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Evidence of Hiring Discrimination Against the Second Generation: Results from a Correspondence Test in the Swiss Labour Market

Eva Zschirnt[1]

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Abstract

While there is ample evidence of discrimination against ethnic minority candidates in hiring, most existing studies have focused on stigmatised immigrant groups. Using a correspondence test to ethnic discrimination in the Swiss labour market is enumerated, varying the a priori stigma of the immigrant groups. The field experiment compares candidates with Swiss names against candidates with German, Kosovar and Turkish names in a paired correspondence test spanning four occupations. Results from attitude research in Switzerland lead to the expectation that these groups will face different rates of discrimination, with candidates with Kosovar names being the most stigmatised and candidates with German names facing the least discrimination. Between October 2017 and April 2018, applications were sent in response to 560 real vacancies in the German-speaking area of Switzerland. Across the minority groups, the relative call back rate was 1.13, meaning that minority candidates have to write 1.13 times as many applications as majority candidates to be invited for a job interview. The relative call back rates differ by the ethnic origin: Germans experience almost no discrimination across all occupations, Turks face a relative call back rate of 1.14, and Kosovars encounter the highest relative call back rate across occupations (1.26). We conclude that existing studies may give the false impression that all immigrants suffer from substantive discrimination in the labour market because they focus on stigmatised groups.

Keywords Ethnic discrimination · Labour market · Hiring · Correspondence testing · Switzerland

✉ Eva Zschirnt
eva.zschirnt@EUI.eu

[1] Department of Political and Social Sciences, European University Institute, Via dei Roccettini, 9, San Domenico di Fiesole, 50014 Fiesole, Italy

Introduction

Switzerland has one of the biggest shares of foreign citizens in Europe, with about a quarter of the population not holding a Swiss passport (Bundesamt für Statistik 2017). In Europe, similarly high numbers of foreigners are only recorded in Luxembourg (OECD 2012). Although the labour market is one of the essential places for the integration of these foreigners into Swiss society, relatively little is known about discrimination that foreigners or citizens with immigrant origins experience in the Swiss labour market. While ethnic discrimination in hiring decisions has been well documented in most OECD countries, with minority candidates usually having to write 50% more applications to be called back for a job interview (Zschirnt and Ruedin 2016), this information is largely missing for the case of Switzerland. So far, only one correspondence test on ethnic discrimination in hiring decisions in the Swiss labour market has been conducted by Fibbi et al. (2003), yet this field experiment only looked at the transition from an apprenticeship to the first job. They found significant levels of discrimination which varied between the ethnic minority groups and suggested that ethnic hierarchies exist in the Swiss labour market.

Switzerland makes for an interesting case study of ethnic discrimination in the hiring process. On the one hand, the federal country is characterised by decentralised policy making and a strong tradition of linguistic heterogeneity. Its labour market is very flexible and internationally oriented and unemployment rates are low (OECD 2012; Bundesamt für Statistik 2018). Furthermore, the Swiss immigrant population is somewhat unusual in Western Europe, since the majority of immigrants comes from EU countries and in particular the neighbouring countries. These features would support the expectation that ethnic discrimination should be rather low in the Swiss labour market. On the other hand, however, Switzerland is the only country in Europe that does not have a comprehensive anti-discrimination law. Since it is not part of the EU, it is not bound by EU anti-discrimination law. Moreover, the public debate on immigration issues has become increasingly hostile (e.g. looking at recent referenda or initiatives on migration topics, see e.g. Arrighi (2018) or Boulila (2018)). These two characteristics would lead to the expectation of high rates of labour market discrimination against foreign-named candidates. Conducting a new correspondence test will therefore give us a better understanding which features of the labour market are more important here.

In contrast to the majority of previous studies, this paper does not only focus on stigmatised groups of people with a migration background that come from low-income countries,[1] but also includes more recent and higher qualified immigrants from neighbouring EU countries, i.e. naturalised Germans. Between October 2017 and April 2018, a correspondence test was conducted in which pairs of fictitious applications were sent in response to 560 real vacancies across four occupations in the German-speaking area of Switzerland.

[1] Notable exceptions are for example McGinnity and Lunn (2011), who included German-named candidates in their Irish study, Booth et al. (2012) who included Italian-named candidates in their Australian study, or Busetta et al. (2018) who included also German-named candidates in their correspondence test in Italy.

Social Framework: Switzerland, a Country with a Sizeable Foreign Population

Switzerland has a high share of immigrants in its resident population. Of the approximately 8.33 million residents, 2.05 million hold foreign nationalities. The biggest share of immigrants is made up by people from European countries (84.6%). Immigrants from EU-28 countries account for 66.3% of the immigrant population. Among these Italians are the biggest group (15.2%), quickly followed by German immigrants (14.7%). Following EU immigrants, Kosovars are the next large group which accounts for 5.2% of the Swiss immigrant population, and Turkish immigrants contribute 3.4% of the Swiss residents (Bundesamt für Statistik 2017). Most of the foreigners in Switzerland are first-generation immigrants, and due to the restrictive Swiss naturalisation policy, almost 40% of the second generation are still legally foreigners.

The three immigrant groups (Turks, Kosovars, Germans) chosen for this correspondence test not only constitute some of the biggest immigrant groups but also correspond to different waves in Swiss immigration history. While Turkish immigrants often came to the country as guest workers, immigrants from the Former Yugoslavia, such as Kosovars, often arrived as refugees in the 1990s, and the group of highly skilled immigrants from Germany represents the latest phase in Swiss immigration policy, with the free movement of people from the EU enabling their mobility. Furthermore, as will be discussed below, these immigrant groups encounter different stereotypes in attitude research conducted in Switzerland, ranging from mostly welcoming (Germans) to very negative (Kosovars).

In contrast to its neighbouring countries, Switzerland does not have a comprehensive anti-discrimination law. Since it is not a member of the European Union, it did not have to implement the two EU anti-discrimination directives adopted in 2000. In 2014, Switzerland was ranked 35th of 38 countries analysed for the Migration Policy Index (MIPEX)[2] in the field of anti-discrimination policy (Huddleston et al. 2015). It reported that since Switzerland was "One of the very few countries without a comprehensive anti-discrimination law and equality body with legal standing; a sizeable number of potential victims are poorly protected against racial, ethnic, religious and nationality discrimination" (p.40). It is therefore not surprising that numerous international organisations have urged Switzerland to adopt a comprehensive anti-discrimination law.[3]

Despite the lack of legal protection and the strong presence of immigrants in Switzerland, the topic of ethnic discrimination of immigrants and their children has not received a lot of attention in the media, in politics or in research. There is relatively little research on labour market discrimination and most of it appeared in the last years.

Recent research on the labour market position of ethnic minorities in Switzerland has focused on the statistical analysis of observational data looking for example at the unemployment rates of foreigners or their salary levels. While the situation of immigrants is still quite favourable compared to other OECD countries, they do experience higher unemployment rates and lower salaries than natives (Lalive and Lehmann 2017;

[2] The Migration Policy Index (MIPEX) measures integration policies in 38 countries in eight policy areas, one of them being anti-discrimination policy.

[3] An overview of the international feedback can be found on https://www.humanrights.ch/en/switzerland/recommendations/discrimination/legislation-discrimination/ (last accessed 16.03.2018)

Liebig et al. 2012; OECD 2018a, b, c; Bundesamt für Statistik 2015). Other studies look for example at unemployment duration (Auer et al. 2017), the occupational incorporation of immigrants (Vidal-Coso and Ortega-Rivera 2017) or career trajectories of children of immigrants (Laganà et al. 2014; Seibert et al. 2009).

