University of Zurich UZH

Master's Thesis

The Determinants and Consequences
of the Labour Market Integration of Refugees
in Switzerland

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Abstract

Europe has witnessed a massive increase in the number of asylum-seeking refugees in the year 2015. At the end of the same year, 111'276 people resided in Swiss territory under asylum status. The presence of these newcomers in Switzerland has induced a debate about their impact on the host economy, specifically about their labour market chances and the resulting impact on the Swiss exchequer. Since no analysis exists that looks at the determinants of labour market integration and fiscal consequences of refugees in Switzerland, this master thesis aims at closing this gap in the literature. Through the use of confidential data from the State Secretariat for Migration (SEM) and a logit regression model, the thesis analyses the importance of personal characteristics for a successful labour market integration of Asylum-Seekers (AS), Temporarily Admitted Refugees (TAR) and Recognised Refugees (RR). With the use of a dataset created by the author and a panel data model, cantonal level factors are assessed for their relevance. Data from the Federal Statistical Office (FSO) and a static accounting model are considered to calculate the fiscal impact of AS and TAR in Switzerland. The thesis highlights that the individual and his/her characteristics matter for their success in the labour market and cantonal factors are of less importance. Due to the low employment rates and wages earned, AS and TAR in Switzerland strain the Swiss exchequer by costing 805 Million CHF annually, or 0.13% of GDP. However, were the labour market characteristics of TAR similar to natives, the fiscal deficit could be meaningfully reduced.

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List of Acronyms

ALMP   Active Labour Market Policies

AME   Average Marginal Effect

Art.   Article

AS   Asylum-Seekers

AsylA   Asylum Act

AsylV   Asylverordnung

CHF   Swiss Franc

CPG   Congestible Public Goods

DI   Disability Insurance

etc.   Et cetera

EU   European Union

EYS   Expected Years of Schooling

FNA   Federal Act on Foreign Nationals

FSO   Federal Statistical Office

GDP   Gross Domestic Product

GPI   Global Peace Index

IC   Income Compensation

MYS   Mean Years of Schooling

NPV   Net Present Value

n.a.   Not available

OASGE   Ordinance on Admission, Stay and Gainful Employment

OASI   Old-age Insurance System

OECD   Organisation for Economic Co-operation and Development

OLS   Ordinary Least Squares

RPC   Reception and Procedure Centre

RR   Recognised Refugees

SD   Standard Deviation

SEM State Secretariat for Migration

TAP Temporarily Admitted Persons

TAR Temporarily Admitted Refugees

UI Unemployment Insurance

UN United Nations

UNHCR United Nations High Commissioner for Refugees

VAT Value Added Tax

vs. Versus

VVWA Verordnung über den Vollzug der Weg- und Ausweisung von ausländischen Personen

1 Introduction

Shocking pictures of people of every age range crossing the Mediterranean Sea on over-crowded boats circulated in the media in 2015 and early 2016. Fleeing war, fearing for their lives and escaping poverty in unstable countries are a few motives that triggered the migration of thousands to Europe. This event is known as the "European Migrant Crisis" and has represented the largest movement of people that Europe has seen since the end of the Second World War in 1945 (Urban 2015). In 2015, 1'015'078 individuals reached Europe by sea and 262'935 nautical arrivals have been registered up to the August 11 in 2016 (United Nations High Commissioner for Refugees [UNHCR] 2016). At the same time, this large number of asylum-seeking people has heated up a debate about their impact on host economies. Many local citizens fear competition with newcomers over resources such as medical care, social security services or labour and perceive them to be welfare cheats. This fright has let to a fierce atmosphere with respect to asylum policies. However, in this debate a major dilemma prevails. Since employment is the single most important determinant of refugee's net fiscal impact, it is important that they draw a labour income from which they contribute to the state in the form of tax payments (Organisation for Economic Co-operation and Development [OECD] 2013). However, if restrictive asylum policies hinder labour market access, refugees are prevented from contributing their share. Furthermore, restrictive labour market policies impede a refugee's social integration. Even though labour market integration does not guarantee social integration, it is a major step towards the refugee's ability to function as an autonomous citizen and to obtain acceptance from the host-country population (Liebig 2007). Couttenier et al. (2016) further stress that offering labour market access to people seeking asylum strongly reduces their conflict exposure. It is therefore meaningful to study the determinants and consequences of refugee's labour market integration. Only a few studies[1] have looked at the labour market outcomes of refugees. A few other papers[2] have been undertaken to assess the fiscal impact of refugees on host economies. However, no study has been conducted that looks at the determinants for labour market success of refugees in Switzerland and what this means for the Swiss exchequer. Therefore, this master thesis aims at filling this gap by providing extensive data on the refugee population in Switzerland and by addressing the following two research questions:

1. What are decisive factors that determine a successful labour market integration of refugees in Switzerland? Does the individual's personal characteristics and/or environment matter?

2. Are refugees a strain or a gain to the Swiss exchequer, i.e. do they generate more expenses or tax payments for the welfare state?

In order to address the two research questions accurately, this master thesis needs to rely on extensive data. It makes use of an individual-specific non-publicly available

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[1]Colic-Peisker and Tilbury (2007) for Australia, Bloch (2008) for the UK, Bevelander and Pendakur (2014) for Canada and Sweden

[2]Ruist (2015) for Sweden, Cully (2011) for Australia, Nasser and Symansky (2014) for Jordan

dataset from the State Secretariat for Migration (SEM) (in the following referred to as SEM dataset) that includes almost the entirety of the refugee population that have resided in Switzerland as per December 31, 2015. This dataset is used to provide comprehensive descriptive statistics about the refugee population in Switzerland and forms, together with the definition of the groups of interest and the description of the asylum process, section 2. In section 3 the determinants of the labour market integration of refugees in Switzerland are assessed. In subsection 3.1, the SEM dataset and a binary choice model are used to elaborate on the importance of individual-specific characteristics. Subsection 3.2 studies with the means of a dataset created by the author and a panel data model the relevance of cantonal characteristics for the successful labour market integration of refugees. After having explored the mechanisms that pin down the labour market integration of refugees in Switzerland, their consequences for the Swiss exchequer are calculated with a static accounting model in section 4. However, the major challenge in studying the fiscal impact of refugees is missing or incomplete data and constitutes, according to Konle-Seidl and Bolits (2016), the main reason for the non-existence of more empirical assessments. Section 4 uses an individual-specific non-publicly available dataset from the Federal Statistical Office (FSO) that unfortunately does not consist of the entire refugee population in Switzerland. However, key assumptions that are explained in the respective subsections still allow a meaningful calculation of the fiscal impact of Asylum-Seekers (AS) and Temporarily Admitted Refugees (TAR) in Switzerland. Lastly, section 5 concludes while illustrating important policy implications and potential future research topics.

This master thesis highlights that the individual matters more for a successful labour market integration when compared to the cantonal framework. In other words: The refugee and his/her characteristics pin down the success of labour market integration. The exogenous allocation process as practised by the SEM and the resulting cantonal exposure of refugees play practically no role. Similar to the assessment by Ruist (2015) of Sweden and by Aiyar et al. (2016) of several selected EU-countries and Serbia, this master thesis calculates an annual fiscal deficit of 805 Million CHF or 0.13% of GDP that is caused by AS and TAR. However, were the labour market characteristics of TAR comparable to natives, a reduction of 501 Million CHF of the fiscal deficit would be achieved.

2 Refugees in Switzerland

The introduction pointed out that Europe has experienced a large increase in the number of asylum-seeking refugees in the last year. Ongoing conflicts in Syria, Afghanistan and Iraq and unstable conditions in African countries are the main reasons for the vanquished beliefs of thousands of people for a quick improvement of the situation in their home countries. As such, many have decided to migrate to more prosperous and safe countries such as Germany and Sweden. Switzerland, on the other hand, has not ranked among prime destinations. Figure 1 illustrates the development of requests for asylum in Europe and Switzerland over the last 18 years (State Secretariat for Migration [SEM] 2016).
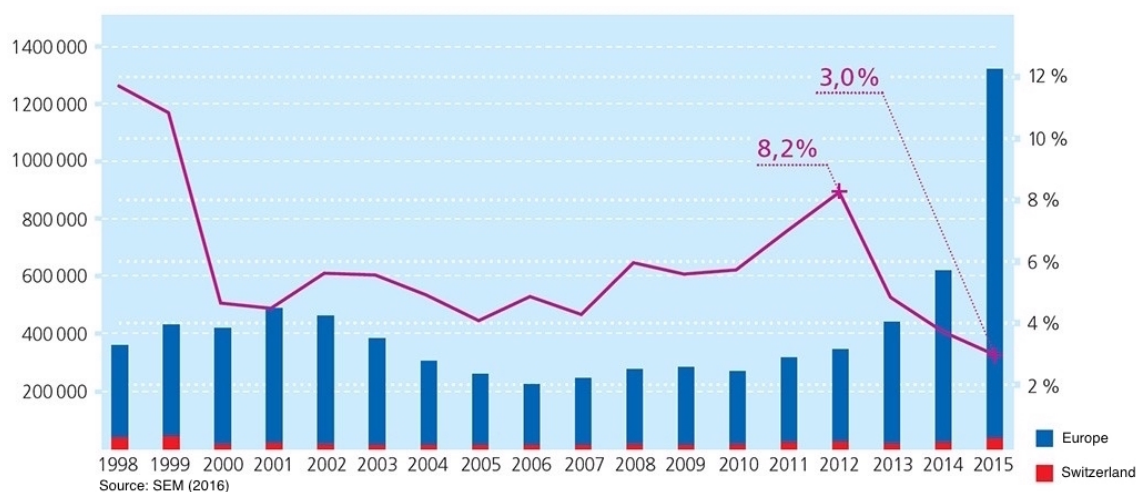
Figure 1: Requests for asylum in Europe and Switzerland

From Figure 1 it becomes apparent that from 2014 to 2015, the asylum requests in Europe have more than doubled (625'000 vs. 1.3-1.4 million, left axis). However, the share of Swiss-placed to total European applications has decreased from 3.8% in 2014 to roughly 3% in 2015 (purple line in Figure 1, right axis), highlighting the fact that refugees applying in 2015 preferred other countries as their final destination, such as Germany or Sweden, to Switzerland (SEM 2016).

2.1 Definition of Groups of Interest

The Asylum Act (AsylA) of June 26, 1998 regulates the asylum granting process, the legal status of refugees and the temporary protection of persons in Switzerland.[3] According to Art. 3.1 AsylA, Recognised Refugees (RR) are defined as "persons who in their native country or in their country of last residence are subject to serious disadvantages or have a well-founded fear of being exposed to such disadvantages for reasons of race, religion, nationality, membership of a particular social group or due to their political opinions." The term "serious disadvantage" refers to a threat to life, physical integrity, freedom or

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[3]https://www.admin.ch/opc/de/classified-compilation/19995092/index.html; date of last access: 2016/08/08

measures that trigger intolerable psychological pressure (Art. 3.2 AsylA).

Temporarily Admitted Refugees (TAR) are individuals who qualify for the above mentioned definition of RR but the definition was only fulfilled by or after leaving the native country or country of origin.[4] On the other hand, Temporarily Admitted Persons (TAP) are faced with a denied asylum request but the repatriation can not be executed due to one of the following three reasons:

1. Repatriation is not possible (i.e. the individual does not posses a passport or travel document)

2. Repatriation is not permitted by international law

3. Repatriation is not reasonable (i.e. the individual is ill and would not be able to obtain adequate medical assistance)

The legal basis for TAR are Art. 83ff of the Federal Act on Foreign Nationals (FNA) and the AsylA and for TAP solely Art. 83ff of the FNA[5] and both groups will be considered as TAR due to the temporal nature of their admission.

Any statement a person makes indicating that they are seeking protection in Switzerland from persecution elsewhere shall be regarded as an application for asylum (Art. 18 AsylA) and persons who have submitted such an application at the Swiss border or on Swiss territory are considered Asylum-Seekers (AS) and have the right to stay in Switzerland until conclusion of procedure (Art. 42 AsylA).

In this thesis, the term refugees refers to the three groups of interest, namely AS, TAR and RR, as a whole.

2.2 Asylum Process

In order to receive the respective asylum status, refugees in Switzerland run through a specific process that works as follows: AS submit an application in written or oral form at a Reception and Procedure Centre (RPC), at a border control point on the Swiss border or at a border control point at an international airport in Switzerland (Art. 21f AsylA). In the case of airport application, personal details are recorded on site and AS are thereafter allocated within a maximum of 60 days by the SEM to either a canton (in case of approved application) or to a specific prison for deportees (in case of denial of entry) (Art. 22 AsylA). People who apply at a border control point on the Swiss border are assigned to a RPC (Art. 21 AsylA). In the case of RPC application personal details are recorded in a preparatory phase (Art. 26 AsylA). AS are interviewed and asked to answer questions about their identity, origin, living conditions, travel means and reasons for asylum.

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[4]For instance, if leaving the country of origin is considered as a criminal act and the individual would thus be prosecuted.

