The Labor Market Performance of Naturalized Immigrants in Switzerland—New Findings from the Swiss Labor Force Survey

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Abstract The objective of this paper is to obtain new empirical insights into the integration of naturalized immigrants in Switzerland. In particular, we focus on a comparison of first-generation immigrants with and without Swiss citizenship. The analysis on the basis of the 2008 wave of the Swiss Labor Force Survey is motivated by findings in the literature highlighting the role of the acquisition of citizenship in the integration process. In line with those findings, our results demonstrate that naturalized first-generation immigrants tend to have higher wages than non-naturalized immigrants. An applied Blinder–Oaxaca decomposition technique demonstrates that this result is strongly connected to the higher human capital endowments of immigrants who have attained Swiss citizenship. The findings are in line with other case studies stating that immigrants positively select into citizenship.

Keywords Citizenship · Naturalization · Socioeconomic integration

JEL Codes F22 · J61 · J68

Introduction

Switzerland has one of the largest shares of immigrants in Europe. In 2008, one-fifth of the Swiss population held a citizenship different from that of the Swiss

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Federation. In contrast, in 2007, the average among the 15 old member states of the European Union was 7.4% and only Luxemburg had a higher immigration proportion (42.5%) than Switzerland (Eurostat 2010). However, the annual numbers of naturalizations in Switzerland are surprisingly low. This is reflected in the rate of citizenship take-up, which relates the number of foreign-born individuals with citizenship of the country of residence to all foreign-born individuals within a country. A comparison across OECD countries shows that Switzerland has one of the lowest shares of naturalized immigrants (Liebig et al. 2010). While in classical immigration countries like Canada about 75% of the foreign-born individuals have acquired the citizenship of the host country, the corresponding share in Switzerland is only about 30%. Nevertheless, empirical evidence about the implications of naturalization in Switzerland is very scarce. For this reason, the Swiss case is of particular interest in analyzing the relationship between integration and naturalization. In particular, in how far naturalized and non-naturalized immigrants differ in respect to their economic integration.

The aim of this paper is to present new empirical results on the labor market performance of first-generation immigrants in Switzerland with and without citizenship. We use the current version of the Swiss Labor Force Survey (SLFS), which offers detailed information about the immigration history of foreign-born individuals. We focus on first-generation immigrants in Switzerland, who lived in Switzerland long enough to fulfill the requirements for naturalization. Initially, we provide evidence about socio-demographic differences between naturalized and alien employees. In particular, foreign-born employees with Swiss citizenship tend to have a higher human capital endowment than employees holding a foreign nationality. This is in line with case studies for other countries (e.g., DeVoretz and Pivnenko 2005; Bevelander and Veenman 2008), which indicate that educational attainment has a positive impact on the naturalization probability. Furthermore, we find a significant wage gap between the two groups: on average, naturalized employees earn about 10% more than employees without Swiss citizenship do. Findings from a Blinder–Oaxaca decomposition highlight that the wage gap is mainly driven by the fact that naturalized immigrants are better educated and work in superior jobs. The latter might be already an outcome of naturalization, which likely increases the job opportunities of immigrants. This illustrates that the wage decomposition does not allow any statements about causality between naturalization and labor market performance. Finally, our results indicate substantial differences between immigrants from OECD and non-OECD countries.

The outline of this paper is as follows: the section "Literature Review" gives a brief review of related studies. The institutional setting of citizenship acquisition in Switzerland is described in the section "Citizenship Acquisition in Switzerland". The data and descriptive statistics are presented in the section "Data and Descriptive Statistics". In the section "Empirical Results", the methodology and the empirical results are presented. The paper ends with the section "Conclusions".

Literature Review

The analysis of naturalization processes has a long tradition in the social sciences. On the one hand, naturalization is commonly interpreted as an important signal of

integration in the host society. On the other hand, naturalization enables further integration. For example, recent evidence indicates that naturalization positively effects political participation, measured as voting participation in elections (Bevelander and Pendakur 2011). However, in economics, the analysis of immigration and naturalization has played a minor role for a long time. A noteworthy exception is the seminal study of Chiswick (1978) who compared wages of foreign-born men with and without US citizenship, using cross-sectional data from the 1970 US Census. The author concludes that naturalized foreign-born men have higher average earnings than non-naturalized foreign-born men. As soon as Chiswick (1978) controls for the length of stay, the effect of naturalization on earnings becomes insignificant.

In several other studies, Bratsberg et al. (2002), Hayfron (2008), Scott (2008), and Steinhardt (2008) make use of longitudinal data which allows to apply individual fixed effects models that control for self selection regarding observable and non-observable characteristics. This enables the authors to identify a causal relationship between naturalization and wages. The studies find that naturalization has a positive impact on wages. In contrast to Chiswick (1978), the wage impact of naturalization remains significant if the length of stay is controlled for. The positive wage effect can be explained by various factors. For instance, the naturalization decision might lead to human capital investments that, in return, positively affect productivity. In the short run, this investment decreases wages, but in the long run the accumulation of human capital will result in higher wage levels. More importantly, results from Bratsberg et al. (2002) highlight that the acquisition of citizenship reduces institutional labor market barriers, thereby increasing the job opportunities of immigrants. In particular, they demonstrate that naturalization increases the likelihood of public sector employment. Recent results for Sweden from Bevelander and Pendakur (2009) point in much the same direction. They conclude that naturalization helps to improve the employment situation of immigrants, in particular for those from lower income countries. Overall, empirical evidence indicates that naturalization increases the labor market opportunities of immigrants and helps to facilitate the process of economic integration.