Next to statistical analysis of labour market outcomes, researchers have also focused on attitudes towards foreigners, both in general and more specifically on the labour market, which are shown in surveys (Helbling 2011; Longchamp et al. 2014; Raymann 2003; Rapp 2015; Ruedin et al. 2013). These studies on attitudes towards foreigners in Switzerland show that attitudes vary for each immigrant group, with migrants from the Balkans or with a Muslim background being least accepted (Longchamp et al. 2014; Raymann 2003; Rapp 2015), that also German immigrants encounter negative attitudes (Helbling 2011), that it is not only lower educated people who hold negative attitudes towards foreigners (Pecoraro and Ruedin 2016, 2017; Helbling 2011), and that individuals who feel culturally or economically threatened are more likely to express such negative attitudes (Rapp 2015; Helbling 2011; Pecoraro and Ruedin 2016, 2017). Matser et al. (2010) furthermore show how attitudes are negatively affected by perceiving large neighbouring nations that speak the same language as a threat. All of these studies find that immigrants face a disadvantage in the Swiss labour market and that this disadvantage differs by the ethnic group an immigrant belongs to. Negative attitudes are strongest against immigrants from the Balkans and those with a Muslim background, but also highly skilled German immigrants in the city of Zurich are considered as problematic, especially by well-educated Swiss people (Helbling 2011). These negative attitudes towards immigration also become apparent looking at the results of referenda and popular initiatives on the federal level in Switzerland, where votes against immigration and on restricting immigrants' rights have become more frequent and show strong anti-immigrant sentiments (Arrighi 2018).

In addition to this research on attitudes towards foreigners, social psychologists have studied prejudice and stereotypes ascribed to different immigrant groups in Switzerland (Krings and Olivares 2007; Binggeli et al. 2014a, b; Krings et al. 2014). Using in particular the stereotype content model, they group immigrants according to their perception of warmth and competence and show how this affects discrimination experiences in the workplace.

Combining elements of survey and experimental research, vignette studies on labour market discrimination of immigrants in Switzerland have also become more popular in recent years. These studies focus for example on which immigrants should be given work permits, how ethnic and occupational rankings work together or how cultural distance can impact immigrants' labour market chances (Helbling and Kriesi 2014; Fossati et al. 2017; Auer et al. 2018).

In 2017, also studies with victims of (perceived) discrimination have appeared, focusing specifically on the experiences of black people (Efionayi-Mäder et al. 2017), Muslims (Golder et al. 2017) or case reports from human rights outreach centres that document discrimination cases that were brought to their attention (Mühlemann 2017).

So far, however, only one correspondence test has been conducted on the Swiss labour market. Fibbi et al. (2003) studied ethnic discrimination against youths with a Turkish, former Yugoslavian or Portuguese background in both the German and the French-speaking parts of the labour market. Their fictitious candidates indicated a

birthplace in their country of origin, but school and apprenticeship qualifications were from Switzerland and were looking for the first position following their apprenticeship.[4] It is therefore slightly different from most published correspondence tests regarding the moment that the fictitious applicants are looking for a new position. One limitation of this study is the amount of application material that is usually provided in Swiss applications packages. A complete application usually includes not only a cover letter and a CV, but also additional information, such as work and school certificates or a photograph. These elements were not included in the application materials used in this experiment. Nevertheless, Fibbi et al. (2003) found strong evidence of discrimination against youths from non-EU countries, with Albanian speaking youths from former Yugoslavia faring the worst in the German-speaking part of Switzerland (discrimination rate 59%), followed by Turks in the German-speaking parts (30%) and former Yugoslavs in the French-speaking regions (24%). Compared to previous ILO studies (de Prada et al. 1995; Bovenkerk et al. 1995; Goldberg et al. 1995; Arrijn et al. 1998), net discrimination rates documented in Switzerland for second-generation youths of Turkish or former Yugoslavian origin were higher than those found for Moroccan, Surinamese or Turkish candidates in other countries, while those with a Portuguese background did not encounter statistically significant discrimination in the Swiss labour market.

Theory

Discrimination against ethnic or racial minority candidates in the labour market is a well-documented phenomenon. Since the late 1960s, researchers have documented and tried to measure its occurrence (Zschirnt 2016; Gaddis 2018). Hiring discrimination has been studied in many countries, with ethnic or racial minority candidates having to write about 1.6 times as many applications to be invited for a job interview (Zschirnt and Ruedin 2016). While the occurrence and extent of ethnic and racial discrimination in the labour market has been well documented, the reasons for it are harder to establish.

Economic theories mostly focus on whether discrimination is taste-based (Becker 1957) or statistical (Phelps 1972; Arrow 1973). The theory of taste-based discrimination (Becker 1957) is based on the notion that employers prefer working with members of the majority group and are willing to face financial disadvantages in order to hire candidates that correspond to their taste. They sometimes justify discriminatory hiring decisions by pointing out that their employees or customers would not accept minority candidates. In contrast, statistical discrimination theory (Arrow 1973; Phelps 1972) argues that discrimination can also be due to rational decision-making. To compensate for a lack of knowledge, employers resort to signals such as race and ethnicity and make assumptions about the productivity and skills based on the group membership of a candidate. The "employer who seeks to maximize expected profit will discriminate against blacks or women if he believes them to be less qualified, reliable, long-term, etc. […] and if the cost of gaining information about the individual applicant is

[4] The occupations included amongst others receptionists, bakers, sales assistants, hotel personnel or construction workers.

excessive. Skin color or sex is taken as a proxy for relevant data not sampled." (Phelps 1972). Thus, according to statistical discrimination theory, discrimination should decline if employers have more information about candidates and do not have to make inferences based on a candidate's group membership. The debate if discrimination is due to taste or statistics is ongoing (e.g. Flinn 2015; Thijssen 2016; Keuschnigg and Wolbring 2016; Guryan and Charles 2013) and researchers have tried to incorporate it in their research designs on ethnic discrimination (for an example using a vignette study see Baert and De Pauw (2014) on ethnicity).

Given the large amount of information included in an application in Switzerland, it can be argued that employers are less inclined to resort to statistical discrimination based on group signals in their decision-making (e.g. Weichselbaumer 2016b; Zschirnt and Ruedin 2016). The Swiss results are discussed in relation to other German-speaking countries where applications are also very detailed and put into an international perspective.

Methodology of Correspondence Testing

Field experiments, such as correspondence tests, have become a popular way to study discrimination in hiring decision (Jackson and Cox 2013; Gaddis 2018). As List (2009) pointed out, they "are a useful marriage between laboratory and naturally occurring data in that they represent a mixture of control and realism not usually achieved in the lab or with naturally occurring data" (p. 439). Field experiments on discrimination are conducted in the research subjects' natural environment and observe natural behaviour, without informing the research subjects that they are part of an experiment and that their actions are being recorded and analysed. They give researchers the possibility to study discrimination, which is usually illegal and hidden, and to attempt to measure its extent towards specific disadvantaged groups.

To date, field experiments have been carried out to study hiring discrimination on grounds such as race or ethnicity, gender, age, disability, sexual orientation, caste, religion or obesity (for detailed overviews, see Riach and Rich 2002; Rich 2014; Bertrand and Duflo 2016; Baert 2018). Only looking at correspondence tests on ethnic and racial discrimination in hiring decisions, Zschirnt and Ruedin (2016) have identified 43 studies that were conducted in OECD countries between 1990 and 2015. In all of these studies, fictitious written applications were sent in response to real vacancies posted by employers. In the simplest design, each employer receives two fictitious applications, one from a majority candidate and one from a minority candidate, in our case a candidate belonging to a racial or ethnic minority. The candidates are equally qualified, matched as closely as possible and only differ in the characteristic to be tested—their ethnicity or race. By carefully recording replies (invitation or rejection), researchers are able to analyse racial or ethnic differences in invitation rates which can then be attributed to discrimination.