[5]https://www.admin.ch/opc/en/classified-compilation/20020232/index.html; date of last access: 2016/08/08

The SEM decides in a next step whether applications are dismissed, rejected or approved. Applications are dismissed if the AS can return to a safe country in which the applicant was previously resident, if the individual does not cooperate with the authorities, if the applicant has previously unsuccessfully applied for asylum or can travel to a third country that is responsible under an international agreement (i.e. the Dublin Agreement[6]) for conducting the asylum and removal procedures (Art. 31a AsylA). If the application is approved, AS are allocated to one of the 26 cantons on an exogenous basis with respect to the migrant's characteristics but by taking into account the principle of core family unity[7] (Art.27 AsylA) and a given allocation key based on the cantonal population (Couttenier et al. 2016). Within 20 days of cantonal allocation, a second interview takes place. After the hearing, the SEM decides whether the AS qualifies for asylum. If so, the AS receives the RR status. If the individual meets the RR definition by or after leaving the country of origin and is thus in need for protection, the TAR status is granted (Art. 39 AsylA). If the application is rejected and the AS does not obtain the RR or TAR status, a removal order is issued, indicating the time by which the AS must have left Switzerland (Art. 45 AsylA).

RR receive a one-year, renewable, B permit. After 10 years of legal residence in Switzerland, a RR can apply for a C permit or if the person successfully integrates, the application can be submitted after 5 years. The renewal of the B permit can be denied if the RR threatens Switzerland's internal or external security. RR need a work permit that is issued by the cantonal authorities in order to take up employment. They are allowed to work in any branch but only within their canton of residence independent of economic or labor market conditions. RR are free to choose their canton of residence and are subject to the same rights as foreigners in general (Art. 58 AsylA).

TAR obtain an F permit that is valid up to one year. Thereafter, the individual cases are assessed by the respective cantonal authorities on removal adequacy and the permit renewed for another 12 month period in case of a negative removal decision (Art. 85 FNA). After 5 years of legal stay, a TAR may ask for a B permit (Hardship case). When considering the application, the authorities asses the level of integration, family constellation and adequacy of a return to the country of origin. TAR need to obtain a work permit, similar to RR, in order to ask for employment and are allowed to work in any branch within their canton of residence independent of economic or labor market conditions. However, for TAP, if employment is found, a special tax of 10% from net income has to be paid on top of the regular taxes (Art. 88 FNA and Art. 86 AsylA). TAR have the same rights in terms of change of canton of residence as RR but TAP are allowed to change the canton of residence only if both involved cantons agree, in case of

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[6]"The Dublin Association Agreement of 2008 between Switzerland and the EU ensures that a request for asylum submitted by an AS is only examined by one state within the Schengen/Dublin Area (which includes most EU member states in continental Europe, plus Switzerland, Norway and Iceland). The Dublin criteria establish which country is responsible for dealing with a given asylum application, and aims to prevent asylum seekers from being referred from one country to another. If the asylum demand was rejected by this responsible state, then the asylum seeker cannot apply for asylum in another member state" (Couttenier et al. 2016, p. 45).

[7]Only spouses and minor children are considered to be core family.

family unity or if a serious threat to the TAP or any other person exists (Art. 22 AsylV 1).

AS get a N permit for the period between application and conclusion of procedure. It is not considered a residence permit but rather seen as a confirmation that the person has applied for asylum. Couttenier et al. (2016) indicate that the average duration of asylum procedure, during which AS are generally not allowed to change canton, amounts up to 300-400 days. During the first three month upon application, AS are not entitled to take on employment, after this period they are allowed to work. However, for AS to take on employment certain requirements need to be met (Art. 52 OASGE[8]):

1. The general economic and labour market conditions need to allow it

2. The employer needs to ask for the employment of an AS

3. Usual local wage and working conditions of the specific industry need to be followed

4. There must not be any Swiss citizen, person with a residence permit or a person from the free movement area that could be hired for the same position

Similarly to TAP, AS have to pay the additional tax (Art. 86 AsylA). The change of canton of residence during the asylum procedure is only possible if both involved cantons agree, in case of family unity or if a serious threat to the AS or any other person exists (Art. 22 AsylV 1). However, in practice changes of canton of residence of all three groups of interest occur fairly seldom due to the administrative burden that this change brings about.

2.3 Descriptive Statistics

The following subsections provide numbers to depict how the total number of refugees in Switzerland is distributed across different characteristics. The data is primarily taken from the SEM dataset and described in detail in subsection 3.1.1 if not otherwise indicated.

2.3.1 Status

In Switzerland the number of submitted asylum requests increased by 66.3% from 23'765 to 39'523 from 2014 to 2015, resulting in a total of 111'276 people or 1.33% of the total permanent population residing under asylum law on Swiss territory. An overview of the size of the respective subgroups is provided in Figure 2. RR represent with 40'277 individuals the largest group, followed by AS with 33'293 people and TAR with 33'059. The SEM further assigns an *Enforcement aid* status to individuals whose application has been rejected or who reside illegally in Switzerland and thus have the obligation to leave the country. In this context, the SEM supports the cantonal migration authorities by coordinating the contact with the country of origin of the AS. *Enforcement aid* refers to cases in which the cantonal authorities applied for repatriation support from the SEM (Art. 1ff VVWA).

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[8]`https://www.admin.ch/opc/de/classified-compilation/20070993/index.html`; date of last access: 2016/08/08
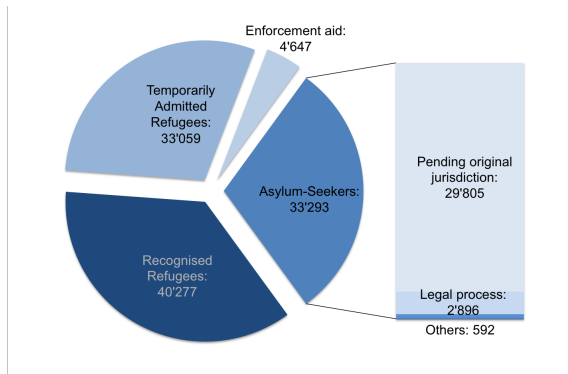
Figure 2: Refugees per status in 2015

Furthermore, the AS-population can be divided into four subgroups: At the end of 2015, 29'805 individuals were still waiting for the declaration of their original jurisdiction (*Pending original jurisdiction*), 2'896 people's original jurisdiction was not yet legally binding (*Legal process*) and *Others* refers to people whose repatriation could not be executed mostly due to medical issues or circumstances in the country of origin (507) or to people who could not be clearly classified into any other group due to the booking procedure in the central migration information system of the SEM (85).

2.3.2 Countries of Origin
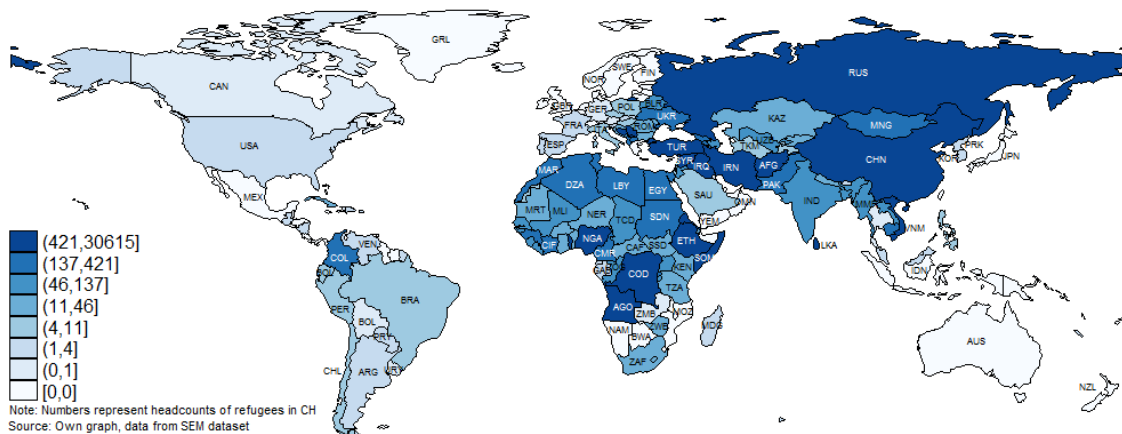
Figure 3: Countries of origin

By focusing on AS, TAR and RR, Figure 3 depicts all 118 countries of origin according to their headcount in Switzerland. For instance, countries in dark blue are responsible for the largest amount of refugees in Switzerland. As can been seen from the world map, the countries of origin are fairly diverse. However, as the large range between countries in dark blue suggests, most refugees come from a few distinct countries, whereas many other countries account for only few refugees. Therefore, at a continental level, most refugees originate from Africa and Asia. Less come from South America, only a few from North America or Europe, and none from Australia. At a country level, by far most refugees in Switzerland come from Eritrea with 30'615 individuals, Syria with 13'205, Afghanistan with 11'971, Sri Lanka (6'550), Iraq (5'639), Somalia (5'348), Turkey (3'027), China (2'787), Iran (2'313) and Kosovo (1'582). It becomes apparent that conflict regions such as Western- and Southern Asia and Eastern Africa indeed account for a large number of the people residing in Switzerland with asylum status. For 2'217 individuals, the country

of origin cannot be identified because they are without, or of an unknown nationality or stateless.

2.3.3 Population Pyramids

An interesting insight is provided by the population pyramids of AS, TAR and RR. Figures 4, 5 and 6 depict the number of individuals of the respective status per age group and gender (females in light blue and males in darker blue). From Figure 4 becomes obvious that among all male AS roughly 50% are aged between 16 and 25 years. On the other hand, roughly every second woman is aged between 16 and 35 years. Nevertheless, the total AS population consists of 70% males. The situation for TAR in Figure 5 looks more balanced. But again, the cohorts of TAR aged between 16 and 30 years are dominated by males and overall 55% of TAR are of a male gender. The population pyramid of RR is somehow different to the one of AS and TAR as can be seen in Figure 6. Compared to the latter, the former exhibits relatively few people aged between 16 and 25 years. For women and men, the largest amount of people are either young (aged below 16 years) or middle-aged (between 26 and 45 years old). Males slightly dominate the RR population with 57% from total.

In terms of labour market integration, these population pyramids suggest that 82% of the AS-population are within the potential working age range, while 71% of the TAR and 69% of the RR could potentially be employed.[9]
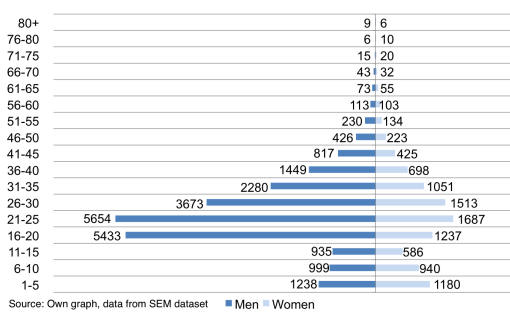
Figure 4: AS per gender and age-group
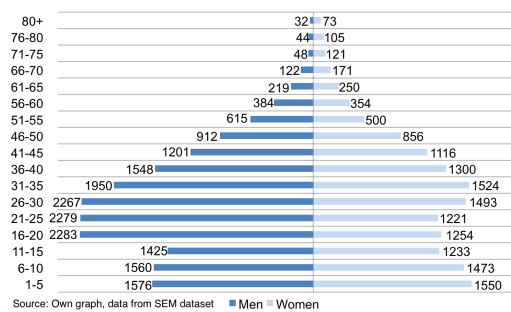
Figure 5: TAR per gender and age-group
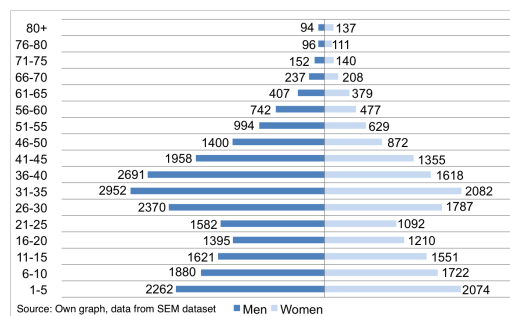
Figure 6: RR per gender and age-group

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[9]The definition of the potential working age population can be found in subsection 3.1.1.

2.3.4 Employment Rates

The three populations of interest exhibit different characteristics in terms of employment rates and length of stay across Swiss cantons. Table 1 provides information at the cantonal and federal level. Interestingly, individuals residing for a shorter period in Switzerland (TAR; mean: 6.8 years) constitute on average a higher percentage of the working population (roughly 30%) compared to RR (21.3%) who stay on average for nine years. Unsurprisingly, AS's employment rates and length of attendance in Switzerland are, with 1.1% and 1.3 years on average respectively, low. Given the fact that a person is classified as AS if the asylum procedure has not yet ended, the average duration of asylum procedure lasts at least 329[10] days and is in line with the findings of Couttenier et al. (2016).

