerland have large pools of highly qualified foreign personnel available. What is the best way to employ their skills and avoid the loss of their skills? How to transform brain waste into brain gain? Using intersectionality as a framework of analysis highlights the need for practical interventions that target the structures of inequality that create disadvantages in skill use and development; otherwise, they will prove insufficient (cf. Cho et al., 2013). These interventions must target the four spheres where obstacles for skills development appear: at the individual, family, employer and state levels. Counselling programmes should target couples rather than individuals, and binational couples deserve special attention. Counselling can help couples be aware of the need to carefully assess the impacts of their decisions (e.g., where to live and how to divide paid and unpaid work) on their professional futures, thus avoiding potential disadvantages for women. Finally, programmes that prevent the deskilling of tertiary-educated individuals are urgently needed, particularly for native and foreign-born women. Gender equality policies addressing highly skilled workers must recognise critical moments and critical places in order to be effective. Policies attempting to address the locational disadvantages of skilled women living in places with limited opportunities for employment and external childcare must devise programmes that facilitate access to more central areas and support internet-based income-earning activities.

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DATA AVAILABILITY STATEMENT

The statistical analysis is based on the Swiss Labour Force Survey (SLFS) and the 2018 Swiss Earnings Structure Survey (ESS). These official data are only available through an official request to the Swiss Statistical Office.

ORCID

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

ENDNOTES

- ¹ The SLFS includes a statistically representative sample of 50,000 people. The 2017 survey contains a module on migration, which made an intersectional analysis possible.
- ² The ESS is a written survey carried out every 2 years in enterprises in Switzerland. It contains data from 44,600 private and public businesses and institutions, including salaries for 1.7 million employees.

- ³ Study based on the nccr—on the move Migration-Mobility Survey of 5973 tertiary-educated migrants in 2016 (<https://nccr-onthemove.ch/research/migration-mobility-survey/>).
- ⁴ Following an iterative process, some initial interviews were analysed to gain insight and develop a preliminary coding system. MAXQDA software was used for coding the interviews.
- ⁵ Pertains to individuals who are currently unemployed but actively seeking paid work.
- ⁶ Swiss-German dialects are exclusively oral and largely vary from standard German. They are widely used by the Swiss born at home, at work and while socialising. Foreign-born individuals are sometimes at a disadvantage when applying for jobs if they do not master the local dialect.
- ⁷ To protect the identity of the interviewees, all names in this paper have been changed.

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