While field experiments are often considered one of the best ways to measure discrimination, the methodology also faces limitations and criticism (Heckman and Siegelman 1993; Heckman 1998; Neumark 2012). However, most of this critique has been targeting in-person audit studies and has been mitigated in written correspondence test (e.g. regarding the matching of testers). Limitations that persist in correspondence

tests mostly concern the representativeness of results, as they usually focus on certain regions, immigrant groups, occupations and only the first stage of the hiring process (Lahey and Beasley 2018). Researchers usually focus on stigmatised groups where they expect to find labour market discrimination, but these groups are clearly not representative for the whole immigrant population, as ethnic hierarchies found in studies testing several groups have shown (e.g. Booth et al. 2012; for an overview see Zschirnt and Ruedin 2016). Correspondence tests also allow researchers to apply for more positions, not only entry level or low skilled positions, as long as it is possible to create plausible fictitious that can be submitted in writing. Compared to in-person audit studies, the issue of unobserved variables due to the matching of testers has been reduced, since researchers in correspondence tests have complete control over the application material and can more easily randomise the profiles and control for possible unobserved variables. One limitation that persists is that correspondence tests only focus on the binary question whether a job applicant is invited for a job interview, not if he or she is actually offered the job (Midtbøen and Rogstad 2012). Findings from previous research, however, show that about 90% of discrimination happens at this initial stage of the hiring process (Rich 2014; Riach and Rich 2002).

Furthermore, correspondence tests are often criticised on research ethics concerns. By receiving applications from fictitious candidates, employers are deceived and unable to give their informed and voluntary consent to their participation in the research and could potentially suffer negative consequences. These ethical concerns are rarely addressed in published correspondence tests. Readers are usually referred to an article by Riach and Rich (2004) that discusses whether field experiments are ethical. Recently Zschirnt (2019a) reconsidered the ethical questions, in particular, regarding the technological changes that being able to send great numbers of application per email has brought. The value of the methodology has been acknowledged in several international research ethics guidelines, where it is listed as an example where covered research is justified.

For this correspondence test on the Swiss labour market, the ethical approval was obtained from the Ethics Commission at the University of Neuchâtel. It was judged that the ethical problems of breaking the principles of informed consent and voluntary participation and possible losses for employers were addressed in detail, and concrete steps on addressing these issues in the research project were proposed.[5]

Research Design

Planning a correspondence test on the Swiss labour market is challenging. Similar to other German-speaking countries, a complete application consists not only of a cover letter and CV, but of copies of high school or university diplomas, references from

[5] Nevertheless, some employers discovered that the nursing diplomas were forged and complaint to the police. Judicial proceedings were initiated based on the forgery of documents and the misuse of the logo of the Red Cross which is visible in the diploma. The Public Prosecutor's office in the Canton of Neuchâtel decided not to pursue the case further, since the researchers did not seek to enrich themselves and were unaware of the special protection of the Red Cross logo. A working paper discussing this experience will be published in the near future.

previous employers and a photograph. This means that researchers have to prepare a great number of accompanying documents to create a credible application package.

Correspondence tests usually rely on conveying the ethnic or racial identity via the name of the applicant. This raises the problem that names can not only signal ethnicity, but can have unintended and unobserved socio-economic connotations (Crabtree and Chykina 2018; Gaddis 2017a, b; Fryer and Levitt 2004). For this study, names were constructed using government statistics, quasi-official statistics, miscellaneous websites on common names and Wikipedia. Furthermore, it was checked that name combinations had not been used in previous correspondence tests and, using Facebook, it was ensured that several persons were registered with this name, thus making it impossible for a potential employer to try to identify a fictitious applicant using social media. While the deliberate choice of names is important to convey ethnicity, applicants also list being native speakers of German (and if applicable Turkish or Albanian), and being dual nationals as citizenship is normally mentioned in a Swiss CV. This way residence or work permits cannot be used as an excuse for rejection. They do not provide information on their place of birth, but list only education and work experience in Switzerland. The restrictive Swiss naturalisation laws provide assurance that candidates are well integrated, while leaving no doubts about their ethnic background.

The fictitious applications are the core element of the correspondence test. Profiles have to be plausible and provide the qualifications necessary for the position, while keeping comparability in mind. To be able to send out the large numbers of paired fictitious applications, applications are standardised as much as possible. In this correspondence test, relatively young male and female fictitious applicants were used. All of them have started to work in their first position after their apprenticeship and have gained 3 to 4 years of work experience in the same firm, with the exception of the HR specialist, where the career path involves a few more steps. Based on publicly available LinkedIn profiles, resumes of job seekers and career advice websites, pairs of CVs and cover letters were prepared for each occupation, which were fine-tuned with HR specialists. Finally, the cover letter and CV in each pair use a different layout to avoid detection. In order to allow for the Neumark test to be conducted at a later stage, the CVs included slight variations between the two CVs for one occupation such as an additional year of work experience, having completed the Federal Vocational Degree, extra skills listed in the CV (e.g. a computer course) or planned additional qualifications, depending on the occupation tested (Neumark 2012). Discussions with HR specialist ensured that the difference introduced were minimal.[6]

The cover letter and CV were only the first step in preparing a convincing application package. In Switzerland, it is customary to also include copies of the degrees obtained as well as work certificates from previous employers. While some examples of degrees and diplomas could be downloaded from the internet using thorough google images searches, the lacking diplomas were collected with the help from personal networks. These were then professionally digitally edited to match the trajectories of the fictitious applicants. In a next step, reference letters for previous positions were created. Again, examples downloaded from the internet, real reference letters obtained via own networks and detailed instructions on phrases often used in such letters served

[6] The profiles were assigned randomly and analysis controlling for the impact of these modifications did not yield significant results.

as a basis. As with the CVs and cover letters, these references were discussed and adapted with HR specialists to ensure their plausibility and to ascertain that the images of companies were very similar. A further element included in the applications was a photograph, which is required in standard job applications in the German-speaking part of Switzerland. We thank Doris Weichselbaumer for letting us use the pictures that she had carefully prepared, pretested and used in a correspondence test conducted in Austria. The use of photographs is not straightforward as it might introduce unobserved differences, e.g. due to the attractiveness of the candidates. However, the creation of the photographs and the pretesting to minimise these unobservable differences is described in detail in her section on the experimental design (Weichselbaumer 2016b).[7] Even though the photos were pretested in the Austrian context, we are confident that the similarities between the two neighbouring countries will not impact the results.[8]

Finally, all candidates include contact details in their application consisting of an individual email address (Gmail), a mobile phone number leading to a mailbox and an existing address in Switzerland. Using Google street view addresses in several Swiss cities were chosen which show apartment houses with multiple resident parties. Our HR contacts have assured us that the likelihood of receiving answers to online applications by regular mail is extremely low.[9]

In contrast to the first Swiss correspondence test on ethnic discrimination in hiring by Fibbi et al. (2003), this correspondence test not only focuses on the transition into the labour market after completing an apprenticeship, but on candidates with some work experience who are looking to change jobs. It examines hiring discrimination in four occupations, two of which require a completed apprenticeship, while the other two require intermediate qualifications. Due to the small size of the Swiss labour market, occupations were primarily chosen based on the number of vacancies published (comparing information from the *Stellenmarktmonitor Schweiz*[10] and several large national job-searching websites), and whether it was possible to construct convincing application packages (excluding for example positions asking for additional documents, such as exposes from previous work). The list was finally narrowed down to sales assistants and electricians for the two positions that required a completed apprenticeship, and nurses and HR clerks for the two positions requiring intermediate qualifications. All occupations selected are in the private sector, include customer contact, have a share of approximately 15–20% of foreigners working in these occupations, and have an occupational unemployment rate under 5%, with the unemployment rate for nurses being the lowest (Table 1). For the male-dominated position of electrician, only male-paired applications were submitted, while for the position of

[7] Weichselbaumer (2016b) provides detailed information on the construction of the photographs using student models, that were pre-tested, digitally altered and rated on several dimensions such as "looks, likability, intelligence, reliability as well as their overall score" (p. 10).

[8] The photos were randomly attached to the applications. A control in the analysis showed no effect of the photo.

[9] In only three (out of 560) cases, employers tried to send rejection letters by post, which were returned to sender and emailed to the applicants as scans.