The determinants of naturalization are analyzed by Yang (1994), Bevelander and Veenman (2008), Mazzolari (2009), Akbari (2008) and Bloemraad (2006), amongst others. Overall, naturalization can be seen as the outcome of an individual optimization process. Immigrants decide on naturalization by weighing the costs and benefits of citizenship acquisition. Yang (1994) shows that political, cultural, and economic conditions in the country of origin influence the probability of being naturalized. The same holds true for the concentration of immigrants of the same origin in the country of destination. Furthermore, Yang (1994) highlights the importance of demographic characteristics in decisions on naturalization. Bevelander and Veenman (2008) come to the conclusion that immigrants who completed education in the Netherlands are more likely to become Dutch citizens. They further highlight that individuals who migrated for political reasons are more willing to become Dutch citizen than classical labor migrants are. The evidence regarding the influence of dual citizenship is scarce and mixed. Mazzolari (2009) makes use of a quasi-experimental research design, in order to determine how the introduction of dual citizenship rights in five Latin-American countries has affected the naturalization rates and labor market outcomes of US immigrants. Her results show that

immigrants from countries that granted dual citizenship recently are more likely to naturalize. In contrast, Akbari (2008) finds that the tolerance of dual citizenship in the country of origin reduces the likelihood of naturalization in the US. Finally, Bloemraad (2006) highlights the important role of public integration policy by comparing differences in the naturalization rates between the US and Canada. She concludes that greater state support for settlement and an official government policy of multiculturalism in Canada translates into significantly higher levels of naturalized immigrants in Canada than in the United States.

Empirical evidence on the economic implications of naturalization in Switzerland is scarce. De Coulon (1998, 2001) provides initial evidence on wage differentials between immigrants and natives using the 1995 wave of the SLFS. However, he does not address the issue of naturalization nor does he distinguishes between immigrants with and without citizenship. De Coulon (1998) finds large wage gaps between immigrants from traditional migration countries and Swiss natives. He concludes that the educational level is the most important factor explaining wage differentials. Also, based on the 1995 SLFS wave, Golder (2000) analyzes possible explanations for wage differentials between natives and immigrants. The author concludes that wage differentials are caused by discrimination rather than by differences in education. Fibbi et al. (2007) investigate the education and employment performance of young individuals with different citizenship statuses in Switzerland. Furthermore, the authors differentiate between young individuals with and without a migration background. Using Swiss census data, Fibbi et al. (2007) conclude that naturalized youth—both Swiss-born and foreign-born—attain better levels of education than non-naturalized immigrants. Second-generation immigrants even outperform Swiss natives. Furthermore, in terms of employment, naturalized individuals of Turkish and Italian origin face a lower risk of unemployment than their non-naturalized counterparts do. In a recent study, commissioned by the federal office for migration, Steinhardt et al. (2010) compare the labor market integration of male naturalized, non-naturalized, and Swiss individuals. The study makes use of the 2008 wave of the SLFS and demonstrates that naturalized individuals have, on average, better labor market outcomes than immigrants without Swiss citizenship. However, the study does not discriminate between foreign-born and second-generation immigrants. Furthermore, it highlights the special role of war refugees from the former Yugoslavia. The study concludes that future research is needed which distinguishes between different groups of immigrants.

Citizenship Acquisition in Switzerland

The acquisition of citizenship in Switzerland is governed by the Swiss Federal Law on citizenship (Bürgerrechtsgesetz), which is based on the principle of *Jus Sanguinis*. According to this principle, every child of a Swiss citizen acquires Swiss nationality at birth.[1] Naturalization is possible via three modes: ordinary naturali-

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[1] Until the end of the 1970s, the Swiss law discriminated against women and their children living in bi-national marriages. A reform in 1978 ended the unequal treatment and created a new standard, according to which children of women married to foreigners automatically receive Swiss citizenship.

zation, facilitated naturalization, and reacquisition of citizenship. The latter refers to cases in which a person has lost their Swiss citizenship due to renouncement or marriage. Naturalization through reacquisition is traditionally very uncommon and therefore accounts only for a marginal share of overall naturalizations in Switzerland since 1980 (see Fig. 1).

Regular naturalization requires a minimum residence of 12 years, whereby residence between the ages of 10 and 20 is counted doubly. Furthermore, applicants have to demonstrate that they are integrated into Swiss society. This includes appropriate languages skills in one of the official languages (French, German, or Italian), their willingness to be economically active, having no criminal record, not being a danger to Swiss interior or exterior safety, and being familiar with Swiss customs and habits (Steinhardt et al. 2010). However, the fulfillment of these requirements does not guarantee a positive decision in response to the naturalization application. This is due to the fact that the ordinary naturalization procedure in Switzerland is divided into three different regional stages: federal state, canton, and municipality (Achermann et al. 2010). The federal level only sets the general requirements and initiates the application process, while the cantons and municipalities make the final decision with remarkable judicial discretion. Due to this prominent characteristic of Swiss citizenship law, naturalization requirements are likely to vary substantially across regions (Helbling 2008). For example, a number of communities require citizenship applicants to prove that they are able to financially support themselves and their families. Depending on the interpretation of local policy makers, this requirement can de facto exclude unemployed individuals from naturalization.