At the cantonal level it becomes apparent that Obwalden, Grisons, Schaffhausen and Basel-Stadt manage to best integrate AS into the labour market. The highest ratio of working TAR are exhibited in the cantons of Obwalden, Grisons, Glarus and Schwyz. The situation for RR looks especially promising in the cantons of Appenzell I. Rh., Nidwalden, Glarus and Thurgau. While some cantons have been mentioned multiple times, it is striking to see that all of the top-4 cantons highlighted in bold in Table 1 rank below the average in terms of population size.[11]

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[10]1.3 years multiplied with 253 working days in 2015

[11]http://www.bfs.admin.ch/bfs/portal/en/index/themen/01/02/blank/key/raeumliche_verteilung/kantone__gemeinden.html; date of last access: 2016/08/19

	AS		**TAR**		**RR**	
	ER[a]	Length of stay[b]	ER[a]	Length of stay[b]	ER[a]	Length of stay[b]
RPC[c]	0.0	1.0	-	-	-	-
AG	0.2	1.3	33.2	5.9	20.9	8.5
AR	0.4	1.3	30.4	5.1	25.8	6.1
AI	0.0	1.2	37.8	4.1	**35.6**	5.8
BL	0.3	1.4	33.2	7.6	20.6	8.0
BS	**3.1**	1.6	32.4	6.2	24.4	9.2
BE	1.0	1.4	29.9	6.6	21.2	9.4
FR	0.4	1.2	25.4	7.6	15.1	9.1
GE	2.0	1.5	18.6	7.6	10.2	10.4
GL	0.5	1.3	**41.5**	5.7	**34.4**	6.8
GR	**5.8**	1.2	**45.6**	6.3	29.2	7.2
JU	0.0	1.3	18.6	6.0	13.0	6.8
LU	2.2	1.3	33.3	6.8	29.0	8.9
NE	2.4	1.4	24.1	6.3	17.3	7.7
NW	0.0	1.2	37.8	6.4	**35.5**	8.5
OW	**6.3**	1.6	**53.9**	6.2	22.4	7.0
SH	**3.9**	1.4	31.1	4.8	24.6	7.1
SZ	1.3	1.2	**38.6**	6.1	24.1	9.2
SO	1.8	1.3	34.2	7.0	18.3	9.4
SG	0.6	1.3	28.8	5.6	23.7	10.0
TI	1.9	1.3	19.1	6.1	17.2	8.1
TG	0.8	1.4	30.8	6.5	**33.7**	10.0
UR	0.0	1.2	37.3	5.4	27.0	5.4
VD	1.1	1.4	21.7	8.3	14.2	10.3
VS	1.2	1.3	27.5	7.7	14.4	7.6
ZG	1.3	1.4	38.1	6.3	30.4	7.2
ZH	0.1	1.3	33.0	6.8	23.1	9.0
CH	**1.1**	**1.3**	**29.7**	**6.8**	**21.3**	**9.0**

[a] Employment rate: Ratio of people with employment from population aged between 16 and 65 years of age in respective canton in percentage. Individuals who are without or of an unknown nationality or stateless are not considered.

[b] Average length of stay in years of a person in respective canton.

[c] People who have not yet been distributed to cantons and live in RPC.

Source: Own calculations, data from SEM dataset

Table 1: Employment rates and average length of stay of refugees

3 Determinants of the Labour Market Integration

Employment rates vary greatly among cantons as well as among refugee groups. A successful integration of TAR and RR into the Swiss labour market is a necessity for sustainable social and financial development of the Swiss entity. Due to the incomplete asylum procedure of AS, meaning the decision of asylum or removal is still pending, one can argue in favour or against their integration into the labour market. According to Liebig (2007) the concept of immigrant integration can have several meanings. On the one hand it refers to the economic or social convergence between immigrants and natives with respect to statistical measures such as for instance the employment rates. On the other hand stands the notion of integration as assimilation, "i.e. acceptance of, and behaviour in accordance with, host-country values and beliefs" (Liebig 2007, p. 32). In this master thesis, labour market integration is defined as whether a refugee has a valid employment relationship independent of its type. This section investigates under a veil of ignorance with respect to the integration discussion which factors are important in determining the labour market integration of AS, TAR and RR. Section 3.1 looks at individual-specific, whereas section 3.2 turns to cantonal-level characteristics.

3.1 Individual-level Characteristics

Individual characteristics are certainly decisive it explaining labour market outcomes of immigrants. A vast body of literature has looked at several determinants for a successful labour market integration. Krahn et al. (2000) state that the most important barriers to labour market access are the lack of or not recognised training or education, a shortage of work experiences, employer discrimination and language difficulties.

Bloch (2008) stresses the importance of individual characteristics for employment. She points out that especially refugee women have lower chances in the UK to be employed and that they seem to be subject to downward mobility in the form of taking on jobs for which they are overqualified. She explains her findings by suggesting that in some cultures there are norms (such as child-care) that affect the economic outcomes of women, although being in exile redefines these norms, and this process takes time. Furthermore, "[r]efugees who do have qualifications can experience problems transferring them, and for the most part if they are recognised it is not at the equivalent level" (Bloch 2008, p. 30). In Switzerland, highly-skilled foreign-born individuals from low-income countries who asked for recognition of their highest degree in 2008 were successful in 64% of the cases (Liebig, Kohls and Krause 2012). It can be assumed that in the case of refugees who often lack documentation of education, this recognition rate is lower and often it is difficult to obtain verifications from the countries of origin (Egner 2015). However, if the foreign education is recognised it plays an important role in the labour market. For instance, Dahlstedt and Bevelander (2010) analysed the importance of human capital for employment for several subgroups of immigrants (including refugees) in Sweden. They conclude that "[i]n general, higher education leads to higher odds of having employment"

(Dahlstedt and Bevelander 2010, p. 177). A part of an individual's human capital can be seen as language capital. Dustmann (1999) points out that language capital has been shown in several studies to be a major factor for success in the labour market. In most cases, the use of the home country's language is rather limited in the host country. Similarly, Bevelander and Pendakur (2014) stress the importance of language ability in the Swedish and Canadian labour markets. They further add that a lack of social capital such as for instance social networks is a barrier to labour market access of refugees. On the other hand, Colic-Peisker and Tilbury (2007) show that significant levels of unemployment of visibly and culturally different refugees compared to the native population in Australia cannot be explained by a lack of human capital. Rather, labour market discrimination seems to be at work. For instance, Evans and Kelley (1991) found that 30% of native Australian employers prefer to hire other Australian-born employees rather than those being from a visibly and culturally different background. Lundborg (2013) also focuses on the cultural differences of refugees and the impact they have on their labour market integration. He argues, that individuals from culturally distant countries such as Iraq, Iran, Eritrea and Somalia have considerably lower employment chances in Sweden compared to refugees from culturally closer regions such as Eastern Europe or Latin America. "Since refugees from Iraq, Iran, and Horn of Africa to a large extent have fled wars, their initial mental and physical conditions may be worse than those of refugees from Latin America and East Europe. Hence, their productivity and attractiveness to the Swedish labor market could be lower" (Lundborg 2013, p. 229). However, the cultural origin of a person does not only expose an individual to potential labour market discrimination but also affects an individual's behaviour and therefore his/her economic outcomes. For instance, Sapienza, Zingales and Guiso (2006) note that differences in saving rates are largely explained by cultural differences. Therefore, the cultural origin of a person plays a key role in explaining economic outcomes and the success in the labour market.

The following subsections dwell on the importance of individual-specific determinants for a successful labour market integration of AS, TAR and RR in Switzerland. However, this section starts by describing the data as well as by explaining the model that is used to asses the importance of the various determinants.

3.1.1 Data Description and Model

In order to identify key determinants of a successful integration of AS, TAR and RR into the Swiss labour market, the SEM dataset is used. It includes all the people from Figure 2 that reside in Switzerland under asylum law as per December 31 2015 except for individuals with enforcement aid (4'647) who need to leave the country (i.e. 33'293 AS, 33'059 TAR and 40'277 RR). For all of these 106'629 individuals, their asylum status, canton of residence, country of origin, gender, year of birth, year of entry and a binary and textual work variable is observed.

The dependent work-dummy (WD) variables that take on the value 1 if the AS

($WDAS_i$), TAR ($WDTAR_i$) or RR ($WDRR_i$) has a valid employment relationship independent of its type and 0 otherwise are created. $Female_i$ is equal to 1 if the individual is a woman. The categorical variable $Canton_i$ specifies a person's canton of residence if applicable. The variable Age_i is calculated as the difference between 2016 and the year of birth. Similarly, $Duration_i$ represents the amount of years a person has stayed in Switzerland and is the subtraction of the year of entry from 2016. The categorical variable $Region_i$ is generated that classifies countries according to the United Nations Statistics Division into 18 geographical regions and is used to assess the cultural relevance for a successful labour market integration.[12] However, if not otherwise stated, $Country_i$ will be used as primary locator of an individual's origin.

The potential working age population is defined as the population aged between 16 and 65 years. According to Sheldon (2007), by the age of 16, mandatory schooling has been completed and the employment rate increases rapidly for foreigners in Switzerland until it drops to almost zero by the age of 65. People who do not classify for the potential working age population are excluded from this analysis. As can be seen from Figures 4, 5 and 6, RR are the most affected (12'285 eliminations) followed by TAR (9'533) and AS (6'019). After the age correction, 553 AS, 483 TAR and 541 RR are further dropped because they are without or of an unknown nationality or stateless. AS who are prohibited to work due to the 3-month ban upon their arrival cannot be eliminated from the sample since their length of stay is only observed in years and not months. They are therefore included in the analysis.

Due to the dichotomous dependant variable, a binary-choice logit-model with clustered standard errors at the cantonal level to account for potential serial correlation and heteroscedasticity is used to asses individual-level characteristics of a successful labour market integration. The unit of observation is the individual. The baseline model looks as follows:[13]

$$WD**_i = \alpha + x'_i\beta + \gamma Duration_i + FE_{canton} + FE_{country} + \epsilon_i \tag{1}$$

The baseline model consists of a vector x'_i that includes individual i's predetermined characteristics such as age and gender and the variable $Duration_i$. Furthermore, FE_{canton} refers to two fixed-effects for cantons with French or Italian as official languages respectively and $FE_{country}$ are two separate fixed-effects for countries with French or Italian as official languages. The inclusion of these four fixed-effects is necessary for the analysis of the importance of language in subsection 3.1.4 and controls for common characteristics of countries with French or Italian as national languages as well as common characteristics

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[12]Classification available from `http://unstats.un.org/unsd/methods/m49/m49regin.htm`; date of last access: 2016/07/14

[13]Appendices E and F provide robustness checks with respect to the choice of the regression model. As can be seen from these two Tables, only minor changes occur. Due to the dichotomous dependant variable and the interpretative advantage of modelling logistic regression as log odds, the logit model is considered to be the most suitable and reported at the end of this section.

of Swiss cantons with these two official languages. The variables that will be added to the baseline model in the following subsections are generated at a country- or regional level. Liebig (2007) points out that there needs to be more research based on characteristics of the country of birth of immigrants in order to asses their importance for a successful labour market integration and Borjas (1994) emphasises the importance of the countries of origin of immigrants due to their different average skill levels and thus different chances in the labour market.

In a first step and due to a methodological issue, the impact of an individual's social network is assessed in subsection 3.1.2. In subsections 3.1.3 and 3.1.4, the standard variables of education and language are simultaneously added to the model. These two variables are common predictors for one's success in the labour market. Subsections 3.1.5 and 3.1.6 add consecutively the refugee-specific factors of cultural distance and war exposure to the model.

3.1.2 Social Network

A person's employment chances certainly depend on the social network that a person possesses. With a larger network at their disposal, an individual becomes better informed about job opportunities and in case of personal recommendation has increased chances for success. Franzen and Hangartner (2006) show that social ties are a common job-search strategy in Switzerland and many other countries. Furthermore, a person that resides for a longer period of time in Switzerland most likely knows more people compared to a person that has been in the country for a shorter period of time. In Model 1, if social network is not controlled for, this would lead to $cov(Duration_i, \epsilon_i) \neq 0$ and thus to an endogeneity issue with biased estimates. At the same time, a social network measure for refugees does not exist and is fairly difficult to approximate. In this thesis it is assumed that refugees mostly consort with compatriots because of shared language, national identity and other known similarities in this new setting. Therefore, it is argued that the size of the diaspora of a respective nationality is a good approximation for an individuals's social network. For instance, in the canton of Bern lives the largest diaspora of Sri Lankan people in Switzerland, measured as the share of Sri Lankan people from the total cantonal population. This would suggest that a Sri Lankan person living in Bern should have higher chances to be employed compared to a Sri Lankan living in the canton of Valais that exhibits the smallest Sri Lankan diaspora in Switzerland. The variable *Social Network* is included into the model that allocates to each individual the share of compatriots who are living in the same canton in relation to the total cantonal population.[14]

Specifications 1-9 in Table 2 at the end of this section illustrate the regression results, where specifications 1-3 focus on AS, 4-6 on TAR and 7-9 on RR. For all specifications it becomes apparent that female refugees clearly have less of a chance to be employed.[15]

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[14]http://www.bfs.admin.ch/bfs/portal/de/index/themen/01/02/blank/key/alter/nach_staatsangehoerigkeit.html; date of last access: 2016/07/16

[15]supported by Lindenmeyer et al. (2008), Bloch (2008) and Spadarotto et al. (2014)

A female TAR is some 16% less likely to be employed compared to a male TAR. The employment chances of a female RR are 8% lower compared to a male RR. The most promising situation for female refugees is observed when they have an AS-status. Female AS are only slightly disadvantaged compared to male AS but this is probably an outcome of the fact that AS in general have very low employment rates as can be seen from Table 1. From Table 2 becomes also evident that older refugees seem to be harder to integrate into the Swiss labour market. The effect of AS's age on their work probability is only weakly statistically significant in all three specifications. This is probably an outcome of the concentrated age distribution of AS. Furthermore, the effect is very small for all of the three groups of interest. An interesting finding can be observed regarding the impact of an individual's length of stay on the probability of being employed. While the likelihood increases for AS and TAR, it decreases for RR. Due to the 3-month ban on employment for newly-arrived AS, it is reasonable that their likelihood of employment increases with their duration of stay. The effects for TAR and RR are comparable in size but point exactly in the opposite direction, a finding that is difficult to explain. When focusing on the social network variable, it becomes clear that the size of a refugee's diaspora statistically only matters for AS and TAR in specifications 1-6. For AS the effect points in the expected direction, whereas for TAR a surprising result is observed: It seems that individuals who live in a canton that exhibits a large diaspora of compatriots have decreased chances of being employed. A possible explanation for this finding could be that the size of the diaspora determines the competition among compatriots rather than the assistance given in order to find employment. Yet, the coefficients are fairly small in magnitude.