[10] The "Stellenmarkt Monitor Schweiz (SMM)" is a project by Buchmann et al. at the University of Zürich which has been documenting the development of the publication of vacancies in Switzerland going back to 1950. The SMM draws a representative sample of vacancies from a number of publication channels during 1 week each year, since 2001, it is available for all of Switzerland and since 2006, the database also includes vacancies published in online job portals (Buchmann et al. 2015)

nurse, only female-paired applications were used. Since part-time work is quite common in Switzerland (35.6% hold part-time contracts) and frequent among women, of which only 42.8% work fulltime (Bundesamt für Statistik 2016), all job offers matching the selected occupations were included and the percentage of the job offered was carefully recorded.

Vacancies were collected in the German-speaking part of the Swiss labour market without further geographical limitations. Data of the *Stellenmarktmonitor Schweiz* show that between 2006 and 2014, 78.8% of the vacancies posted in Switzerland were located in the German language area (Buchmann et al. 2015). Since most vacancies are offered in the German-speaking labour market, this correspondence test focuses on that area. However, these results will be complemented with information on the French-speaking area, as was done in Fibbi et al. (2003), to analyse whether discrimination varies between the two linguistic regions.

The vacancies for the chosen occupations were obtained from one of the biggest job-search website in Switzerland (www.jobs.ch) and the website hosted by the Swiss Public Employment Services (www.job-room.ch). There was some overlap between the two websites, and the source of the vacancy was noted in the database. Vacancies for the chosen applications were included in the correspondence test, unless the employer had already been included in the experiment, or if specific qualifications were required that could not be met by the fictitious candidates (e.g. requiring a copy of their driver's licence or a police background check).

The two application letters and two CVs per occupation and gender, the two different layouts and the photographs were randomly assigned to an application. For each CV, an address, work certificate, and diploma were attached. Application pairs were of the same gender, either male or female for sales assistants and HR clerks, only male for electricians, and only female for nurses. Which candidate applied first was rotated in each application process.

Results

Between October 2017 and April 2018, 1120 applications were sent to 560 vacancies in the Swiss German labour market. In 86% of the cases, one or both of the fictitious applicants received a reply by the employer either by phone or email, while in the other 14% neither applicant was contacted. The results presented in Table 2 show the final

Table 1 Characteristics of occupations chosen, based on the Swiss Structural Survey 2014 and weighted. Economically active persons aged 15–64 (15–65 for women). Due to the low number of electricians in the sample, the results are for all the electronic and electro technical positions (Codes between 2501 and 25108)

	Sales assistants (%)	Electricians (%)	Nurses (%)	HR clerks (%)
Unemployment rate total	4.91	3.01	1.65	3.66
Unemployment rate Suisse	4.29	2.74	1.48	3.25
Unemployment rate foreigners	7.96	4.26	2.25	5.76
Share of foreigners in occupation	15.80	16.09	20.67	15.08

outcome of the application procedures—meaning if a candidate was contacted for a job interview or not. They do not indicate if a minority candidate was only invited after the majority candidate had already withdrawn his or her application. They also do not consider smaller differences in responses, e.g. in the length or tone of the email, the times at which each candidate received a reply or the number of times employers tried to make contact with the candidates. These rather subtle and often more qualitative differences are discussed in Zschirnt (2019b).

Swiss candidates received a positive feedback on their application in 39.8% of the application procedures, while overall 35.2% of the minority candidates' applications elicited a positive response. Column 9 of Table 2 translates these outcomes into a ratio, the relative call back rate, which shows the factor of applications that minority candidates have to send compared to their fictitious majority counterpart. On the study level, a relative call back rate of 1.13 (sign. at 5% level) was measured, meaning that minority candidates have to write 1.13 times as many applications as majority candidates to be invited for a job interview.

Among the minority candidates, German-named applicants are the most successful with the share of positive responses almost as high as those of native Swiss candidates (38.7%), followed by Turkish-named candidates (34.4%) and, finally, those with Kosovar names have the lowest success rate (32.5%). The relative call back rates in the German-speaking part of Switzerland differ by the ethnic origin, with German-named candidates experiencing almost no discrimination across all occupations (1.01, not statistically significant), Turkish-named applicants facing a relative call back rate of 1.14 (not statistically significant) and finally Kosovar-named applicants who encounter the highest relative call back rate across occupations (1.26, significant at 1% level).

For the two apprenticeship level positions, the relative call back rates vary between the occupational profiles. While aggregate discrimination rates for electricians are quite low (1.12, sign. at 5% level), those for the sales sector are the highest (1.48, sign. at 5% level). It is in particular the high relative call back rate of 1.80 (sign. at 5% level) against German applicants for sales positions that is striking. In the German-speaking part of Switzerland, German-named applicants fare worse than those with a Kosovar or a Turkish name (1.36 and 1.25, respectively, both not statistically significant) when applying for a sales job and have to send almost twice as many applications to be invited for a job interview as their Swiss competitors. Looking at results for electricians, however, Swiss- and German-named candidates are treated equally when applying for positions as electricians (1.0, not statistically significant)—at least regarding the outcome of job invitation or rejection—while candidates with Turkish and Kosovar names need to write more applications to get an interview invitation. Yet, the difference between the latter is very small (1.17 vs. 1.21, sign. at 10% level).

Looking at the two intermediate skilled positions, the relative call back rates measured at the aggregate level for each occupation are very close to 1 and are not statistically significant. Significant results were only found in favour of German-named candidates for the HR clerk position (0.44, sign. at 5% level) and against Kosovar-named candidates applying for nursing jobs (1.31, sign. at 5% level).

Considering the results aggregated by qualification level for all minority candidates, Table 3 shows that discrimination is higher in the two apprenticeship level occupations (1.23, sign. at 1% level) than in the two medium-skilled occupations (1.04, not statistically significant). For positions requiring an apprenticeship, the findings were

Table 2 Correspondence test results, responses by ethnic background and occupation

	Number of jobs [1]	None invited [2]	Both invited [3]	Only majority invited [4]	Only minority invited [5]	Net discrimination rate % [6]	% call back majority [7]	% call back minority [8]	Ratio [9]	Percentage difference [10]
Aggregate results	560	306	166	57	31	10.2	39.8	35.2	1.13	4.6**
Gender										
Male	270	160	76	23	11	10.9	36.7	32.2	1.14	4.5*
Female	290	146	90	34	20	9.7	42.8	37.9	1.13	4.9*
Ethnicity										
Germany	186	97	56	17	16	1.1	39.2	38.7	1.01	0.5
Kosovo	188	105	54	23	7	19.1	41.0	32.5	1.26	8.5***
Turkey	186	105	56	17	8	11.1	39.3	34.4	1.14	4.9
Occupations										
Sales	136	83	19	24	10	26.4	31.6	21.3	1.48	10.3**
Germany	45	24	7	11	3	38.1	40.0	22.2	1.80	17.8**
Kosovo	46	28	8	7	3	22.2	32.6	23.9	1.36	8.7
Turkey	45	31	4	6	4	14.3	22.2	17.8	1.25	4.4
Electrician	136	56	64	12	4	10.0	55.9	50.0	1.12	5.9**
Germany	45	16	23	3	3	0.0	57.8	57.8	1.00	0
Kosovo	46	16	23	6	1	16.7	63.0	52.2	1.21	10.8*
Turkey	45	24	18	3	0	14.3	46.7	40.0	1.17	6.7*
Nurse	144	62	63	12	7	6.1	52.1	48.6	1.07	3.5
Germany	48	18	22	3	5	−6.7	52.1	56.3	0.93	−4.2
Kosovo	48	27	16	5	0	23.8	43.8	33.3	1.31	10.5**
Turkey	48	17	25	4	2	6.5	60.4	56.3	1.07	4.1
HR clerk	144	106	20	9	10	−2.6	20.1	20.8	0.97	−0.7

Table 2 (continued)