Facilitated naturalizations are particularly designated for the spouses and children of Swiss citizens. This process requires that the applicant is integrated in Swiss
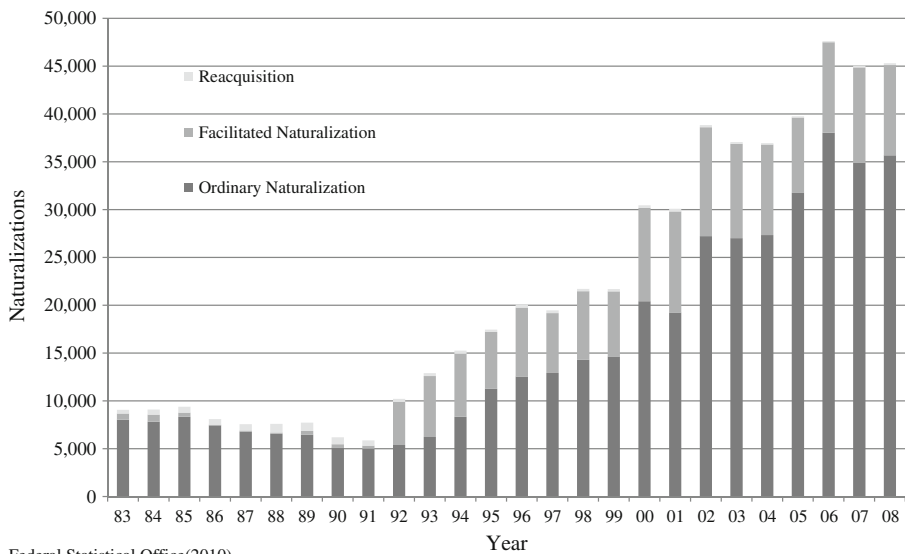
Federal Statistical Office(2010)

Fig. 1 Naturalizations in Switzerland 1983–2008

society, respects Swiss law, and does not pose any security risk to Swiss society. In addition, there is a general residence requirement of 5 years.

Figure 1 highlights that the huge majority of naturalizations in Switzerland are so-called ordinary naturalizations. The second most important mode of citizenship acquisition for foreigners is facilitated naturalizations. During the period between 1983 and 1991, Switzerland experienced a decline in the overall number of naturalizations. In 1992, citizenship law was reformed to include equal treatment of men and women and the acceptance of dual citizenship. Furthermore, naturalization statistics began to include figures on facilitated citizenship acquisition via marriage. As a result, the number of naturalizations started increasing significantly. The positive trend in naturalizations has continued in the years since, and has proceeded with temporary interruptions up to the present (Steinhardt et al. 2010). Overall, between 1992 and 2008 almost 500,000 foreigners have acquired Swiss citizenship via naturalization.

The costs and benefits of naturalization in Switzerland are in general similar to the ones in other western European countries. One major benefit of naturalization is that it provides immigrants with the opportunity to actively participate in the political system of the host country. With the access to citizenship, immigrants in Switzerland can vote in national, cantonal, and municipal elections and run for elected offices. Furthermore, naturalization is connected to permanent legal status, which abolishes the risk of expulsion. Latter is a serious issue in Switzerland since 2010, when the expulsion initiative of the populist Swiss People's Party (SVP) passed the referendum with a majority.[2] For immigrants from outside the European Union the naturalization is also connected to the omission of mobility restrictions within Europe. This might also increase the job opportunities in sectors that are characterized by a high frequency of travel. Furthermore, a number of jobs in the public sector (e.g., police officers, state attorneys, and national defense) in general require the possession of Swiss citizenship. However, these requirements are likely to vary across cantons. For example, there are cantons like Basel, which employ a number of police officers with foreign nationalities. [3]

One major obligation connected to citizenship acquisition for men is to perform military or civilian service. However, if the applicant already has done national service in his country of origin he will be exempted from this obligation in Switzerland. The fees for naturalization differ strongly across regions. Until 2006, the fee in some municipalities could have reached CHF 10,000. The reform of 2006 ended this treatment, and restricted the fees to the real costs associated with the administrative procedure (Achermann et al. 2010; Helbling 2008). In 1992, Switzerland has relieved an important obstacle for naturalization and allowed immigrants who apply for Swiss citizenship to keep their previous citizenship as long as their country of origin tolerates dual citizenship (Achermann et al. 2010).

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[2] The expulsion initiative of the SVP demands that every criminal foreigner in Switzerland is deported automatically. This includes crimes of violence like murder, rape, sexual offenses, robbery as well as drug dealing and the abuse of social benefits.

[3] We thank Urs Fischli and Markus Peek from the Swiss Federal Office for Migration for helping to clarify the actual legal situation in Switzerland.

Data and Descriptive Statistics

The present study on the naturalization of first-generation immigrants in Switzerland is based on the SLFS of 2008. The SLFS is a representative household survey taken annually each spring since 1991. Since 2003, the data set is also representative with respect to immigrants. The objective of the 20-min phone survey is to obtain detailed information about the pattern of employment in Switzerland. In 2008, the SLFS contains data on 8,848 male employees (naturalized, non-naturalized and Swiss native), whereas every individual in the SLFS 2008 represents approximately 130 individuals in Switzerland's permanent resident population, aged 15 years and above. If we extrapolate all survey data, the SLFS 2008 sample accounts for a total of 1,327,399 male employees (Federal Statistical Office 2004). Moreover, the SLFS 2008 has a special module containing several migration issues, for example migrants' motivation to immigrate to Switzerland or migrant's education level.