3.1.3 Education

A standard variable in order to determine a person's chances in the labour market is the educational attainment. Often, educational attainment is used to classify a person's skill level (Scheve and Slaughter 2001). Unfortunately, a skill measure is not directly observed on the individual level in the SEM dataset because education of refugees is not surveyed. However, the United Nations (UN) publish the *Human Development Index* which consists of a *Life Expectancy Index*, *Income Index* and *Education Index*. The latter reports per country an educational attainment level that is calculated as the standardised average from the Mean Years of Schooling (MYS) and Expected Years of Schooling (EYS)[16] of a country.[17] Since most RR immigrated in the year 2008 the index score of the year 2007 of the *Education Index* is used (one year time-lag for travel, preparation, etc.). Most of the TAR arrived in the year 2014 and thus the index score from the year 2013 is used. Finally, for AS, the 2013 index score is used since no later data is available.[18] The variable *Education* is generated that consists for each individual of the respective index score of its country of origin. The Congolese example below stresses the importance of education

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[16][(MYS/15)+(EYS/18)]/2, 15 stands for the maximum of MYS and 18 for EYS, respectively.

[17]http://hdr.undp.org/en/content/education-index; date of last access: 2016/07/16

[18]Unfortunately, not every year is reported in the *Education Index* and an individual allocation with respect to the year of entry is not possible. Furthermore, the data entries for older years are highly incomplete.

for employment chances: People from the Democratic Republic of the Congo have an average of 0.372 'index-years' of schooling and exhibit employment rates of 29% in the TAR- and 2.1% in the RR-sample. Individuals from the neighbouring country, the Republic of the Congo, have on average with 0.511 'index-years' of schooling a better education and exhibit higher employment rates, both in the TAR- and RR-sample (37% and 2.7%, respectively). AS from both of these countries were not employed. However, this example needs to be taken with care since the Democratic Republic of the Congo and the Republic of the Congo certainly differ in characteristics other than just education. This ceteris paribus example only aims at highlighting that education plays a role in determining the labour market integration of a person.

From Table 2 we see that indeed education is a predictor for a refugee's chances in the labour market. In every specification, *Education* is statistically significant and positive. In specification 1, that only controls for social network, education and language, a one standard deviation increase from the mean of the education index increases an AS's chances of employment by 0.8%. The chances for employment of TAR increase by 0.9% for a standard deviation increase from the mean of the education index in specification 4. The largest effect is found for RR in specification 7, where the employment chances increase by 6.4% for a one standard deviation increase from the mean of the education index.[19] Refugees who originate from countries with higher educational levels therefore have increased chances of being employed in Switzerland.

3.1.4 Language

With four official languages, Switzerland ranks among the world's polyglot countries. This feature allows one to test for the linguistic importance for a successful labor market integration of refugees. Language is not only important for the integration into the labour market but also for the performance in it later on (Grenier 1984). The SEM dataset includes individuals from countries that have French and Italian as official national languages[20] and therefore share one of the national languages of Switzerland. It is not assumed that citizens from such countries master written and spoken French or Italian and are therefore fluent but rather that they have been exposed to the language mostly due to colonial rule and thus have passive linguistic knowledge. Passive linguistic knowledge of a language should allow for faster adaptation in a canton in which this language is spoken. If language is an important determinant for a successful labor market integration, people from countries with French as a national language should be more successful in finding employment in a canton with French as official language. On the other hand, individuals who either come from a country that has French as a national language but reside in a Swiss canton in which French is not an official language or who come from a country that does not have French as a national language but reside in a French-speaking canton are not expected to

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[19]The standard deviations in the education index are 0.182 for AS, 0.224 for TAR and 0.285 for RR.

[20]French national language in: Benin, Burkina Faso, Cte d'Ivoire, Djibouti, Gabon, Guinea, Haiti, Cameroon, Congo, Democratic Republic of Congo, Madagascar, Mali, Niger, Ruanda, Senegal, Togo, Chad, Vietnam, Central African Republic; Italian national language in: Eritrea, Somalia, Croatia, Libya

benefit from the language effect. The identical mechanism is anticipated to be at work for the Italian language.[21] Therefore, a dichotomous variable is generated that allocates the number 1 to people from a country with French as an official language and who reside in a Swiss canton in which French is an official language (*French*). The identical procedure is executed for Italian (*Italian*). It is expected that refugees who benefit from the language effect are more successfully integrated into the Swiss labour market because having the same linguistic basis is deemed to be an advantage. The longer a person stays, however, reduces the importance of the language effect since a person learns the local language to some extent regardless of their country of origin and canton of residence. This effect can be measured by means of an interaction term. However, such a term is intentionally not used. The next paragraph will show that language is only important for AS. Over 80% of all AS who benefit from the language effect are classified as such for one year and this would lead to the multiplication of 1*1 (Language dummy*Duration) which is very similar to just including the language dummy in the regression.

Lindenmeyer et al. (2008) suggest that already during the asylum procedure, language training should be provided because it is expensive to catch up once given RR status what has been missed out during the asylum phase. The results from Table 2 back this statement. Language seems to be an important factor for a successful labor market integration of AS. Both, *French* and *Italian* are statistically significant and positive in every specification for AS. It becomes apparent that the French language effect is stronger. For instance in specification 1, an AS who benefits from the French language effect is some 9% more likely to be employed compared to an AS who does not benefit from the language effect. For the Italian language, the effect is with roughly 1% considerably smaller. The results in Table 2 suggest that other factors than language are relevant for TAR and RR, since the language variables are, in none of the specifications from 4 to 9, statistically significant. Table 1 highlights that on average, AS remain under this status for a significantly shorter time period compared to the length of stay of TAR and RR. Therefore, the results from Table 2 lead to the conclusion that language is an important determinant for people who have been in Switzerland for a shorter period of time and eventually becomes unimportant because people learn the local language to some extent regardless of their country of origin or canton of residence.

3.1.5 Culture

In order to asses whether the cultural background of an individual is important in the Swiss labour market, six cultural dimensions from Hofstede, Hofstede and Minkov (2010) are used. According to the authors, the place where an individual grows up strongly influences his thinking, feeling and acting and therefore indirectly influences his chances in the labour market. Similarly, culture affects labour markets and establishes values, norms and standards that influence the behaviour of the actors. Globally speaking, cultures

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[21]Cantons with French as official language: Geneva, Vaud, Neuchâtel, Jura, Fribourg, Valais; Cantons with Italian as official language: Ticino, Grisons

differ among nations but exhibit similarities on a regional level. Hofstede, Hofstede and Minkov (2010) classify a country's culture according to four dimensions: *Power distance*, *uncertainty avoidance*, *individualism vs. collectivism* and *femininity vs. masculinity*. Hofstede (2011) adds a fifth and a sixth dimension, *long-term vs. short-term orientation* and *indulgence vs. restraint*, respectively. Even though these cultural measures are highly stereotypical, they give a general intuition about how cultures can be differentiated.

The *power distance index* measures to what extent a country's less powerful members honour and expect that power is distributed unequally across organisations and institutions. It represents inequality that is defined from below (i.e. more vs. less) and claims that followers as well as leaders approve the society's level of inequality. Every society is unequal, but some are more than others. Power and inequality are both crucial features of a society's thinking, feeling and acting. In a small power distance country, for instance, corruption is rare and scandals end political careers, whereas in large power distance countries corruption is a frequent phenomenon and scandals are covered up. Similarly, in countries with a small power distance, hierarchy means inequality of roles that are established for convenience while in large power distance nations hierarchy signifies existential inequality (Hofstede 2011). De Jong (2013, p. 77) claims that labour market regulations are more restrictive in countries that score low on the power distance measure, i.e. that exhibit a small power distance, since "[t]hese regulations provide certainty for the individual employee, constrain market forces and aim at protecting the rights of the weak party." Eastern European, Latin, Asian and African countries are considered to score higher on the power distance scorecard compared to Germanic and English-speaking Western countries (Hofstede, Hofstede and Minkov 2010).

The second dimension of *uncertainty avoidance* "... deals with a society's tolerance for ambiguity" (Hofstede 2011, p. 10). It measures to what extent a society feels either comfortable or uncomfortable in situations that are novel, unknown or surprising compared to the usual. Societies with a high score in this dimension try to avoid uncertainty by means of behavioural codes, laws and rules. For instance, in cultures that are deemed to have weak uncertainty avoidance, changing jobs is no problem whereas in strong uncertainty avoiding cultures one stays in a job even if it is disliked. Black (1999) shows that there exists a strong positive correlation between uncertainty avoiding countries and the strength of their labour market protection regulation. Hofstede, Hofstede and Minkov (2010) claim that in East and Central European countries, in Latin countries, in Japan and in German-speaking countries uncertainty avoidance is stronger and in English-speaking, Nordic and Chinese cultures weaker.

Individualism vs. collectivism measures to which degree people in a society are integrated into groups. In individualistic societies the connection between individuals is limited and their behaviour egoistic. On the other hand, in collective cultures, people are from birth on integrated into groups or extended families. In *individualism* a personal opin-

ion is expected, while in collectivism opinions are predetermined by the group (Hofstede 2011). According to Black (2001), in collectivistic countries where there is greater loyalty to the group, labour mobility is smaller and job tenure longer. In Hofstede, Hofstede and Minkov (2010), developed and Western countries are seen to be more individualistic, whereas collectivism prevails in developing and Eastern countries.

Societies can also be classified using *masculine vs. feminine*. According to Hofstede (2011) and highly stereotypical as well as old-fashioned thinking, men's and women's values differ in the sense that the former are seen to be more assertive and competitive, while the latter more modest and caring. Similarly, masculinity and femininity refer in a societal context to which extent countries can be seen as exposing either more male or female values. In German speaking countries, and in some Latin countries like Italy and Mexico the masculinity indicators are so high that, for instance, the strong are admired and women are rare in political positions. Nordic countries and some Latin and Asian countries like France, Spain, Portugal, Chile, Korea and Thailand are seen to be more feminine, for instance, by exhibiting sympathy for the weak and the fact that mothers decided on the number of children. Black (2001) shows that the wage differential between women and men is high in masculine societies. Furthermore, in these countries, the female labour market participation is lower.

The fifth cultural dimension is labelled *long-term vs. short-term orientation*. The dimension *long-term orientation* captures the economic part of a society's culture. Values found in long-term oriented countries are things such as "... perseverance, thrift, ordering relationships by status, and having a sense of shame" (Hofstede 2011, p. 13). In such societies, a strong work ethic exists where long-term rewards are the results from today's hard work. Values that can be found in short-term oriented societies are "... reciprocating social obligations, respect for tradition, protecting one's 'face', and personal steadiness and stability" (Hofstede 2011, p. 13). North America, Latin America, Africa and Arabic countries are short-term oriented while East Asian countries and Eastern- and Central Europe are rather long-term oriented.

As sixth and final dimension *indulgence vs. restraint* is added to the index. It covers a novel dimension in that it includes research conducted on happiness. In this sense, indulgence stands for a society that allows for a free satisfaction of human desires related to having fun and enjoying life. Leisure time is more important than additional paid work. Restraint, on the other side, moderates gratification of human needs with the aid of strong social norms and codes. Whether a society is classified as indulgent or restraint strongly influences the position of an employee in the workplace in the form of voicing opinions and giving feedback. "Indulgence tends to prevail in South and North America, in Western Europe and in parts of Sub-Sahara Africa. Restraint prevails in Eastern Europe, in Asia and in the Muslim world. Mediterranean Europe takes a middle position on this dimension" (Hofstede 2011, p. 16).

Having gained an overview about how Hofstede (2011) and Hofstede, Hofstede and Minkov (2010) classify a country's culture according to the six dimensions, for all of the 111 countries that exist in his index[22] one single cultural dimension score is generated by means of simple averaging. Due to the fact that in Hofstede's index, major countries of origin such as Eritrea or Somalia are not covered at the country level but rather at a regional level such as "Africa East" or "Africa West", average regional scores according to the 18 geographical regions from the United Nations Statistics Division's classification are generated. The regional scores are then subtracted in absolute value from the score that Switzerland obtains ($dHCD$). This measure indicates how different a region's culture is in comparison to the Swiss culture. Because it is difficult to interpret an index, a dummy variable is constructed that is equal to 1 if $dHCD$ for individual i's region of origin is larger than the median of $dHCD$ ($dHCD50$). If the value is 1, the two societies are considered to be culturally distant and one would expect the integration of individuals from distant societies into the Swiss labour market to be more challenging. In other words: Being culturally different is considered to be disadvantageous in the Swiss labour market compared to being culturally similar to Swiss natives. However, Berry (1997) points out that in cross-cultural psychology there exists supportive evidence that individuals change their behaviour if they adapt to a new setting in the sense of "acculturation". Putnam (2007, p. 164) even notes that "[m]ost immigrants want to acculturate [...]", to learn the local language, for example. This would suggest that the longer people stay in Switzerland the less important cultural differences become because people adopt to the new Swiss setting. To test for this cultural learning, an interaction-term between an individual's cultural distance and their duration of stay in Switzerland ($dHCD50 * Duration$) is included in a separate regression and reported in Table 3 at the end of the section. Since the average length of stay of AS, TAR and RR are 1.3, 6.8 and 9.0 years, respectively, three dummy variables are constructed that are equal to 1 if an AS stays longer than 2 years ($Duration > 2$), or an TAR stays longer than 6 years ($Duration > 6$) or if an RR resides longer than 9 years ($Duration > 9$) in Switzerland.