	Number of jobs [1]	None invited [2]	Both invited [3]	Only majority invited [4]	Only minority invited [5]	Net discrimination rate % [6]	% call back majority [7]	% call back minority [8]	Ratio [9]	Percentage difference [10]
Germany	48	39	4	0	5	− 55.6	8.3	18.8	0.44	− 10.5**
Kosovo	48	34	7	5	3	13.3	25.0	20.8	1.20	4.2
Turkey	48	33	9	4	2	13.3	27.1	22.9	1.18	4.2

Column [1] shows the total number of vacancies. Column [2] includes both rejections and applications that received no reply. Of 560 jobs applied to, responses were sent to both candidates in 428 cases; in 54 cases, only one candidate received a response, and in 78 cases, no candidate was contacted. Column [3] shows the number of cases where both candidates received a positive reply. Column [4] lists the cases in which only the Swiss candidate received a positive reply. Column [5] shows the cases in which only the minority candidate received a positive reply. Column [6] shows the net discrimination rate: ([4]–[5])/([3] + [4] + [5]). Columns [7] and [8] report the success rates of the majority ([3] + [4])/[1] and minority candidates([3] + [5])/[1], Column [9] presents the ratio between the success rates of the majority and minority candidates, also known as the relative call back rate. Column [10] shows the difference between [7] and [8], as well as the statistical significance of these differences using a chi-square test (significant at the *10%, **5% and ***1% level)

significant at the 1% level on the aggregate level, at the 5% level for Kosovar-named applicants, and at the 10% level for German-named applicants. For the medium-skilled positions, significant findings at the 10% level were only found for German- and Kosovar-named applicants, which go in different directions. While German-named applicants are preferred over Swiss applicants (0.81, sign. at 10% level), it is exactly the opposite for Kosovar-named applicants (1.27, sign. at 10% level), thus cancelling each other out at the aggregate level.

Considering the results by gender of the applicant, there are no differences between male and female applicants on the aggregate level presented in Table 2. While one occupation was male dominated (electrician) and one female dominated (nurse), to which only fictitious candidates of the respective gender applied, the other two positions (sales assistant, HR clerk) received male or female pairs of applications. On the aggregate level, discrimination rates that are very similar for males and females (1.14 and 1.13, respectively, sign. at 10% level). However, looking at the results more closely in Table 4, the relative call back rate is highest for men with Kosovar names (1.25, sign. at 5% level), while females with a Turkish and Kosovar migration background also encounter discrimination (1.18 and 1.14, respectively, sign. at 10% level).[11]

Finally, it was also tested whether the variations of the photographs, the layout or the cover letter used for an applicant had an influence on the results. Yet, the results of chi-square tests and probit regressions turned out non-significant.

Discussion

Looking at the results by ethnicity across all occupations, there are signs of ethnic hierarchies in the Swiss labour market. Candidates with Kosovar names experience the most discrimination followed by Turkish-named candidates, while no discrimination was found against those with German names at this level. However, the highest relative call back rate of this correspondence test was measured for German-named candidates applying for sales positions. In all other positions, German-named candidates face no discrimination or are even preferred to the Swiss candidates.

These results mirror findings of attitude research in Switzerland, which consistently show that candidates from the Balkans or former Yugoslavia face the most negative attitudes in Switzerland (Longchamp et al. 2014; Raymann 2003; Rapp 2015; Ruedin et al. 2013). Turkish immigrants are usually regarded a little better, while Western Europeans and in particular those from neighbouring countries are usually not perceived as a threat. While readers who are not familiar with the Swiss context might find the high discrimination rates against German-named candidates in the sales position puzzling, work conducted by Helbling (2011) in the city of Zurich as well as research by Matser et al. (2010) has shown negative attitudes towards German immigrants. Both argue that in the face of many similarities, the minor differences between Germans and Swiss Germans are strongly emphasised.

[11] Using probit regressions, we controlled for the effect of the photo, gender, and photo interacted with gender was controlled, but none of the results were significant.

Table 3 Correspondence test results, responses by skill level and ethnic background (chi-square test, significant at the *10%, **5% and ***1% level)

	Number of jobs [1]	None invited [2]	Both invited [3]	Only majority invited [4]	Only minority invited [5]	Net discrimination rate % [6]	% call back majority [7]	% call back minority [8]	Ratio [9]	Percentage difference [10]
Apprenticeship level	272	139	83	36	14	16.5	43.8	35.7	1.23	8.1***
German	90	40	30	14	6	16.0	48.9	40.0	1.22	8.9*
Kosovo	92	44	31	13	4	18.8	47.8	38.0	1.26	9.8**
Turkey	90	55	22	9	4	14.3	34.4	28.9	1.19	5.5
Medium skilled	288	168	83	21	17	3.3	36.1	34.7	1.04	1.4
German	96	57	26	3	10	− 18.0	30.2	37.5	0.81	− 7.3*
Kosovo	96	61	23	10	3	19.4	34.4	27.1	1.27	7.3*
Turkey	96	50	34	8	4	8.7	43.8	39.6	1.11	4.2

Table 4 Correspondence test results, responses by gender and ethnic background (chi-square test, significant at the *10%, **5% and ***1% level)

	Number of jobs [1]	None invited [2]	Both invited [3]	Only majority invited [4]	Only minority invited [5]	Net discrimination rate % [6]	% call back majority [7]	% call back minority [8]	Ratio [9]	Percentage difference [10]
German female	96	43	32	10	11	− 1.89	43.8	44.8	0.98	− 1.0
German male	90	54	24	7	5	5.56	34.4	32.2	1.07	2.2
Kosovo female	98	56	54	13	5	11.11	68.4	60.2	1.14	8.2*
Kosovo male	90	48	30	10	2	19.05	44.4	35.6	1.25	8.8**
Turkish female	96	47	34	11	4	14.29	46.9	39.6	1.18	7.3*
Turkish male	90	58	22	6	4	6.25	31.1	28.9	1.08	2.2

The fact that higher relative call back rates are found for candidates with German names applying for sales positions could also be due to perceived language skills (dialect) and/or expected customer discrimination. Since all sales positions involve customer contact, employers might expect German-named candidates to only speak high-German and not the Swiss German dialect, which could be regarded as negative by Swiss customers. However, since all candidates had completed their education in Switzerland, where the local dialect is also spoken in schools, they should be expected to be proficient in the local dialect.

As the work on stereotypes by e.g. Krings et al. (2014) has shown, the Swiss perceive Germans as highly competent, but lacking in warmth. This high perceived competence might explain the lower discrimination rates measured for the occupations of electrician, nurse or HR clerk. Being perceived as warm, however, might be more important in the sales assistant positions, where customer contact is one of the most important elements of the occupation. As Germans are perceived as rather cold, this might be one factor explaining the lower call-back rates for German-named applicants in this position.

Interestingly, a preference for German candidates even before national candidates also seems to emerge from research on labour market discrimination in the Netherlands suggesting that German applicants might benefit from positive stereotypes in the labour market (Phlippen and van Eldert 2017).

The results show higher relative call back rates on the occupational level for the apprentice ship level positions. For all apprenticeship level positions, the relative call back rate is 1.23 (at 1% significance level), with discrimination being strongest for Kosovars (1.26) and Germans (1.22). At the medium skill level, there is no significant discrimination against all minority applicants. While medium-qualified German-named candidates actually encounter positive discrimination (relative call back rate 0.81), this is the opposite for Kosovar-named candidates (relative call back rate 1.27). This confirms the assumption that discrimination decreases for higher skilled positions (e.g. Bovenkerk 1992; Andriessen et al. 2012), but contradicts findings from Auer et al. (2018).

Separated by gender, there are almost no differences between male and female candidates on the aggregated level. Looking at the data more closely, it can be seen that male applicants with Kosovar origins face the highest discrimination rate. Again, these results are in line with Swiss attitude research where immigrants from the Balkans are often perceived as a threat (Rapp 2015).