We are interested in the labor market integration of first-generation immigrants with and without Swiss citizenship. Initially, we chose to focus on males who are fully employed. The former restriction is made to avoid statistical gaps in women's employment, caused by maternity leave for example. In doing so, we are following an approach used by many other studies (e.g., Chiswick 1978; De Coulon 2001). The latter restriction concerning employed individuals is important because it brings about a precise definition and allows for the results to be comparable. We further focus on foreign-born individuals who were born abroad without Swiss citizenship and who entered Switzerland before 1991. Two aspects motivate this restriction on the time of immigration: first, Switzerland experienced huge inflows of war refugees from Yugoslavia after the outbreak of the Balkan conflict in early 1991. Because these refugees play a special role in Swiss society (Steinhardt et al. 2010), we decided to exclude this group from our sample. Second, our sample restriction guarantees that all immigrants in our final sample fulfill the minimum residence requirement of 12 years, which is one major precondition for the acquisition of Swiss citizenship. Furthermore, we do not impose any restriction on the time of naturalization. In other words, we also include immigrants that were naturalized after less than 12 years (see the section "Citizenship Acquisition in Switzerland"), if they did not enter Switzerland later than 1990. After data cleaning, our final data set consists of 259 foreign-born naturalized individuals (16%), and 1,357 foreign-born non-naturalized individuals (84%). In total, we have 1,616 observations. According to the weighting scheme of the SLFS, these observations represent about 145,917 individuals.

Our dependent variable is the log of the gross annual wages of full-time employees. For the purpose of measuring the wage differential between the two groups, we use several explanatory variables including education, experience and civil status. The education variables are based on the four categories of the ISCED classification system (ISCED 1/2, ISCED 3/4, ISCED 5, ISCED 6). One caveat of the SLFS data is that it does not contain any variable for work experience. We therefore use a solution common in the literature and approximate work experience by subtracting the years of schooling and the years before schooling from each individual's age (Chiswick 1978; De Coulon 1998, 2001).[4]

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[4] Experience=Age−Years of Schooling−6.

Furthermore, we control for the occupational activities as defined by the International Standard Classification of Occupation (ISCO; Academic, Engineer, Service, Handcraft, Helper). Further covariates are enterprise size (large, medium, or small) and a region specific variable controlling for NUTS-2 regions (the Lake Geneva region, Espace Mittelland, Northwestern Switzerland, Zurich, Eastern Switzerland, Central Switzerland, and Ticino).[5]

One major benefit of the 2008 SLFS wave is that it contains a number of migration specific variables which might be important for the explanation of wage differences between non-naturalized and naturalized immigrants. Initially, we introduce five dummies for immigrant origin (European-Union-15 (EU15), New EU-Member States (NMS), the former Yugoslavia, Turkey, and Rest of the World). This takes into account the transferability of human capital and its dependence on cultural distance between source and host country. Moreover, we distinguish between OECD and non-OECD countries. In addition, we control for the number of years since migration into the host country, since we know from various studies that the length of stay is an important determinant of economic assimilation (Chiswick 1978). We also add controls for the reason behind immigration using a dummy variable (1=labor migration, 0=other reason). The data provides additional information about the language skills of the employees, by describing in which language the survey was conducted. We make use of this feature via a dummy variable indicating whether the interview was held in another language than German, Italian or French.[6] Finally, we add a dummy variable indicating whether the migrant's education took place abroad or in Switzerland (1= foreign education).

Table 1 provides selected statistics on individual characteristics for naturalized and non-naturalized foreign-born immigrants. The figures clearly indicate that naturalized individuals posses a higher qualification profile than employees who retain their foreign nationality. On average, 35% of naturalized employees had a higher level of qualification (ISCED 5, ISCED 6), while the corresponding share within the group of non-naturalized immigrants is about 18%. The table also highlights that naturalized immigrants have on average stayed in the country longer than non-naturalized immigrants. Furthermore, the figures highlight country of origin differences between both groups. The clear majority of non-naturalized immigrants originated from an EU15 country (64%), while only 42% of the naturalized immigrants had EU member state citizenship. The second largest group among the non-naturalized are the 20% of immigrants from the former Yugoslavia.[7] Among the naturalized immigrants, ex-Yugoslavians account only for 15% of the total. Overall, among naturalized immigrants, there is a disproportionately high

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[5] The rationale for including controls for enterprise size and region is that these might contribute to the explanation of the wage gap between naturalized and non-naturalized immigrants. We know for example that naturalization requirements differ across regions (please see the section "Citizenship Acquisition in Switzerland"). Due to this fact, naturalized immigrants might be concentrated in particular regions. If these regions have higher/lower wage levels than regions with few naturalized immigrants part of the wage differences between naturalized and non-naturalized immigrants could be explained by regional location. The same holds true for enterprise size if naturalized immigrants are more likely to work in large companies.

[6] All three languages are official languages in Switzerland.

[7] We excluded war refugees from our sample.