The regression results after including $dHCD50$ can be seen in Table 2 in specifications 2, 5 and 8. It can be noted that the cultural distance does not seem to matter for AS, rather other variables are deemed to be important, e.g. language. In specification 2, while controlling for cultural distance, the French language effect becomes stronger compared to specifications 1 or 3, where culture is not controlled for. Conversely, cultural distance is a statistically significant and fairly strong predictor for the employment chances of TAR and RR. Moreover, the effect goes in the expected direction: A TAR that immigrates from a region that is culturally more distant than the median region has roughly 7% lower chances of being employed compared to a TAR who originates from a region that ranks below the median in terms of cultural distance. The effect for RR, is with roughly 6%, lower but points in the same direction. The results to test for cultural assimilation are

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[22]http://www.geerthofstede.nl/dimension-data-matrix; date of last access: 2016/08/05

reported in Table 3. At first glance it becomes apparent that only minor changes occur compared to the results in Table 2. *Education* loses it's significance in specification 2 for TAR. The French language effect becomes statistically significant for RR in specification 3 and the Italian language effect is now significant and points in an unexpected direction for TAR. Similar to the results in Table 2, for the three groups of interest the cultural distance measure $dHCD50$ is negative and statistically significant. The respective interaction term $dHCD50 * Duration$ is for all three groups of interest positive and significant which leads to conclude that individuals coming from culturally more distant regions than the median region and stay longer than the average individual with respective status are more likely to be employed. This is in line with the hypothesis that refugees 'acculturate' to the new Swiss setting. Remarkably, the interaction term in specification 3 is strongly statistically significant and positively related to the employment chances of RR, even though the longer they stay generally in Switzerland the less likely they are to be employed as can be seen in both Tables, 2 and 3.

3.1.6 War Exposure

As a last predictor for a refugee's work probability, the impact of war exposure is assessed. From medical studies it is known that "... somatic presentations such as headaches, non-specific pains or discomfort in torso and limbs, dizziness, weakness, and fatigue are central to the subjective experience and communication of distress wrought by war and its upheavals worldwide" (Summerfield 2000, p. 232). Liebig (2007) argues that refugees have often been subject to significant psychological distress. This can be a result of, for instance, war or violence exposure in their countries of origin or experiences in refugee camps or hazardous journeys during their displacement or uncertainty of the asylum granting process or feelings of isolation during resettlement in a new country. Similarly as Lundborg (2013) claimed for the Swedish case, one could think that people who originate from war-intensive countries are less likely to find employment in Switzerland: From an employee perspective, past traumatic experiences could adversely impact their performance in mentally stressful situations such as during job hiring interviews or trial periods. From an employer perspective, one could argue that employers statistically discriminate against refugees if they lack productivity information. If employers anticipate that individuals from war-intensive countries are more stress-prone, they employ fewer of them if no other information such as education or work documentation from which productivity could be inferred is available. Since the AsylA only grants the RR status to people who have been exposed to intolerable psychological pressures, it is assumed that RR who immigrate from war-intensive countries exhibit the largest adverse effect on employment. On the other hand, the definition of TAR includes TAP whose asylum request has been denied but repatriation can not be executed and TAR who qualify for the RR status but only by or after leaving the country of origin. Due to the nature of this definition, there is expected to be a smaller adverse effect for TAR on their work probability compared to RR since the concentration of seriously distressed individuals is considered to be smaller in the TAR-sample. The weakest negative effect is anticipated for AS. Because of their

incomplete asylum procedure, a certain proportion will obtain some sort of asylum while the remaining proportion will have to leave Switzerland. Among AS remain individuals who were not or least subject to somatic presentations (i.e. economic migrants) and thus the concentration of disadvantaged individuals with intolerable psychological pressures is considered to be smallest. In order to measure the war-intensitivity of a country, the Global Peace Index (GPI)[23] from the *Institute for Economics and Peace* is used. The GPI ranks 162 countries on a yearly basis according to 23 indicators. Indicators such as the level of perceived criminality in society, the number of homicides per 100'000 people, the intensity of organised internal conflict or the number of deaths from organised conflicts are included. A detailed list and description of the indicators is available via the link in footnote 23. Similarly as with education, the index score of 2007 is considered for RR since the largest amount of RR immigrated in the year 2008. Most of the TAR arrived in the year 2014 and thus the index score from the year 2013 is used. Finally, for AS, the 2014 index score is used. In order to facilitate the interpretation of the index, a dummy variable is constructed that is equal to 1 if the respective index score is above the median index score ($GPI50$).

Table 2 reports results that are somehow in line with the above mentioned hypotheses. War exposure is only statistically significant for AS. However, it seems not to be relevant for TAR and RR. At the same time it can be noticed that the effect is weakest for AS. AS who immigrated from countries that have an 'above-median' war exposure are some 0.8% less likely to be employed compared to AS from 'below-median' countries. Though not statistically significant, the effect for TAR and RR are comparable in size to each other and larger compared to AS.

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[23]http://economicsandpeace.org/wp-content/uploads/2015/06/Global-Peace-Index-Report-2015_0.pdf; date of last access: 2016/08/08

	(1) WDAS	(2) WDAS	(3) WDAS	(4) WDTAR	(5) WDTAR	(6) WDTAR	(7) WDRR	(8) WDRR	(9) WDRR
Female	-0.00566***	-0.00566***	-0.00559***	-0.160***	-0.156***	-0.161***	-0.0774***	-0.0779***	-0.0774***
	(0.00167)	(0.00166)	(0.00161)	(0.0112)	(0.0105)	(0.0116)	(0.00497)	(0.00496)	(0.00498)
Age	-0.000164*	-0.000149*	-0.000159*	-0.00186***	-0.00169***	-0.00185***	-0.00133***	-0.00129***	-0.00132***
	(0.0000721)	(0.0000689)	(0.0000733)	(0.000390)	(0.000397)	(0.000393)	(0.000252)	(0.000256)	(0.000256)
Duration	0.00288***	0.00290***	0.00280***	0.0138***	0.0137***	0.0137***	-0.0121***	-0.0126***	-0.0122***
	(0.000713)	(0.000698)	(0.000676)	(0.00102)	(0.00100)	(0.00102)	(0.000650)	(0.000671)	(0.000652)
Social Networks	0.000557***	0.000600***	0.000669***	-0.00345**	-0.00672***	-0.00622***	-0.000275	0.000404	-0.000178
	(0.000132)	(0.000138)	(0.000140)	(0.00125)	(0.00144)	(0.00103)	(0.000978)	(0.00101)	(0.000985)
Education	0.0465***	0.0431***	0.0301***	0.0429*	0.0490*	0.0942**	0.244***	0.136***	0.258***
	(0.00840)	(0.00839)	(0.00610)	(0.0215)	(0.0215)	(0.0323)	(0.0347)	(0.0330)	(0.0328)
French	0.0927**	0.102***	0.0872**	0.0586	0.0613	0.0605	0.00217	0.00177	0.00228
	(0.0296)	(0.0298)	(0.0281)	(0.0344)	(0.0346)	(0.0339)	(0.00787)	(0.00812)	(0.00760)
Italian	0.0166***	0.0166***	0.0167***	-0.00175	-0.00169	-0.00630	0.00599	0.00695	0.00647
	(0.00471)	(0.00452)	(0.00453)	(0.0129)	(0.0110)	(0.0131)	(0.0173)	(0.0159)	(0.0169)
dHCD50		-0.00362			-0.0741***			-0.0628***	
		(0.00193)			(0.00864)			(0.00683)	
GPI50			-0.00800***			-0.0370			-0.0256
			(0.00221)			(0.0191)			(0.0174)
N	26721	26721	26721	23043	23043	23043	27451	27451	27451
pseudo R^2	0.2001	0.2024	0.2087	0.0693	0.0733	0.0702	0.1323	0.1402	0.1326
French country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
French canton FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Italian country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Italian canton FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Note: Coefficients represent average marginal effects (AME) from a logit regression. Standard errors clustered at the cantonal level in parenthesis.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Data source: SEM dataset

Table 2: Logit estimates for individual characteristics

	(1) WDAS	(2) WDTAR	(3) WDRR
Female	-0.00802***	-0.150***	-0.0734***
	(0.00186)	(0.0103)	(0.00463)
Age	-0.000146*	-0.00172***	-0.00139***
	(0.0000577)	(0.000385)	(0.000252)
Social Network	0.000313*	-0.00338**	0.000880
	(0.000142)	(0.00121)	(0.000964)
Education	0.0383***	0.0217	0.119***
	(0.00856)	(0.0259)	(0.0343)
French	0.0552**	0.0604	0.0832**
	(0.0179)	(0.0341)	(0.0271)
Italian	0.0169**	-0.0269*	0.0118
	(0.00560)	(0.0113)	(0.0141)
dHCD50	-0.00680**		
	(0.00234)		
dHCD50*Duration>2	0.00803**		
	(0.00289)		
Duration>2	0.0218***		
	(0.00337)		
dHCD50		-0.158***	
		(0.0145)	
dHCD50*Duration>6		0.163***	
		(0.0173)	
Duration>6		0.107***	
		(0.0135)	
dHCD50			-0.0548***
			(0.00715)
dHCD50*Duration>9			0.135***
			(0.0196)
Duration>9			-0.390***
			(0.0239)
N	26721	23043	27451
pseudo R^2	0.2609	0.0978	0.1887
French country FE	YES	YES	YES
French canton FE	YES	YES	YES
Italian country FE	YES	YES	YES
Italian canton FE	YES	YES	YES

Note: Coefficients represent average marginal effects (AME) from a logit regression. Standard errors clustered at the cantonal level in parenthesis.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Data source: SEM dataset

Table 3: Culture, duration and it's interaction

3.2 Cantonal-level Characteristics

Labour market conditions are certainly decisive in determining the employment outcomes of refugees. Åslund and Rooth (2007) show for Sweden that when and in which labour market immigrants enter matters. Their results suggest that national as well as local labour market conditions are important, for example entering during a recession decreases the chances of employment. Similarly, Liebig (2007) notes that in Germany a good economic situation favourably influences the labour market integration of immigrant men. However, he further adds that labour market policies are of major importance. His con-

clusion stems from the fact that immigrant women have particularly low employment rates, which is to some extent attributable to German labour market policies that limited labour market access of spouses. As a general result, Layard, Nickell and Jackman (2005) note that from a multi-country perspective Active Labour Market Policies (ALMP) positively impact employment. Gerfin and Lechner (2002) investigate the effect of ALMP in Switzerland and find results that are in line with the multi-country perspective of Layard, Nickell and Jackman (2005). Especially for a particular program that pays wage subsidies for temporary jobs that otherwise pay less than unemployment rents a positive effect is found on employment probability. Aiyar et al. (2016) stress that ALMP specifically targeted to the needs of refugees increase their chances in the labour market. They claim, similarly to Layard, Nickell and Jackman (2005), that wage subsidies to private employers are often a promising tool to boost immigrant's employment. The analysis of Dörr and Faist (1997) goes in a similar direction but focuses on institutions. They investigate the impact of institutional conditions on the integration of immigrants in Western European welfare states and find that legal and institutional conditions play a vital role. A legal perspective is also taken up by Lazear (1990). He assesses the importance of employment protection laws in European countries and finds that with such institutions in place, employed people are more likely to keep their jobs but unemployed people are less likely to be hired. Feld and Savioz (2000) look at demographic variables in Switzerland and how they influence labour market outcomes. They find that the structure of the active population and geographic factors explain differences across unemployment rates in Swiss cantons. According to the authors, the more foreign workers a Swiss canton counts as permanent residents or the more foreigners living abroad but crossing the Swiss border to work, the higher the cantonal unemployment is. Even though there is much evidence that the state of the labour market matters for a person's employment chances, Åslund and Rooth (2007) stress that refugees are likely to be less responsive to the conditions in the labour market since push- rather than pull factors determine their reason for migration.

Due to Switzerland's constitution, 26 cantons exist. These cantons can be considered as local labour markets within Switzerland since economic, demographic and cultural characteristics differ greatly across them. Section 2.2 highlighted that labour mobility between cantons is restricted for refugees in Switzerland. Due to the administrative burden of changing cantons, it can be assumed that labour market mobility for AS, TAR and RR is fairly close to zero. Together with the exogenous allocation of AS, TAR and RR across these cantons, it is possible to credibly test whether labour market conditions matter for the employment chances of refugees in Switzerland. Or alternatively formulated: Does it matter where the individual is placed rather than what characteristics the individual possess, as was assessed in section 3.1. Therefore, this section looks at 'refugee-specific' labour market conditions. Subsection 3.2.2 looks at labour market competition, subsection 3.2.3 at labour market institutions and subsection 3.2.4 at the absorptive capacity of a labour market. Similarly to the previous section, this section starts by discussing the data and the model.