A relative call back rate of 1.13 in the German-speaking area of Switzerland sounds low in international comparison, as far as it is possible to compare the results of such field experiments. Zschirnt and Ruedin (2016) reported a mean call back rate of 1.6 across all studies included in their meta-analysis, with studies reporting relative call back rates of up to 3.6 (Cédiey and Foroni 2007). However, as depicted in Fig. 1, relative call back rates in German-speaking countries are often lower in international comparison. The high relative call back rate of 4.48 for female applicants with a Turkish background in Germany shown here can be attributed to the fact that these candidates were wearing a headscarf in the picture attached to their CV (Weichselbaumer 2016a). As argued by Zschirnt and Ruedin (2016) and Weichselbaumer (2016b), the comprehensive information that potential employers receive about a candidate (i.e. not only cover letter and CV, but also degrees, work

certificates and photographs) make it less likely that employers have to resort to statistical discrimination and make assumptions about an applicant based on his or her ethnic background. The measured discrimination is therefore more likely to be attributable to Becker's taste-based discrimination. This argument seems to be confirmed by the results from the Swiss labour market.

Since this has been the second correspondence test conducted in the Swiss labour market, it raises the question in how far the results are comparable over time. Figure 1 also provides the results of the previous study, which at the first glance are higher than the results presented in this correspondence test. However, there are several methodological differences that make it difficult to compare the two studies. First, Fibbi et al. (2003) tested discrimination against foreign-born youth, yet fully schooled in Switzerland, while the present study tested members of the second generation that were already naturalised in Switzerland and thus showed that they were well integrated in the country. Second, the applications in Fibbi et al. (2003) presented young applicants that had just finished their vocational training and were looking for their first position. While the applicants presented in this study were also all less than 30 years old, they had already gained several years of work experience following their apprenticeships and trainings. Third, the amount of application material provided differed greatly between the two studies: in the former, only cover letters and CVs were sent to employers, while the latter compiled complete application packages, including photographs, diplomas and work certificates. If the argument of statistical discrimination theory holds true, this could explain some of the difference in discrimination measured. Fourth, the two studies did not test the same occupations, the only overlap occurred for sales assistants. Fifth, each employer tested by Fibbi et al. (2003) received three applications, while the current study only used pairs of

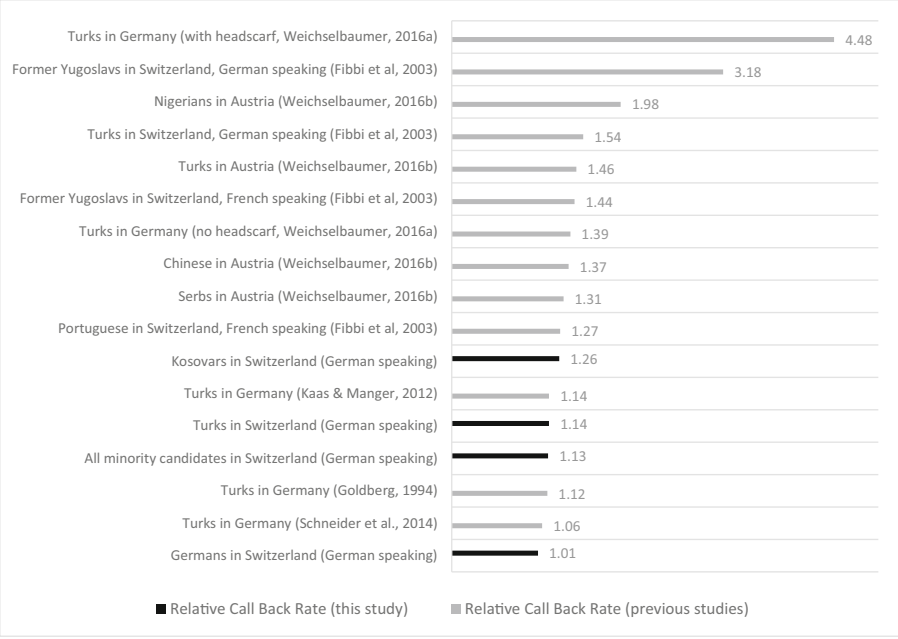

Fig. 1 Relative call back rates in German-speaking countries, previous and current studies

applicants. Finally, the earlier study focused the cantons of Zurich and Aargau, while the current testing used vacancies from all over the Swiss German labour market. The only conclusions that can be drawn from this comparison is that both correspondence tests show the existence of ethnic discrimination in the Swiss labour market and that in both cases, ethnic hierarchies became apparent, with candidates with names from today's Kosovo facing the highest discrimination, followed by Turkish-named candidates and those with Western European origins (former study Portuguese, latter study Germans) being the least discriminated.

The study faces limitations, some of which are due to the research design of a correspondence test. It is only possible to measure discrimination in the first phase of the hiring process. Furthermore, the fact that discrimination was only measured in four occupations and for three ethnic groups does not allow to make more generalised conclusions about the "real" extent of discrimination in the Swiss labour market. As the results for this study have shown, discrimination varies a lot depending on the occupation and ethnicity tested. Thus, while the internal validity of correspondence tests is high, the external validity and the generalisability for the whole labour market are limited.

So far, only very few correspondence tests on ethnic discrimination in hiring included an immigrant group that did not come from a lower income country. Particularly, in light of easy mobility of workers within the EU and the European Free Trade Area, it would be interesting to see more studies on groups that do not face the same stigmas as traditional immigrant groups, to establish whether discrimination is caused by their status as a foreigner or rather due to cultural and social distance.

Conclusion

Ethnic discrimination exists in the Swiss labour market. The results of this correspondence test suggest that ethnic hierarchies, which have been shown in attitude research in Switzerland, are mirrored in hiring decisions, where the group encountering the most negative attitudes, candidates with a Kosovar background, also faces the highest discrimination. However, there is also a strong variation between groups and occupations, which clearly shows that it is not possible to use the results of this testing to infer the extent of discrimination in the entire Swiss labour market. By testing for discrimination against candidates from both low- as well as high-income countries, it is possible to show a more encompassing picture of discrimination against candidates with a migration background in Switzerland. It can be concluded that the majority of existing studies of discrimination are prone to overestimate the degree of discrimination encountered by immigrants, since they usually focus on stigmatised groups.

In a country in which over 35% of the population are either first- or second-generation immigrants, such findings of ethnic discrimination are worrying. While Western societies—including the Swiss—always reiterate that positions are awarded based on meritocratic principles, this has been proven wrong in discrimination studies in numerous countries and areas of life. Research that looked at the search for apprenticeships, transitions from apprenticeships to the labour market, or at incivilities faced by immigrants at the workplace, shows that discrimination is not only encountered once, but often frequently during the lifetime of immigrants in the same or

different domains. These instances of cumulative discrimination (Blank et al. 2004) can become substantial over time.

The fact that discrimination in Switzerland is rather low in international comparison—as far as it is possible to compare results across countries and time—points in the same direction as findings by Weichselbaumer (2016b) and Zschirnt and Ruedin (2016). They both argued that the amount of information provided in complete applications in German-speaking countries makes it less likely that employers have to resort to statistical discrimination, since the amount of information reduces uncertainty about the applicants. It could be possible, that the discrimination found in these experiments is rather due to taste-based discrimination—a hypothesis that might be examined looking at the responses that candidates received from employers to their applications, to see if these responses show signs of biases.

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References

Andriessen, I., Nievers, E., Dagevos, J., & Faulk, L. (2012). Ethnic discrimination in the Dutch labor market: its relationship with job characteristics and multiple group membership. *Work and Occupations, 39*(3), 237–269.

Arrighi, J.-T. (2018). *Dataset on migration referendums and initiatives in Switzerland*. Nccr on the move, Neuchâtel.

Arrijn, P., Feld, S., & Nayer, A. (1998). *Discrimination in access to employment on grounds of foreign origin: the case of Belgium*. Geneva: International Labour Office, Conditions of Work Branch.

Arrow, K. J. (1973). The theory of discrimination. In O. Ashonfelter & A. Rees (Eds.), *Discrimination in labor markets* (pp. 15–42). Princeton: Princeton University Press.

Auer, D., Bonoli, G., & Fossati, F. (2017). Why do immigrants have longer periods of unemployment? Swiss evidence. *International Migration, 55*(1), 157–174. https://doi.org/10.1111/imig.12309.