Table 1 Variable means and standard deviations

Foreign-born immigrants	Naturalized	Min	Max	Non-naturalized	Min	Max
Experience	26.29 (10.73)	1	59	28.43 (10.93)	0.00	57.00
Education (share in %)						
ISCED 1/2	20.82	0	1	32.72	0	1
ISCED 3/4	43.88	0	1	49.23	0	1
ISCED 5	30.62	0	1	16.58	0	1
ISCED 6	4.68	0	1	1.47	0	1
Married (share in %)	79.57	0	1	77.24	0	1
Interview in one of the Swiss languages (share in %)	89.97	0	1	84.52	0	1
Foreign education (share in %)	51.51	0	1	46.27	0	1
Years since migration	29.88 (9.82)	17.61	62.39	27.12 (8.65)	17.50	55.89
Country of origin (share in %)						
EU 15	41.87	0	1	63.75	0	1
NMS	7.63	0	1	0.69	0	1
Former Yugoslavia	15.33	0	1	20.06	0	1
Turkey	12.00	0	1	5.28	0	1
Rest of the world	23.18	0	1	10.23	0	1
Here of						
OECD	54.77	0	1	69.71	0	1
Non-OECD	45.23	0	1	30.29	0	1
Occupation (ISCO, share in %)						
Helper	19.46	0	1	22.49	0	1
Handcraft	20.64	0	1	33.32	0	1

Table 1 (continued)

Foreign-born immigrants	Naturalized			Non-naturalized		
		Min	Max		Min	Max
Service	14.46	0	1	16.30	0	1
Engineer	19.03	0	1	11.57	0	1
Academic	17.32	0	1	9.37	0	1
Management	9.10	0	1	6.95	0	1
Annual wages (Swiss Franc)	92,496 (54,109)	10,000	619,689	82,200 (60,364)	42	1,320,000
Observations	42,673			103,244		
Unweighted Observations	259			1,357		

We only consider immigrants who immigrated before 1991; Standard deviation in parentheses

Swiss Labor Force Survey (SLFS) 2008

share of individuals from non-OECD countries (e.g., Sri Lanka, India, and Lebanon).

The lower part of Table 1 exhibits that non-naturalized immigrants are more heavily concentrated in blue-collar occupations, i.e., as helper or handcraft worker. In contrast, naturalized employees prove to have a higher share in academic occupations. Finally, the table shows that, on average, naturalized immigrants earn higher wages than foreign employees. On average, naturalized individuals earn 10,296 Swiss Francs more per year than non-naturalized immigrants, which corresponds to an earnings ratio of 88%.

Empirical Results

The descriptive statistics highlight substantial differences between immigrants with and without Swiss citizenship in regards to human capital, migration background, and occupation. In the following, we will analyze to which extent these differences explain the wage gap between naturalized and foreign employees. We do this by applying a Blinder–Oaxaca decomposition, which is a well-known tool used to decompose a wage differential between two groups into differences in endowment and estimated coefficients (Oaxaca 1973; Blinder 1973). This method has already been used by DeVoretz and Pivnenko (2005), for example, to explain the wage differences between natives and naturalized immigrants in Canada. We follow Neumark (1988) and define the wage differential between both groups as[8]:

$$\Delta \ln(\overline{W}) = \ln(\overline{W}_N) - \ln(\overline{W}_F) = \underbrace{(\overline{X}_N - \overline{X}_F)\beta_P}_{E} + \underbrace{\overline{X}_N(\beta_N - \beta_P) + \overline{X}_F(\beta_P - \beta_F)}_{U}$$

$$(1)$$

Whereas $\overline{W}_N$ and $\overline{W}_F$ describe the average log earnings of naturalized and non-naturalized immigrants, respectively. $\overline{X}_N$ and $\overline{X}_F$ describe the mean of the explanatory variables, while β_N and β_F are the coefficients from the regression on the subsample of naturalized and non-naturalized immigrants, respectively. Finally, β_P is the coefficient from a pooled regression over both groups in which the group variable is included as an additional covariate (Jann 2008; Elder et al. 2010).[9] The first component of the decomposition, E, represents the differences due to characteristics, whereas the two final terms, U, capture the effect of different returns to these characteristics and unobserved characteristics like ability. For all categorical regressors (e.g., dummies for educational categories) the decomposition is based on normalized effects. This solves the problem that the detailed composition results might be affected by the choice of the reference category. The standard errors for the wage decomposition are computed on the basis of the

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[8] We decided in favor of a decomposition in which the nondiscriminatory coefficient is derived from a pooled regression, because discrimination is characterized by undervaluation of one group, and overvaluation of the other (Cotton 1988). For a comprehensive discussion of different forms of Oaxaca–Blinder decompositions see Elder et al. (2010).

[9] The corresponding regression results are in the appendix.

delta method (Jann 2008). Furthermore, we weight our estimates using the cross-sectional weights provided by the SLFS. However, we want to emphasize that the Blinder–Oaxaca decomposition used does not allow any statements about causality between naturalization and labor market performance. This would require longitudinal data sets that allow for a comparison of labor market outcomes before and after citizenship acquisition, and to control for differences in unmeasured productivity characteristics. Furthermore, we are neither considering selective return migration nor do we adjust for any potential bias associated with the differences in labor market participation between both groups. First is due to data restrictions, while latter is motivated by our small sample size, which would make any coefficient from a selection correction model not very reliable.[10]

The first column in Table 2 shows that the average naturalized wage exceeds the wage of non-naturalized immigrants by about 10%.[11] The results of the decomposition show that 77% of the wage gap between naturalized and foreign employees is explained by differences in individual characteristics (see Table 2). It remains an unexplained part of 23%, which is due to differences in the reward to human capital, discrimination, or unobservable differences. The substantial size of the unexplained share indicates that naturalized immigrants are not only positively selected regarding human capital, but as well regarding unobservable characteristics. The fact that individuals with pronounced motivation or ambition have a preference for naturalization has already been addressed by various studies about the impact of naturalization (e.g., Bratsberg et al. 2002).