3.2.1 Data Description and Model

In order to assess the importance of cantonal-level characteristics, a panel data approach is applied. The dependent variables are the employment rates[24] of AS ($ERAS$), TAR ($ERTAR$) and RR ($ERRR$) over the five year period from 2010 to 2014 for all 26 Swiss cantons. The unit of observation is the canton. Data is publicly available from the SEM.[25]

A panel data model with a strongly balanced dataset is used. The baseline model looks as follows:

$$ER**_{c,t} = \alpha + \beta Unemployment_{c,t} + \gamma GDPpC_{c,t} + \delta Population_{c,t} + FE_c + FE_t + \epsilon_{c,t} \quad (2)$$

The baseline specification includes general indicators of a labour market's performance and demography. Therefore, the GDP per capita for each canton and year ($GDPpC_{c,t}$) is included. It is assumed that cantons that exhibit a larger economic output per person employ more production factors (including labour) in their production functions and should therefore have higher employment rates of refugees. As a second performance indicator, a canton's unemployment rate is used ($Unemployment_{c,t}$). The larger the unemployment rate of a canton is, the larger is the supply of labour and the smaller are the chances for refugees to be employed. As a last baseline variable, inspired by the fact that all top-4 cantons highlighted in Table 1 with the highest employment rates are smaller than the average Swiss canton in terms of inhabitants, the logarithm of a canton's population size is considered ($Population_{c,t}$).[26] The Hausman test rejects the use of a random-effects model for AS and TAR. However, for RR, a random-effects model is better suited. Therefore, Table 4 reports fixed-effect estimates for AS and TAR and random-effect estimates for RR.[27] Hence, for AS and TAR, a cantonal fixed-effect (FE_c) that rules out omitted variable bias from unobserved cantonal characteristics that are time invariant over the five year period (such as a canton's geographic features, its culture and history, etc.) is included. Similarly, a year fixed-effect (FE_t) controls for common factors that change nonlinearly over the five years period (such as federal trends in migration, etc.). Bertrand, Duflo and Mullainathan (2004) show that the usual standard errors of the fixed-effects estimator are drastically understated in the presence of serial correlation. Therefore, the standard errors are bootstrapped with 100 replications and clustered at the cantonal level. The following subsections add variables to the baseline model that are thought to be of importance for a successful labour market integration of AS, TAR and RR ('refugee-specific').

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[24]Employment rates are defined as $(employed_t)/(employable_t)$ at the end of year t, where the employable persons are defined as individuals aged between 18 and 65 years of age.

[25]https://www.sem.admin.ch/sem/de/home/publiservice/statistik/asylstatistik.html; date of last access: 2016/07/05

[26]http://www.bfs.admin.ch/bfs/portal/de/index/regionen/thematische_karten/02.html; date of last access: 2016/07/05

[27]Appendix G reports random-effect estimates for AS and TAR and fixed-effect estimates for RR. In this table, the results are more in line with the stated hypotheses in this section but since the Hausman test rejects the use of a random-effect model for AS and TAR and a fixed-effect model for RR Table 4 is considered most reliable and reported at the end of this section.

3.2.2 Competition

As a first variable that is deemed to have an impact on the employment rates of AS, TAR and RR, the share of registered unemployed low-skilled foreigners living in Switzerland from the total population in a respective canton for the five year period is included (*Low-skilled Foreigners*). Low-skilled foreigners are defined as the sum of non-Swiss residents who have obtained a maximum of 7 years of schooling and individuals who have completed mandatory schooling (8-9 years in school).[28] The inclusion of this variable is motivated from a finding by Borjas (1987). He finds that the main competitors of immigrants in the US labour market are other immigrants. While this general result may be true for the US that has been exposed to large-scale low-skilled immigration mainly from the Caribbean, Central and South America, it probably does not entirely apply for Switzerland. While immigration to Switzerland after the Second World War has been characterised by essentially low-skilled immigrants, due to skill-biased technological change that demands more high-skilled people, the evolution of migration flows turned in favour of high-skilled individuals since 1992 (Pecoraro and Fibbi 2010). To claim that immigrants in general are in competition with immigrants seems therefore incredible for the Swiss case. However, to claim that only low-skilled foreigners are in competition with refugees is an appropriate approach to take this issue into account. *Low-skilled Foreigners* measures whether labour market competition between Swiss-based actors in the Swiss labour market determines the employment chances of refugees. One would expect that in cantons and years that are characterised by a larger share of low-skilled job-hunting foreigners, the smaller the employment rates of AS, TAR and RR should be due to increased job competition.

A distinct characteristic, especially in the border regions in Switzerland, is the presence of cross-border workers who live in neighbouring countries but commute across the border to work to a Swiss employer. The cantons of Geneva, Ticino and Basel-Stadt are the most affected and the largest amount of cross-border workers are employed in elementary occupations.[29] The fact that these cross-border workers often work in competing occupations with refugees would suggest that cantons with a large amount of cross-border workers should exhibit a more competitive environment for AS, TAR and RR and therefore an adverse effect in terms of employment chances is expected. The variable *Cross-border Workers* is calculated by taking the mean value of cross-border workers over the four quarters in a respective year in relation to the respective canton's population size.[30] In comparison to *Low-skilled Foreigners*, *Cross-border Workers* measures the competition that refugees face from outside Switzerland but in the Swiss labour market.

Table 4 at the end of this section reports the regression results. Apparently much less variables exhibit statistical significance compared to Table 2 and the individual-level

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[28]`https://www.amstat.ch/v2/index.jsp`; date of last access: 2016/07/06

[29]`http://www.bfs.admin.ch/bfs/portal/de/index/themen/03/02/blank/key/erwerbstaetige0/grenzgaenger.html`; date of last access: 2016/07/06

[30]`http://www.bfs.admin.ch/bfs/portal/de/index/themen/03/02/blank/data/05.html`; date of last access: 2016/07/06

characteristics. However, depending on the group under investigation, high R^2 can be observed. Table 4 reports the R^2 at the bottom. In specifications 1-4, for AS, high R^2 in the range of 43% to 54% are noticed. In specifications 5-8 for TAR the respective R^2 drops and is in the range of 12% to 14% whereas the R^2 in specifications 9-12 for RR are in the range of 12% to 20%. These decreasing coefficients of determination over the average length of stay of the respective groups (AS vs. TAR and RR) suggest that the econometric specification of Model 2 and the included variables explain quite a large part of AS's employment chances. For TAR and RR on the other hand who report lower coefficients of determination, other variables not included in Model 2, seem to matter. These facts are evidence that refugees who stay on average longer in Switzerland such as TAR and RR are more subject to other determinants for a successful labour market integration that are not 'refugee-specific' but relevant for Swiss locals. Unlike the expectation that cantons with a sound economic performance such as a low unemployment rate or a high economic output per person should enable greater employment possibilities for AS, TAR and RR, it becomes apparent that these variables generally are not important for the three groups' employment rates. Only for TAR in specifications 7 and 8 the unemployment rate is statistically significant at the 95% confidence level. The effect points in the expected direction: Cantons that exhibit a 1% higher unemployment rate confront TAR with approximately 3.9% lower employment rates.[31] The pattern of the results in Table 4 are in line with Lindenmeyer et al. (2008) who report no statistical relationship between a canton's unemployment rate and the employment rates of TAR and RR. However, in Lindenmeyer et al. (2008) no analysis was conducted for AS. Since AS are the sole group that are subject to economic and labour market conditions in order to take on employment (see subsection 2.2) it is interesting to notice that the coefficients are not statistically significant and positive. Focusing on the population size it can be noticed that indeed AS and TAR have higher employment rates if they reside in a population-poor canton (in line with Table 1). A 10% increase in the population size decreases the employment rates of AS by roughly 0.3% and of TAR by 0.26%.[32]

Turning to the competitive measures for a successful labour market integration of refugees it can be noticed from Table 4 that *Low-skilled Foreigners* is only statistically significant for TAR. Strikingly, the coefficients are fairly large and positive in every of the four specifications unlike the above-mentioned hypothesis. The higher the share of low-skilled job-hunting foreigners per canton and year, the higher the employment rates of TAR. This might be a result from the definition of TAR. Since TAR consist of TAR and TAP and the latter are classified as foreigners and not refugees, this can possibly explain the large and positive coefficients. Conversely, *Cross-border Workers* is in none of the specifications statistically significant. Therefore, the amount of cross-border workers in relation to the cantonal population size has no effect on the employment rates of refugees.

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[31] $ES**$ and $Unemployment_{c,t}$ are denoted as fractions, therefore $\hat{\beta}$ yields the direct percentage change.

[32] In the linear-log model, a p% change in X is associated with an expected change in Y of $\hat{\delta}log([100 + p]/100)$. In other words, $0.095\hat{\delta}$ is the expected change in $ES**_{c,t}$ when $Population_{c,t}$ is multiplied by 1.1, i.e. increases by 10% since $log(110/100) = log(1.1) = 0.095$.

3.2.3 Institutions

In Switzerland, the state supports so-called cantonal integration programs with financial support (CHF 115 million per year) that in turn coordinate and implement integration measures.[33] Due to this federal system the integration measures vary greatly among the 26 Swiss cantons. The cantonal parliaments take on the legislative function. They are in charge of creating integration programs that inform newly arrived people about the local circumstances, protect them from discrimination, socially integrate them and foster their labour market skills (FNA, Art. 53ff). On the other hand, cantonal governments represent the executive authorities that implement the integration programs. Therefore, the cantonal labour market institutions in terms of employment integration are likely to be pinned down by the political composition of the cantonal government as well as the parliament. Each cantonal parliament consists of at least 5 members from different political parties. Parties in Switzerland can be arranged on a left-right axis. Since the political agendas of left- and right-wing parties differ in terms of immigration preferences, a measure for a cantonal government's attitudes towards immigrants can be constructed. Gagales, Braumann and Polan (2005) allocate numerical values to the ideological positions of Swiss parties on a left-right spectrum as can be seen in appendix C. Using this classification together with the seats per party, canton and year a measure for the cantonal government composition in terms of immigration attitudes is established ($Government_{c,t}$). The same procedure is done for the parliament composition ($Parliament_{c,t}$). Cantonal governments or parliaments with a higher score (i.e. being more right) are assumed to be less in favour of immigration and thus engage smaller efforts to successfully integrate AS, TAR and RR into the labour market.[34]

From Table 4 becomes evident that neither the governmental nor the parliamentary composition are important in explaining the employment rates of AS, TAR and RR. Thus, the hypothesis that more conservative cantons undertake less efforts in order to integrate refugees into the labour market is rejected. Interestingly, however not statistically significant, the effects point always into the same and expected direction.

3.2.4 Capacity

As a last variable that is considered to be an approximation for the capacity of a labour market to receive refugees, the number of open positions in the gastronomic sector is included. Lindenmeyer et al. (2008) show that in 2006, TAR and RR with employment were with 36% for each group respectively by far most likely to be employed in the gastronomy industry. This finding suggests that in a labour market that offers relatively more employment opportunities in this sector, AS, TAR and RR should have higher employment rates. In order to test this, the variable *Open positions in Gastronomy* is constructed that

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[33]https://www.sem.admin.ch/sem/de/home/themen/integration/foerderung/spezifisch/kip.html; date of last access: 2016/08/11

[34]Cantons with consistently high governmental scores are Nidwalden and Schwyz. Cantons with consistently low governmental scores are Neuchâtel and Jura. Cantons with consistently high parliament scores are Schwyz and Schaffhausen. Cantons with consistently low parliament scores are Jura and Geneva.

represents the number of open positions in the gastronomy sector at the beginning of a respective year in relation to the population size of the respective canton. If a canton has a lot of open positions in the gastronomy sector at the beginning of a year, then, refugees should be more likely to successfully apply for such a position and thus should have higher employment rates at the end of the respective year.

The results in Table 4 highlight that only for AS in specification 3 the variable *Open positions in Gastronomy* is statistically significant. An 10% increase in the share of open positions per scaled population size yields 0.15% higher employment rates for AS.[35]

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[35]The population size has been divided by 10'000 in order to obtain adequate coefficient magnitudes.