Auer, D., Bonoli, G., Fossati, F., & Liechti, F. (2018). The matching hierarchies model: evidence from a survey experiment on employers' hiring intent regarding immigrant applicants. *International migration review*. 0197918318764872.

Baert, S. (2018). Hiring discrimination: an overview of (almost) all correspondence experiments since 2005. In M. Gaddis (Ed.), *Audit studies: behind the scenes with theory, method and nuance* (Methods Series) (Vol. 14, pp. 63–77). Cham: Springer.

Baert, S., & De Pauw, A.-S. (2014). Is ethnic discrimination due to distaste or statistics? *Economics Letters, 125*(2), 270–273.

Becker, G. (1957). *The economics of discrimination* (2nd ed.). Chicago: University of Chicago Press.

Bertrand, M., & Duflo, E. (2016). *Field experiments on discrimination*. London: Centre for Economic Policy Research.

Binggeli, S., Krings, F., & Sczesny, S. (2014a). Perceived competition explains regional differences in the stereotype content of immigrant groups. *Social Psychology, 45*(1), 62–70.

Binggeli, S., Krings, F., & Sczesny, S. (2014b). Stereotype content associated with immigrant groups in Switzerland. *Swiss Journal of Psychology, 73*(3), 123–133.

Blank, R. M., Dabady, M., & Citro, C. F. (2004). *Measuring racial discrimination*. Washington, DC: National Academies Press.

Booth, A. L., Leigh, A., & Varganova, E. (2012). Does ethnic discrimination vary across minority groups? Evidence from a field experiment. *Oxford Bulletin of Economics and Statistics, 74*(4), 547–573.

Boulila, S. C. (2018). Race and racial denial in Switzerland. *Ethnic and Racial Studies*. https://doi.org/10.1080/01419870.2018.1493211.

Bovenkerk, F. (1992). *Testing discrimination in natural experiments: a manual for international comparative research on discrimination on the grounds of "race" and ethnic origin*. Geneva: International Labour Office.

Bovenkerk, F., Gras, M., Ramsoedh, D., Dankoor, M., & Havelaar, A. (1995). *Discrimination against migrant workers and ethnic minorities in access to employment in the Netherlands*. Geneva: Employment Department, International Labour Office.

Buchmann, M., Buchs, H., Gnehm, A.-S., Hevenstone, D., Klarer, U., Müller, M., et al. (2015). *Erhebung von Stelleninseraten 1950-2014 [Dataset]*. In U. Zürich (Ed.). Lausanne: FORS.

Bundesamt für Statistik (2015). *Gross monthly wage, Swiss and foreigners - Private sector - Switzerland*. https://www.bfs.admin.ch/bfs/de/home/statistiken/arbeit-erwerb/loehne-erwerbseinkommen-arbeitskosten/lohnniveau-schweiz/personenbezogene-merkmale.assetdetail.304061.html. Accessed 22.04.2018 2018.

Bundesamt für Statistik. (2016). *Arbeitsmarktindikatoren 2016. Statistik der Schweiz*. Neuchâtel: Bundesamt für Statistik BfS.

Bundesamt für Statistik (2017). *Demographic balance of the permanent resident population by citizenship 2010–2016*. https://www.bfs.admin.ch/bfs/de/home/statistiken/bevoelkerung.assetdetail.300195.html. Accessed 21.04.2018.

Bundesamt für Statistik (2018). *Unemployment rate based on ILO definition per nationality*. https://www.bfs.admin.ch/bfs/de/home/statistiken/arbeit-erwerb/erwerbslosigkeit-unterbeschaeftigung-offene-stellen.assetdetail.4522594.html. Accessed 06.04.2018 2018.

Busetta, G., Campolo, M. G., & Panarello, D. (2018). Immigrants and Italian labor market: statistical or taste-based discrimination? [journal article]. *Genus, 74*(1), 4. https://doi.org/10.1186/s41118-018-0030-1.

Cédiey, E., & Foroni, F. (2007). *Les discriminations à raison de "l'origine" dans les embauches en France. Une enquête nationale par tests de discrimination selon la méthode du Bureau International du Travail*. Genève: Bureau International du Travail.

Crabtree, C., & Chykina, V. (2018). Last name selection in audit studies. *Sociological Science, 5*, 2–21.

de Prada, M. A., Actis, W., Pereda, C., & Molina, R. P. (1995). *Labour market discrimination against migrant workers in Spain (Vol. 9, International Migration Papers)*. Geneva: International Labour Office, Employment Department.

Efionayi-Mäder, D., Ruedin, D., Pétrémont, M.-E., Michel, N., & Jain, R. (2017). *Anti-Schwarzen-Rassismus in der Schweiz–Eine Bestandsaufnahme*. Université de Neuchâtel.

Fibbi, R., Kaya, B., & Piguet, E. (2003). *Le passeport ou le diplôme ? Etude des discriminations à l'embauche des jeunes issus de la migration (PNR 43 Rapport de recherche au FNS)*. Neuchâtel: Forum suisse pour l'étude des migrations et de la population.

Flinn, C. J. (2015). Gary Becker's contributions to the analysis of discrimination. *Journal of Demographic Economics, 81*(01), 45–50. https://doi.org/10.1017/dem.2014.5.

Fossati, F., Liechti, F., Auer, D., & Bonoli, G. (2017). *Discrimination multipliers - how immigrants' integration affects labour market disadvantage. MIM Working Papers Series* (Vol. 17, pp. 1–22). Malmö: Malmö Institute for Studies of Migration, Diversity and Welfare (MIM).

Fryer, R. G., Jr., & Levitt, S. D. (2004). The causes and consequences of distinctively black names. *The Quarterly Journal of Economics, 119*, 767–805.

Gaddis, S. M. (2017a). How black are Lakisha and Jamal? Racial perceptions from names used in correspondence audit studies. *Sociological Science, 4*, 469–489.

Gaddis, S. M. (2017b). Racial/ethnic perceptions from Hispanic names: selecting names to test for discrimination. *Socius, 3*, 2378023117737193. https://doi.org/10.1177/2378023117737193.

Gaddis, S. M. (2018). An introduction to audit studies in the social sciences. In *Audit studies: behind the scenes with theory, method, and nuance* (pp. 3–44). Cham: Springer.

Goldberg, A., Mourinho, D., & Kulke, U. (1995). *Labour market discrimination against foreign workers in Germany*. International Labour Office, Employment Department.

Golder, L., Mousson, M., Tschöpe, S., Herzog, N., & Bohn, D. (2017). Hinweise auf erlebte, aber kaum registrierte Hasskriminalität - Pilotstudie Diskriminierungserfahrungen Muslime in der Schweiz. In G. Bern (Ed.). Bern.

Guryan, J., & Charles, K. K. (2013). Taste-based or statistical discrimination: the economics of discrimination returns to its roots. *The Economic Journal, 123*(572), F417–F432.

Heckman, J. J. (1998). Detecting discrimination. *The Journal of Economic Perspectives, 12*, 101–116.

Heckman, J. J., & Siegelman, P. (1993). The Urban Institute Audit Studies: their methods and findings. In M. Fix & R. Struyk (Eds.), *Clear and convincing evidence: measurements of discrimination in America* (pp. 187–258). Washington, DC: The Urban institute Press.

Helbling, M. (2011). Why Swiss-Germans dislike Germans. *European Societies, 13*(1), 5–27. https://doi.org/10.1080/14616696.2010.533784.

Helbling, M., & Kriesi, H. (2014). Why citizens prefer high- over low-skilled immigrants. Labor market competition, welfare state, and deservingness. *European Sociological Review, 30*(5), 595–614. https://doi.org/10.1093/esr/jcu061.

Huddleston, T., Bilgili, Ö., Joki, A.-L., & Vankova, Z. (2015). *Migrant Integration Policy Index 2015: Switzerland (Vol. 09.07.2015)*. Barcelona/Brussels: CIDOB and MPG.