Table 3 provides the detailed results of the Blinder–Oaxaca decomposition. It becomes obvious, that a large part of the wage gap is explained by the superior educational attainment of naturalized immigrants. About half of the wage gap is due to differences in the educational structure between both groups. In particular, the large share of naturalized immigrants with tertiary education is driving the differences. In contrast, dissimilarities in labor market experience do not account for the wage gap. The same holds true for the marital status.

One interesting result here is that differences in language proficiency between both groups contribute to explaining the wage gap. Even with our rough measure, which only captures large differences in language skills, we find significant differences. However, it only explains a very small part of the wage differential. In contrast to this, the reason for immigration and place of education seem not to matter for the wage gap. The latter seems to be a particularly surprising result at first sight. However, Table 1 shows that the share of individuals who acquired their education abroad is almost equal within both groups. Furthermore, Table 3 highlights that a large part of the wage gap between immigrants with and without Swiss citizenship is due to differences in the job distribution. Naturalized immigrants are more likely to work in academic occupations, while immigrants without Swiss nationality are more present in handcraft and basic service jobs. However, we have to consider that these differences might be an outcome of naturalization itself, since we know that naturalization removes existing labor market barriers and increases

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[10] Furthermore, the shares of unemployed individuals among naturalized and non-naturalized immigrants are comparable and relatively low (5.5% and 5.3%).

[11] Exp $(0.0958) - 1$.

Table 2 Blinder–Oaxaca decomposition: Overall

	Group 1: Foreign-born naturalized immigrants = 1	
	Group 2: Foreign-born immigrants = 2	
	Overall	
Group_1	11.3143***	(0.0525)
Group_2	11.2185***	(0.0103)
Difference	0.0958*	(0.0535)
Explained	0.0738***	(0.0206)
Unexplained	0.0220	(0.0482)
N overall	1,616	
N group1	259	
N group2	1,357	

We only consider immigrants who immigrated before 1991; robust standard errors in parentheses

Swiss Labor Force Survey (SLFS) 2008

***$p=0.01$; **$p=0.05$; *$p=0.1$

Table 3 Detailed Blinder–Oaxaca decomposition: Overall

Group 1: Foreign-born naturalized immigrants = 1

Group 2: Foreign-born immigrants = 2

	Explained		Unexplained	
experience	0.0068	(0.0076)	0.1093	(0.3527)
education	0.0381***	(0.0120)	0.0830	(0.0758)
zivil2	0.0004	(0.0008)	−0.0634	(0.1070)
language	0.0036*	(0.0021)	−0.0820	(0.1505)
motiv	−0.0036	(0.0045)	0.0179	(0.0361)
BILDA	0.0001	(0.0014)	0.0196	(0.0711)
YSM	0.0077	(0.0064)	0.4697	(0.6277)
country	−0.0178**	(0.0085)	−0.0363	(0.0335)
occupation	0.0397***	(0.0113)	−0.0114	(0.0177)
plant_size	0.0014	(0.0019)	0.0065	(0.0141)
region	−0.0026	(0.0042)	0.0114	(0.0405)
_cons			−0.5024	(0.6772)
N overall	1,616			
N group1	259			
N group2	1,357			

experience exp squareexp; *education* ISCED 1/2 ISCED 3/4 ISCED 5 ISCED 6; *YSM* YSM YSM2; *country* Rest of the world, EU15, NMS, Yugoslavia, Turkey; *occupation* Management, Academic, Engineer, Service, Handcraft, Helper; *plant_size* Small sized firm, Medium sized firm, Large sized firm; *region* Geneva, Espace, NW, Zurich, Eastern, Central, Ticino

We only consider immigrants who immigrated before 1991; Robust standard errors in parentheses

Swiss Labor Force Survey (SLFS) 2008

***$p=0.01$; **$p=0.05$; *$p=0.1$

occupational mobility (Bratsberg et al. 2002; Steinhardt 2008). Differences in the enterprise size and regional concentration do not contribute to the explanation of the wage gap. The detailed decomposition of the unexplained part does not provide any significant results.

Finally, the results indicate that immigrant origin matters even when we control for human capital and migration specific characteristics. However, the sign of the nationality component is negative. The origin structure among naturalized immigrants is therefore associated with lower earnings. This might be due to the fact that a large share of naturalized employees are from non-OECD countries like Sri Lanka, which have large cultural differences when compared with Swiss culture and society. Furthermore, the benefit of naturalization is likely to vary across origin countries. For example, the relief of mobility restrictions through naturalization matters in particular for immigrants from outside the OECD (see the section "Citizenship Acquisition in Switzerland"). We therefore decided to decompose the wage differential separately for OECD and non-OECD immigrants, despite of the small size of our sample. The corresponding results in Table 4 show large disparities between both groups. On the one hand, the decomposition indicates that no significant wage differences exist between naturalized and non-naturalized immigrants from OECD countries. On the other hand, the results show a substantial and significant wage differential among immigrants from non-OECD countries. In the latter group, naturalized immigrants earn on average almost 16% higher wages than immigrants without Swiss citizenship. These differences between OECD and non-OECD immigrants are in line with findings of DeVoretz (2008) and Akbari (2008) whose studies yield similar results for Canada and the US. The detailed decomposition in Table 5