	(1) ERAS	(2) ERAS	(3) ERAS	(4) ERAS	(5) ERTAR	(6) ERTAR	(7) ERTAR	(8) ERTAR	(9) ERRR	(10) ERRR	(11) ERRR	(12) ERRR
α	16.70***	16.39***	15.00***	15.45***	14.87**	14.58***	14.97**	14.55***	0.450*	0.476*	0.271	0.476*
	(3.979)	(3.454)	(3.564)	(3.467)	(4.537)	(4.103)	(4.988)	(4.020)	(0.192)	(0.226)	(0.139)	(0.225)
Unemployment	1.396	1.449	1.653	1.167	-3.971	-3.921	-3.861*	-3.929*	-0.568	-0.512	-1.045	-0.777
	(1.209)	(1.142)	(0.983)	(1.220)	(2.092)	(2.178)	(1.797)	(1.993)	(1.379)	(1.455)	(1.188)	(1.171)
GDPpC	-0.494	-0.920	0.559	-0.825	1.049	0.647	2.658	0.650	0.261	0.283	0.471	0.268
	(2.917)	(2.839)	(1.774)	(2.756)	(5.229)	(6.402)	(3.770)	(4.587)	(0.444)	(0.574)	(0.469)	(0.676)
Population	-3.161***	-3.088***	-2.835***	-2.913***	-2.772**	-2.704***	-2.791**	-2.698***	-0.0442	-0.0455	-0.0166	-0.0487
	(0.786)	(0.683)	(0.690)	(0.659)	(0.869)	(0.782)	(0.954)	(0.767)	(0.0354)	(0.0358)	(0.0275)	(0.0378)
Low-skilled Foreigners	0.739	-0.539	-4.594	-0.107	43.53*	42.32*	38.73*	42.33**	-1.451	-2.366	0.571	-2.494
	(11.55)	(10.91)	(8.503)	(10.86)	(19.66)	(18.70)	(19.18)	(15.72)	(6.655)	(7.928)	(7.652)	(7.404)
Cross-border Workers	-0.640	-0.489	-0.0597	-0.426	0.0863	0.229	-0.117	0.231	-0.301	-0.325	-0.269	-0.275
	(2.684)	(1.628)	(1.001)	(2.846)	(2.472)	(2.009)	(1.798)	(2.071)	(0.230)	(0.292)	(0.233)	(0.264)
Government		-0.184		-0.119		-0.173		-0.171		-0.0814		-0.0601
		(0.340)		(0.384)		(0.599)		(0.614)		(0.296)		(0.239)
Parliament			-0.0135				-0.0217				-0.0290	
			(0.199)				(0.382)				(0.179)	
Open positions in Gastronomy			0.0152*	0.0112			0.00140	0.000337			0.0196	0.0182
			(0.00719)	(0.00811)			(0.0108)	(0.0121)			(0.0127)	(0.0103)
Cantonal fixed effect	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO
Year fixed effect	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO
N	130	130	120	130	130	130	120	130	130	130	120	130
R^2	0.427	0.429	0.542	0.441	0.119	0.120	0.135	0.120	0.160	0.156	0.122	0.200

Note: Bootstrapped standard errors with 100 replications at the cantonal level in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
In columns 3, 7 and 11 the cantons of Grisons and Appenzell I. Rh. are excluded due to non-existent data due to different voting procedures.
α represents the intercept.
Data source: Own dataset

Table 4: Fixed- and random-effect estimates for cantonal characteristics

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4 Fiscal Consequences of the Labour Market Integration

In recent years, a debate about immigration's economic effects on the host economy's exchequer was sparked mostly due to the asylum crisis and the associated large amounts of newly arriving AS to Europe. Especially in focus are the costs and benefits for local taxpayers. In the literature there exist two main approaches when it comes to fiscal accounting: A static and a dynamic approach. The static approach takes the group of interest and calculates their net fiscal contributions as the difference in contributions and government expenditures over a specific period of time, usually a year. The forward-looking dynamic approach considers a cohort's and it's descendants lifetime contributions and expenditures, sums their difference up, discounts it back to the base year and reports the Net Present Value (NPV) as their fiscal impact. While the dynamic approach has the advantage of estimating the fiscal impact of immigrants who have not yet arrived, it must rely on several assumptions about the future behaviour of immigrants. Therefore, in practice, the dynamic approach confronts the static approach by asking whether the more interesting question of the lifetime impact or the more accurate point in time effect should be assessed. Because of data availability and hence greater accuracy, the static approach enjoys wide application in practice (Rowthorn 2008).

There is little empirical evidence available about the fiscal impact of refugees on the host economy's exchequer. Most studies consider immigrants in general and do not assess refugees separately. Rowthorn (2008) provides a comprehensive review of the literature focusing on the fiscal impact of immigrants in advanced economies. He concludes that the fiscal impact of immigrants in general is relatively small and in the range of $\pm 1\%$ of GDP. Furthermore, most studies considered in Rowthorn (2008) find that highly-skilled immigrants make a large fiscal contribution whereas low-skilled immigrants impose a cost on native taxpayers. This is in line with Ruist (2015) who calculates with the means of a static approach the fiscal impact of refugees - considered as low-skilled immigrants - in Sweden for the year 2007. He concludes that refugees strain the Swedish public sector which redistributed 1% of GDP from the rest of the population to the refugee population. In his study, he points out that increasing the employment rates of refugees is a decisive factor in reducing the redistribution to the refugee population. Similarly, Cully (2011) calculated the fiscal impact of humanitarian migrants in Australia who immigrated in the years 2010 and 2011 and tracks their net fiscal contributions with a model over a 20 years period. The findings illustrate that refugees in Australia negatively impact the government budget in the first 10-15 years upon arrival and positive net contributions result only at later stages. However, from a lifetime perspective these positive net contributions are not large enough to compensate for the negative impact at earlier stages. Lu, Frenette and Schellenberg (2015) analyse social assistance payments to refugees in Canada over the period 1999 until 2011 by linking administrative data files on social assistance payments with AS-specific data. The results show that shortly after submitting the asylum request, between 65% and 85% of AS relied on social assistance. For individuals whose asylum request was still pending after four years, between 25% and 40% were collecting social as-

sistance. Therefore, depending on the year and method of calculation, the Canadian State redistributed between $200 million and $520 million annually to refugees. Unfortunately, the study by Lu, Frenette and Schellenberg (2015) does not provide direct information about the net fiscal impact of refugees, but with these large expenditure numbers, it is very likely that the Canadian exchequer was negatively affected. Nasser and Symansky (2014) study the fiscal effects of the Syrian refugee crisis on the Jordanian budget in the years 2013 and 2014. They consider direct governmental spending that is visible in the budget and indirect costs which are related to quality deterioration such as larger class sizes, crowded hospitals, etc. They estimate fiscal costs of 1.8% of GDP in 2013 and 2.4% in 2014. The crucial variable that determines the fiscal costs in their study is the amount of refugees per year. A case study by Stilwell (2003) in the Australian town of Young over the 18 month period between mid-2001 and the start of 2003 looked in particular at the economic contributions from Afghan refugees at a regional level. The author stresses that mostly due to the multiplier effect the presence of the refugees had an overall positive effect on the local economy. The findings highlight that doing useful work rather than being kept in asylum centres benefits the local economy much more.

Multiple studies have shown how important the labour market integration of refugees is for the public budget. "[T]he sooner the refugees gain employment, the more they will help the public finances by paying income tax and social security contributions" (Aiyar et al. 2016, p. 5). However, so far no numbers of the fiscal impact of refugees in Switzerland exist, a shortcoming that is addressed in this section. This section starts in subsection 4.1 by describing the model that is used to calculate the fiscal impact of refugees in Switzerland. Subsection 4.2 discusses the measurement and the data that is fed into the model and subsections 4.3 and 4.4 illustrate the results at the federal and cantonal level, respectively. Last but not least, subsection 4.5 illustrates a credible scenario.

4.1 Model

In order to calculate the fiscal impact of refugees in Switzerland, a static accounting model is used. Inspired by Dustmann and Frattini (2014), the model looks as follows:

$$
FIM_{\bar{t}} = \frac{\sum\limits_{t=1}^{T} \left(\sum\limits_{c=1}^{C} \sum\limits_{s=1}^{S} \left(\sum\limits_{i=1}^{I} \alpha_{i,s,c,t} cont_{i,c,t} - \sum\limits_{j=1}^{J} \beta_{j,s,c,t} exp_{j,c,t} \right) + RPC_{t,s=1} \right)}{T} \tag{3}
$$

$FIM_{\bar{t}}$ stands for the average fiscal impact over the period from 2008 to 2014 and - if positive - represents the average surplus for this period which AS and TAR bestow on the Swiss exchequer or - if negative - the average deficit AS and TAR cause. Baseline year (t=1) is 2008 and T=7. The letter s identifies the *two* groups of interest: AS if s=1 and TAR if s=2. Subsection 4.2 explains the exclusion of RR. The letter c relates to the 26 Swiss cantons. $\alpha_{i,s,c,t}$ represents group s's share of contribution i in canton c and year t. I is the amount of contributions considered and hence is 4 in this case. Similarly,

$\beta_{j,s,c,t}$ stands for group s's share of expenditure j in canton c and year t (J=7 + RPC). For instance, the total amount of income taxes payed by AS and TAR in a specific canton and year ($cont_{i=1,c,t}$) can be split up among the two groups of interest. Therefore, $\sum_{s=1}^{S} \alpha_{i,s,c,t} = \sum_{s=1}^{S} \beta_{j,s,c,t} = 1$. For a federal assessment the α and β do not matter. However, for an analysis at the group level they are decisive to apportion contributions or expenditures that are not available on an individual level. $RPC_{t,s=1}$ is a yearly administrative cost for running the RPC and is included at the federal level since RPC are run by the SEM. In prose, equation 3 sums the difference of all the apportioned contributions and expenditures of the two groups of interest and adds them up over the 26 cantons and 7 years time period from 2008 until 2014. Lastly, the division by T yields the average fiscal surplus or deficit, a more robust and realistic measure of the fiscal impact compared to a point in time assessment.

Given the results from the assessments in other countries, AS and TAR in Switzerland most likely strain the exchequer, too. Therefore, an upper-bound approach will be employed to calculate their fiscal impact. This means, when assessing the contributions, they are measured conservatively. Conversely, the expenditures are included liberally. This sort of accounting exercise makes sense in an environment that requires strong assumptions. Due to the scaling down of the $FIM_{\bar{t}}$, it is possible to obtain a number that most likely does not exceed the true fiscal impact and can be considered as the upper-bound measure of the fiscal impact of AS and TAR in Switzerland.

4.2 Measurement and Data

AS and TAR in Switzerland contribute to the exchequer in the form of payments which benefit the Swiss entity. On the other hand they draw support payments from the state or the state is responsible for undertaking payments because of them. Some contributions and expenditures accrue at the cantonal level, for instance cantonal income taxes, whereas others at the federal level such as the VAT. Nevertheless, all contributions and expenditures will be allocated at the cantonal level independent of their point of accrual. As Model 3 highlighted, the federal impact ($FIM_{\bar{t}}$) results as the summation of the cantonal difference between contributions and expenditures. Figure 7 graphically illustrates the positions under consideration that are explained in detail in subsections 4.2.1 and 4.2.2.
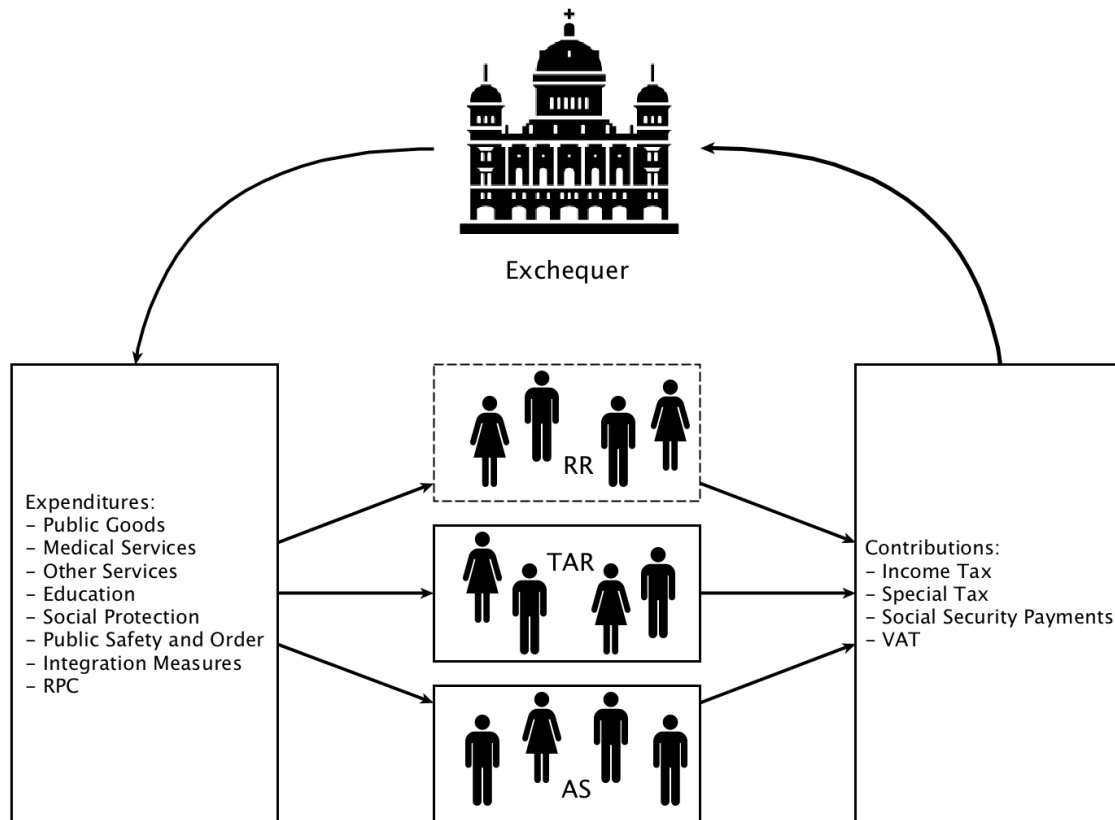
Source: Own illustration

Figure 7: Refugees' impact on the exchequer

This fiscal estimation exercise must necessarily rely on rich survey data on the population of interest, complemented by administrative data sources. Unfortunately, no data is available for RR due to a data collection problem within the FSO. Therefore, section 4 of this thesis is only able to consider two of the three groups of interest. In order to calculate the fiscal impact of AS and TAR in Switzerland, the eAsyl[36] dataset from the FSO is used. The eAsyl is an individual-specific, non-publicly available dataset of roughly 9'561 AS and TAR with less than 7 years of residence in Switzerland. The sample only includes individuals who receive social assistance from the cantons. In the spirit of the upper-bound approach it is assumed that individuals who do not receive social assistance and hence are not part of the eAsyl sample draw a higher labour income which allows them to be independent of social assistance payments. Therefore, these individuals most likely pay higher taxes and social security payments. Since they are excluded from the analysis, the assumed monthly wages for this accounting exercise are presumably to be underestimated and the true overall contributions are likely to be higher. June is the month of data observation which is chosen by the FSO due to organisational reasons and used as representative month. Some contributions and expenditures are individualised, i.e. identified at the individual level, whereas others are only observed at the federal level and thus require certain assumptions to split them among the groups of interest via the α and β. The aim of the following subsections is to comment on these assumptions.