Jackson, M., & Cox, D. R. (2013). The principles of experimental design and their application in sociology. *Annual Review of Sociology, 39*(1), 27–49. https://doi.org/10.1146/annurev-soc-071811-145443.

Keuschnigg, M., & Wolbring, T. (2016). The use of field experiments to study mechanisms of discrimination. *Analyse & Kritik, 38*, 179.

Krings, F., & Olivares, J. (2007). At the doorstep to employment: discrimination against immigrants as a function of applicant ethnicity, job type, and raters' prejudice. *International Journal of Psychology, 42*(6), 406–417. https://doi.org/10.1080/00207590701251721.

Krings, F., Johnston, C., Binggeli, S., & Maggiori, C. (2014). Selective incivility: immigrant groups experience subtle workplace discrimination at different rates. *Cultural Diversity and Ethnic Minority Psychology, 20*(4), 491–498. https://doi.org/10.1037/a0035436.

Laganà, F., Chevillard, J., & Gauthier, J.-A. (2014). Socio-economic background and early post-compulsory education pathways: a comparison between natives and second-generation immigrants in Switzerland. *European Sociological Review, 30*(1), 18–34. https://doi.org/10.1093/esr/jct019.

Lahey, J., & Beasley, R. (2018). Technical aspects of correspondence studies. In M. Gaddis (Ed.), *Audit studies: Behind the scenes with theory, method, and nuance* (pp. 81–101). Cham: Springer.

Lalive, R., & Lehmann, T. (2017). The labor market in Switzerland, 2000–2016. *IZA World of Labor* (pp. 402–402).

Liebig, T., Kohls, S., & Krause, K. (2012). The labour market integration of immigrants and their children in Switzerland. In L. a. S. A. Directorate for Employment (Ed.), *OECD Social, Employment and Migration Working Papers* (Vol. 128). Paris: OECD.

List, J. A. (2009). An introduction to field experiments in economics. *Journal of Economic Behavior & Organization, 70*(3), 439–442. https://doi.org/10.1016/j.jebo.2008.10.013.

Longchamp, C., Imfeld, M., Tschöpe, S., Müller, M., Rochat, P., & Schwab, J. (2014). *Verbreitung und Entwicklung von Rassismus, Fremdenfreindlichkeit, Muslimfeindlichkeit und Judenfeindlichkeit - Schlussbericht zur Studie "Zusammenleben in der Schweiz 2010–2014"*. Bern: Gfs Bern.

Matser, C., van Oudenhoven, J. P., Askevis-Leherpeux, F., Florack, A., Hannover, B., & Rossier, J. (2010). Impact of relative size and language on the attitudes between nations and linguistic groups: the case of Switzerland. *Applied Psychology, 59*(1), 143–158.

McGinnity, F., & Lunn, P. D. (2011). Measuring discrimination facing ethnic minority job applicants: an Irish experiment. *Work, Employment and Society, 25*(4), 693–708.

Midtbøen, A. H., & Rogstad, J. (2012). Discrimination. Methodological controversies and sociological perspectives on future research. *Nordic Journal of Migration Research, 2*(3), 203–212.

Mühlemann, D. (2017). *Rassismusvorfälle aus der Beratungspraxis - Januar bis Dezember 2016*. Bern: Verein humanrights.ch, Eidgenössische Kommission gegen Rassismus (EKR).

Neumark, D. (2012). Detecting discrimination in audit and correspondence studies. *Journal of Human Resources, 47*(4), 1128–1157.

OECD. (2012). *Jobs for immigrants (Vol. 3): Labour market integration in Austria, Norway and Switzerland*. Paris: OECD Publishing.

OECD (2018a). *Foreign-born unemployment (indicator)*. https://data.oecd.org/migration/foreign-born-unemployment.htm. Accessed 22.04.2018 2018.

OECD (2018b). *Native-born unemployment (indicator)*. https://data.oecd.org/migration/native-born-unemployment.htm - indicator-chart. Accessed 22.04.2018 2018.

OECD (2018c). *Unemployment rate (indicator)*. https://data.oecd.org/unemp/unemployment-rate.htm. Accessed 22.04.2018 2018.

Pecoraro, M., & Ruedin, D. (2016). A foreigner who does not steal my job: the role of unemployment risk and values in attitudes toward equal opportunities. *International Migration Review, 50*(3), 628–666.

Pecoraro, M., & Ruedin, D. (2017). The share of foreigners in one's occupation and attitudes towards foreigners. In I. o. E. Research (Ed.), *IRENE Working Paper* (vol. 17–06). Neuchâtel.

Phelps, E. S. (1972). The statistical theory of racism and sexism. *The American Economic Review, 62*(4), 659–661.

Phlippen, S., & van Eldert , B. (2017). Nederlander heeft liefst een Duitser op de werkvloer. Algemeen Dagblad. https://www.ad.nl/economie/nederlander-heeft-liefst-een-duitser-op-de-werkvloer~a7e6d172/. Accessed 15 Sept 2017.

Rapp, C. (2015). More diversity, less tolerance? The effect of type of cultural diversity on the erosion of tolerance in Swiss municipalities. *Ethnic and Racial Studies, 38*(10), 1779–1797. https://doi.org/10.1080/01419870.2015.1015582.

Raymann, U. (2003). *Meinungen und Einstellungen gegenüber AusländerInnen in der Schweiz*. Zürich: GfS-Forschungsinstitut.

Riach, P. A., & Rich, J. (2002). Field experiments of discrimination in the market place. *The Economic Journal, 112*(483), F480–F518. https://doi.org/10.2307/798458.

Riach, P. A., & Rich, J. (2004). Deceptive field experiments of discrimination: are they ethical? *Kyklos, 57*(3), 457–470.

Rich, J. (2014). *What do field experiments of discrimination in markets tell us? A meta analysis of studies conducted since 2000. Discussion Paper Series*. Bonn: IZA.

Ruedin, D., D'Amato, G., Wichmann, N., & Pecoraro, M. (2013). *Migrationsängste der Schweizer Bevölkerung*. Neuchâtel: Swiss Forum for Migration and Population Studies (SFM).

Seibert, H., Hupka-Brunner, S., & Imdorf, C. (2009). Wie Ausbildungssysteme Chancen verteilen - Berufsbildungschancen und ethnische Herkunft in Deutschland und der Schweiz unter Berücksichtigung des regionalen Verhältnisses von betrieblichen und schulischen Ausbildungen. *Kölner Zeitschrift für Soziologie und Sozialpsychologie, 61*(4), 595–620.

Thijssen, L. (2016). Taste-based versus statistical discrimination: placing the debate into context. *GEMM Project*.

Vidal-Coso, E., & Ortega-Rivera, E. (2017). Skill composition and occupational incorporation of early and recent immigrants in Switzerland: the case of Italians and Spaniards. *International Migration, 55*(S1), 86–111.

Weichselbaumer, D. (2016a). Discrimination against female migrants wearing headscarves. *IZA Discussion Paper Series* (no. 10217).

Weichselbaumer, D. (2016b). Discrimination against migrant job applicants in Austria: an experimental study. *German Economic Review, 18*(2), 237–265. https://doi.org/10.1111/geer.12104.

Zschirnt, E. (2016). Measuring hiring discrimination – a history of field experiments in discrimination research. *NCCR Working Papers, 7*, 1–32.

Zschirnt, E. (2019a). Research ethics in correspondence testing: an update. *Research Ethics, Online first*. https://doi.org/10.1177/1747016118820497.

Zschirnt, E. (2019b). Equal outcomes, but different treatment – subtle discrimination in email responses from a correspondence test in Switzerland. *Swiss Journal of Sociology*, (in press).

Zschirnt, E., & Ruedin, D. (2016). Ethnic discrimination in hiring decisions: a meta-analysis of correspondence tests 1990–2015. *Journal of Ethnic and Migration Studies, 42*(7), 1115–1134. https://doi.org/10.1080/1369183X.2015.1133279.