Table 4 Blinder–Oaxaca decomposition: OECD and Non-OECD

Group 1: Foreign-born naturalized immigrants = 1				
Group 2: Foreign-born immigrants = 2				
	OECD		Non-OECD	
Group_1	11.3560***	(0.0715)	11.2638***	(0.0675)
Group_2	11.2622***	(0.0131)	11.1179***	(0.0153)
Difference	0.0938	(0.0727)	0.1459**	(0.0692)
Explained	0.0804***	(0.0267)	0.1326***	(0.0328)
Unexplained	0.0134	(0.0644)	0.0133	(0.0644)
N overall	1,189		427	
N group1	161		98	
N group2	1,028		329	

We only consider immigrants who immigrated before 1991; Robust standard errors in parentheses

Swiss Labor Force Survey (SLFS) 2008

***p=0.01; **p=0.05; *p=0.1

Table 5 Detailed Blinder–Oaxaca decomposition: OECD and non-OECD

Group 1: Foreign-born naturalized immigrants = 1

Group 2: Foreign-born immigrants = 2

	OECD				Non-OECD			
	Explained		Unexplained		Explained		Unexplained	
experience	0.0158	(0.0105)	−0.0813	(0.4291)	−0.0031	(0.0090)	0.4634	(0.4391)
education	0.0371**	(0.0148)	0.0843	(0.1016)	0.0355*	(0.0201)	0.1133	(0.0808)
zivil2	0.0034	(0.0032)	−0.0400	(0.1530)	−0.0009	(0.0062)	−0.1343	(0.1396)
language	−0.0013	(0.0020)	−0.1455	(0.1929)	0.0113	(0.0088)	−0.1432	(0.1561)
motiv	−0.0047	(0.0054)	0.0309	(0.0477)	−0.0024	(0.0060)	−0.0008	(0.0479)
BILDA	−0.0007	(0.0025)	0.0736	(0.0987)	0.0011	(0.0027)	−0.0717	(0.1010)
YSM	−0.0010	(0.0080)	0.1828	(0.7501)	0.0642**	(0.0278)	1.3698	(1.1669)
occupation	0.0400***	(0.0149)	−0.0163	(0.0195)	0.0348*	(0.0180)	−0.0213	(0.0309)
plant_size	−0.0033	(0.0042)	0.0229	(0.0216)	0.0009	(0.0039)	−0.0289	(0.0221)
region	−0.0050	(0.0058)	0.0393	(0.0558)	−0.0088	(0.0094)	−0.0633	(0.0666)
_cons			−0.1373	(0.6702)			−1.4696	(1.1675)
N overall	1,189				427			
N group1	161				98			
N group2	1,028				329			

experience exp squareexp; *education* ISCED 1/2 ISCED 3/4 ISCED 5 ISCED 6; *YSM* YSM YSM2; *country* Rest of the world, EU15, NMS, Yugoslavia, Turkey; *occupation* Management, Academic, Engineer, Service, Handcraft, Helper; *plant_size* Small sized firm, Medium sized firm, Large sized firm; *region* Geneva, Espace, NW, Zurich, Eastern, Central, Ticino

We only consider immigrants who immigrated before 1991; Robust standard errors in parentheses

Swiss Labor Force Survey (SLFS) 2008

***$p=0.01$; **$p=0.05$; *$p=0.1$

highlights that the wage gap is mainly driven by differences in the length of stay. Naturalized employees from non-OECD countries have lived, on average, longer in Switzerland than their counterparts without citizenship, which positively affects their wages. Furthermore, as for the aggregate decomposition, education, and occupation contribute to the explanation of the wage differential. In other words, naturalized immigrants are better educated and work in better jobs than immigrants who have not acquired Swiss citizenship.

Conclusions

The present paper provides new insights into the naturalization of first-generation immigrants in Switzerland. The descriptive analysis supports the argument of Bevelander and DeVoretz (2008) that naturalization is characterized by a double

selection process. On the one hand, they argue that host countries set the rules and requirements determining which immigrants are eligible for naturalization. Our descriptive comparison shows that naturalized immigrants in Switzerland are characterized by a long duration of residence. This corresponds to the legal requirement that naturalization applicants must have lived in Switzerland at least 12 years. On the other hand, naturalized immigrants are a self-selected group, because the decision to naturalize eventually depends on individuals' free choice. The naturalization act is an outcome of an individual optimization process based upon the costs and benefits connected with citizenship acquisition. Our results highlight that naturalized and non-naturalized employees indeed also vary with respect to characteristics that are not included as legal requirements for naturalization. The findings emphasize in particular that foreign-born employees who acquire Swiss citizenship have a higher educational attainment than employees holding a foreign nationality. This is in line with studies for other countries, which find a strong positive self selection concerning human capital (e.g., DeVoretz and Pivnenko 2005; DeVoretz 2008; Steinhardt 2008). We find that the wages of naturalized employees are on average about 10% higher than the ones of employees without Swiss citizenship. The Blinder–Oaxaca decomposition demonstrates that a large part of the wage gap is due to the differences in educational attainment. However, the large share of the unexplained part indicates that naturalization is not only connected to selection regarding human capital, but also regarding unobservables. Finally, the wage gap can be explained by differences in the job distribution. These might not only be due to educational disparities, they may already be an outcome of naturalization, which increases the job opportunities of immigrants. However, due to the cross-sectional nature of our data we are not able to investigate this possibility further. The same holds true for the question of whether the acquisition of citizenship itself has an impact on immigrants' labor market outcomes. Future studies could address these issues by using longitudinal data. Finally, our results indicate that naturalization matters in particular for immigrants from non-OECD countries.

Our paper has clear implications for Swiss integration policy. The current debate over the reform of the existing citizenship law is characterized by fear and anxiety. Opponents of a liberalized naturalization policy argue that especially immigrants with negative characteristics are acquiring Swiss citizenship. Initially, we highlight that national and regional citizenship rules already include a number of provisions to control selection. The results from our empirical work also do not support the scenario of a negative selection into citizenship. Naturalized employees are better educated, lived in the country longer, and have superior labor market outcomes in comparison with their non-naturalized counterparts. Policy makers could react to these findings by promoting naturalization as a chance for, instead of a threat to, Swiss society.

Appendix

Table 6 Wage regression

Dependent variable: log wage

Foreign-born immigrants	Naturalized		Non-naturalized	
exp	0.0440***	(0.0118)	0.0285***	(0.0044)
squareexp	−0.0009***	(0.0002)	−0.0005***	(0.0001)
ISCED 3/4	0.1137	(0.0839)	0.0652*	(0.0270)
ISCED 5	0.1581	(0.1111)	0.1951***	(0.0392)
ISCED 6	0.3538**	(0.1777)	0.6883***	(0.0974)
civil	−0.0391	(0.0761)	0.0413	(0.0278)
language	0.0012	(0.1121)	0.0941**	(0.0378)
motiv	0.0584	(0.0807)	0.0014	(0.0268)
foreign education	0.0286	(0.0894)	−0.0109	(0.0273)
YSM	0.0373*	(0.0206)	0.0107	(0.0097)
YSM2	−0.0005	(0.0003)	−0.0001	(0.0002)
EU15	0.1170	(0.0791)	0.1433***	(0.0382)
NMS	0.1115	(0.1282)	−0.0189	(0.1344)
Yugoslavia	0.1819*	(0.1080)	0.1084**	(0.0466)
Turkey	0.1450	(0.1138)	0.1400**	(0.6166)
Handcraft	0.0225	(0.0918)	0.0672**	(0.0296)
Service	0.0122	(0.1001)	−0.0362	(0.0354)
Engineer	0.0838	(0.1032)	0.1914***	(0.0408)
Academic	0.3900***	(0.1216)	0.3282***	(0.0479)
Management	0.4182***	(0.1174)	0.3338***	(0.0494)
Medium sized firm	−0.1148	(0.0829)	0.0508*	(0.0285)
Large sized firm	0.0065	(0.0707)	0.0584**	(0.0264)
_Espace	−0.1193	(0.0881)	−0.0123	(0.0329)
_NW	0.0782	(0.1000)	−0.0141	(0.0370)
_Zurich	−0.0797	(0.0890)	0.0553	(0.0344)
_Eastern	−0.1706	(0.1215)	0.0236	(0.0373)
_Central	0.0133	(0.1917)	0.0483	(0.0457)
_Ticino	−0.2427**	(0.1110)	−0.0640	(0.0499)
_cons	9.9808***	(0.3479)	10.2938***	(0.1574)
R-squared	0.3399		0.2452	
Adj. R-squared	0.2595		0.2293	
Weighted obs.	42,673		103,243	
N	259		1357	

We only consider immigrants who immigrated before 1991; Robust standard errors in parentheses

Swiss Labor Force Survey (SLFS) 2008

***p=0.01; **p=0.05; *p=0.1

Table 7 Wage regression, pooled model

Dependent variable: log wage		
exp	0.0318***	(0.0041)
squareexp	−0.0006***	(0.0001)
ISCED 3/4	0.0716***	(0.0263)
ISCED 5	0.1802***	(0.0371)
ISCED 6	0.5168***	(0.0763)
civil	0.0177	(0.0263)
language	0.0663*	(0.0361)
motiv	0.0221	(0.0259)
foreign education	0.0026	(0.0267)
YSM	0.0235***	(0.0081)
YSM2	−0.0003***	(0.0001)
EU15	0.1282***	(0.0327)
NMS	0.1031	(0.0693)
Yugoslavia	0.1086***	(0.0409)
Turkey	0.1220**	(0.5011)
Handcraft	0.0632**	(0.0288)
Service	−0.0201	(0.0338)
Engineer	0.1571***	(0.0372)
Academic	0.3498***	(0.0442)
Management	0.3640***	(0.0450)
Medium sized firm	0.0237	(0.0272)
Large sized firm	0.0542**	(0.0249)
_Espace	−0.0425	(0.0310)
_NW	0.0102	(0.0351)
_Zurich	0.0139	(0.0317)
_Eastern	−0.0154	(0.0367)
_Central	0.0265	(0.0468)
_Ticino	−0.1173***	(0.0446)
FB	−0.0220	(0.0245)
_cons	10.1739***	(0.1421)
R-squared	0.2645	
Adj. R-squared	0.251	
Weighted obs.	145,917	
N	1,616	

We only consider immigrants who immigrated before 1991; Robust standard errors in parentheses

Swiss Labor Force Survey (SLFS) 2008

***p=0.01; **p=0.05; *p=0.1

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