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[36]Bundesamt für Statistik, Sozialhilfestatistik im Asylbereich (eAsyl)

4.2.1 Contributions

This subsection deals with the contributions that AS and TAR make to the exchequer in the form of payments which benefit the Swiss entity and illustrates how these positions are measured.

- Income Tax (i=1): In Switzerland income taxes are paid to the state directly in the form of so called direct federal income taxes. However, this tax is only to be paid on gross annual incomes that exceed 20'000 CHF. In the eAsyl sample, only 17 individuals have an income above this threshold and in the spirit of the upper-bound approach it is therefore assumed that no federal income taxes are payed. It furthermore is assumed that AS and TAR do not receive capital income and thus the analysis neglects this position. On the other hand, wage earners need to pay income taxes at the cantonal and community level and church taxes. Exceptions are the cantons of Aargau, Basel-Stadt, Basel-Land, Geneva, Vaud and Valais that forgo income taxes on annual incomes of less than 20'000 CHF. In order to calculate the income tax contributions, the tax intensities of a single and employed person from the cantonal capitals are consulted.[37] For each canton, year and refugee group an average labour income is generated from the sample and multiplied by the respective cantonal tax rates and the amount of employed people. Since the data is available at the individual level, the $\alpha_{i=1,s,c,t}$ in Model 3 is equal to 1 and the income taxes paid by the respective group of interest can directly be allocated.

- Special Tax (i=2): As mentioned in subsection 2.2, AS and TAP who have a valid employment relationship need to deliver on top of the regular taxes a special tax that amounts to 10% from their gross income. The special tax is omitted if it exceeds the annual amount of 15'000 CHF or if the individual receives the RR or the TAR status (Art.88 FNA and Art. 86 AsylA). However, no individual in the sample meets the financial tax waiver definition. The aim of this special tax is to ensure coverage of costs (social assistance, repatriation and enforcement costs, etc.) which were caused by working individuals from the asylum sector (Art. 86 AsylA). Similarly as with the income tax, the special tax is calculated form the labour income at the individual level and attributed to AS and TAR (in relation to the amount of TAP). Furthermore $\alpha_{i=2,s,c,t}$ is again equal to 1.

- Social Security Contributions (i=3): Individuals who are employed in Switzerland are obliged to pay mandatory payments to the Swiss social security system. Therefore, contributions made by AS and TAR help to finance the social security system of the Swiss entity that consists of the Old-age Insurance System (OASI) (8,4%)[38], Disability Insurance (DI) (1,4%), Income Compensation (IC) (0.45%) and

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[37]https://www.estv.admin.ch/estv/de/home/allgemein/dokumentation/zahlen-und-fakten/steuerstatistiken/steuerbelastung/steuerbelastung-in-den-kantonshauptorten-2014.html; date of last access: 2016/07/01

[38]Numbers in parenthesis represent the total percentages that have to be paid from the gross labour income to the respective system.

Unemployment Insurance (UI) (2.2%). A total of 12.45% from the gross labour income has to be paid to the compensation fund.[39] The employer pays with 6.225% half of the total amount. The remaining other half is paid by the employee. The payments benefit the Swiss entity independent of it's origin (employer vs. employee). Since the social security payments are taken as the percentage from the gross monthly income at the individual level of the two groups of interest, $\alpha_{i=3,s,c,t}$ equals unity.

- Value Added Tax (VAT) (i=4): The largest amount that is contributed by AS and TAR in Switzerland to the Swiss exchequer is in the form of the VAT. The VAT also constitutes the largest income source of the Swiss state in general.[40] Every individual who consumes a product or a service in Switzerland pays a tax to the state. Because it is too complicated if every person had to settle his or her consumer account with the state, the tax is paid by the producers and then imparted to the consumers. There exist three different tax rates. Specific goods and services which cover daily needs are taxed at a reduced tax rate of 2.5%. Accommodation services are to be taxed at a special rate of 3.8%. However, by far the largest amount of goods and services is taxed at the regular rate of 8.0% and therefore this rate is used to calculate the consumer tax contributions.[41] Because AS and TAR have relatively small incomes, it is assumed that their savings rate is close to zero and that all the money that they have monthly available, i.e. the net wage minus 30%[42] for rental costs which are VAT-excluded, is spent and thus taxed at the regular rate. It is assumed that they do not run into debt. Due to the individual-level assignment, $\alpha_{i=4,s,c,t}$ equals 1.

4.2.2 Expenditures

This section looks at the expenditure items for which AS and TAR need to take responsibility and are paid out by the Swiss state directly to AS and TAR or other stakeholders.

- Public Goods (j=1): Public goods and services constitute a major part of the total Swiss governmental expenditures. However, their assignment to particular groups is not straightforward and requires certain assumptions. Dustmann and Frattini (2014) differentiate between 'pure' and 'congestible' public goods. Pure public goods are non-rival in consumption and have marginal costs of zero of providing them to AS and TAR. For example, spendings on national defence, the environment or development aid are likely to remain constant independent of the population size. Therefore, these costs will be omitted for this accounting exercise. Congestible Public Goods (CPG) on the other side are to some extent rival in consumption and increase with the

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[39]`http://www.bsv.admin.ch/praxis/02504/?lang=det`; date of last access: 2016/07/25

[40]`https://www.estv.admin.ch/estv/de/home/mehrwertsteuer/themen/was-ist-die-mehrwertsteuer.html`; date of last access: 2016/07/25

[41]`https://www.estv.admin.ch/estv/de/home/mehrwertsteuer/themen/was-ist-die-mehrwertsteuer.html`; date of last access: 2016/07/27

[42]The FSO reports that the lowest 20% of income-earners spend roughly 30% on housing: `http://www.bfs.admin.ch/bfs/portal/de/index/themen/20/02/blank/dos/03/02.html`; date of last access: 2016/07/27

population size. Expenditures on culture and leisure, public transportation and agriculture are classified as such. It is therefore deemed fair to allocate via $\beta_{j=1,s,c,t}$ the outlays undertaken by the state for these CPG to the respective groups. It is assumed that the costs are born equally by all individuals within Swiss borders independent of their nationality or residence permit.[43]

- Medical Services (j=2): In order to calculate the amount of money the state spends on medical services for AS and TAR, several variables from the eAsyl dataset are considered. Firstly, the state pays in some cases for the health insurance premium. Secondly, health care costs that are not covered by health insurance such as for instance dentist visits, glasses, some medicines, footbeds for shoes or crutches are paid by the state and considered in the model. Thirdly, for some of the individuals the health insurance franchise and deductible are taken care of. Lastly, the costs of stay in a stationary facility are considered such as spendings for special schools, special shelters, etc. A representative monetary amount for the groups of interest is generated from the dataset and multiplied by the amount of people per canton and year. Since the costs are visible at the individual level, $\beta_{j=2,s,c,t}$ is equal to 1.

- Other Services (j=3): This position includes the amount of money that has been paid out to individuals to meet the basic needs to make a living. Payments for food, electricity, clothes/shoes, body care, post/telecommunication, entertainment (radio/TV), leisure activities, pens, newspapers, toys, gifts, etc. are considered. Furthermore, the amount of money spent for rent and accommodation including utility payments are taken into account. Thirdly, other insurance premiums such as for instance for liability insurance are included. Lastly, other costs such as for day nurseries, baby-equipment, special dietary nutrition, contraceptives, language courses, translation, rental depository, etc. are considered. Again, $\beta_{j=3,s,c,t}$ is equal to 1.

- Education (j=4): There are two educational costs that have to be considered, schooling and traineeship. For the former, the amount of individuals aged between 5 and 17 years per respective year are identified from the dataset that is described in subsection 3.1.1. Since schooling in Switzerland is mandatory on the primary and secondary I level[44], it can be credibly assumed that theses individuals are attending a school. The FSO reports for the year 2013 and every canton the average costs per student for mandatory schooling.[45] The multiplication of these average cantonal schooling costs with the amount of students per year yields the first part of the educational expenditures. For the traineeship costs, the amount of individuals who are enrolled in an internship, pre-traineeship or an apprenticeship are identified from the eAsyl dataset. Since the eAsyl dataset does not include the entire refugee population, the average costs for secondary schooling II is applied for every canton that

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[43]https://www.efv.admin.ch/efv/de/home/themen/finanzberichterstattung/haushalt_ueb/ausgaben.html; date of last access: 2016/08/08

[44]Until 9th grade

[45]http://www.bfs.admin.ch/bfs/portal/de/index/themen/15/17/blank/01.indicator.402103.4012.html?open=1&close=1; date of last access: 2016/08/05

are likely too high. In this manner it is expected to balance out in the best possible way the underestimation of the traineeship costs. Similar to the educational costs, the traineeship costs are constructed as the multiplication of the amount of trainees with the average yearly costs for a student that is in industrial training. $\beta_{j=4,s,c,t}$ is equal to 1.

- Social Protection (j=5): The social protection costs are taken on an individual level from the eAsyl dataset. This expenditure item measures the amount of money AS and TAR draw from the exchequer in the form of rents from the social security system. For instance, as mentioned under 4.2.1, people who are employed have to contribute to the social security system but receive a pension from the OASI once they are retired. Similarly, individuals who are disabled or likely to become disabled are entitled to rehabilitation measures from the DI. Social protection includes the rents from the OASI, DI and other smaller rents. Furthermore, this position includes daily allowances for sickness, accident insurance, unemployment insurance and employment programs. Representative mean values are multiplied by the amount of AS and TAR in a specific year and canton. $\beta_{j=5,s,c,t}$ equals 1.

- Public Safety and Order (j=6): The Swiss state paid over the 7 year period on average 946 Million CHF per year for public safety and order. Since this number includes costs for police services, border protection, courts, prisons and administration, an appropriate amount has to be born by AS and TAR. In order to determine a fair cost share, the amount of AS in pretrial detention and penal system in a respective year is considered. It is assumed that AS commit more criminal offences compared to TAR because they are less familiar with the local legal system, lack perspectives and are still strongly traumatised from the hazardous journey. Since the FSO only reports AS prison inmate numbers, this number is used for all two groups of interest and in the spirit of the upper-bound approach the apportioned share for TAR will therefore likely be too high. For the year 2014, for instance, 12% of prison inmates were AS and therefore it is claimed that AS and TAR have to bear this percentage of the total yearly costs spent on public safety and order. $\beta_{j=6,s,c,t}$ splits the costs proportionately according to the headcount to the two groups of interest.

- Integration Measures (j=7): Since January 1 2014, every Swiss canton has to have in place a cantonal integration program within which 8 promotional areas are targeted. For language and education, early promotion, employability, social integration, intercultural translation, consulting, protection from discrimination and initial information, binding goals are set that have to be met at the end of the program period. Based on Art. 55 FNA, a budget of 115 Million CHF is available yearly. Since not only AS and TAR benefit from these integration programs but foreigners residing in Switzerland in general, the costs are assumed to be borne equally by all foreigners who were born abroad but live in Switzerland. Therefore, this calssification includes people with all kinds of residence permits and the $\beta_{j=7,s,c,t}$ allocates the appropriate share of costs to the respective refugee groups.

- Reception and Procedure Centre (RPC): Subsection 2.2 highlighted that AS usually submit their asylum request in a RPC where they are accommodated for the first days upon their arrival. These RPC bring along costs for the board and lodging, requests processing, support, building maintenance and security. Since AS are the sole group that are responsible for these costs, $RPC_{t,s=1}$ in equation 3 refers only to AS. Ecoplan (2012) reports the costs that are induced due to the RPC in Switzerland over the period from 2007 until 2011. Because no more recent data is available, the amount of asylum requests in a respective year is used to proxy the RPC costs for the years 2012, 2013 and 2014. This assumption seems credible since the ratio of RPC-costs and asylum request is very stable over the period from 2008 until 2011.

4.3 Federal Impact

After having seen which positions are included in the present accounting model this section illustrates the fiscal impact of AS and TAR over the 7 seven years period from 2008 until 2014.

4.3.1 Fiscal Deficit

Figure 8 highlights that AS and TAR strain the Swiss exchequer, i.e. that they contribute less to the state in terms of taxes compared to what they draw in terms of benefits or caused expenses. On average, these two groups cost the Swiss state anually 805 Million CHF which represents 0.13% of the GDP. As can be seen from Figure 8, the fiscal deficits vary between years. In 2008, for instance, the Swiss state was confronted with a deficit of 671 Million CHF which is in contrast to the deficit of 2014 which amounted up to 1.02 Billion CHF. This variation justifies the applied mean-approach which is a more reliable long-run measure of the fiscal impact of AS and TAR in Switzerland. A distinct characteristic of the federal deficit is the increasing trend. Apart from the declines between 2009 and 2010 as well as 2012 and 2013, the fiscal deficit curve is increasing, i.e. AS and TAR have strained the exchequer more in recent years. Note that Figure 8 reports the fiscal deficit in absolute terms. Even though the overall expenditures increased by 15% from 2009 to 2010, the jump in wages of AS and TAR between the same years and hence their increased contributions led to the slight correction of the fiscal deficit in 2010. The improvement of the fiscal deficit between the years 2012 and 2013 stems from fewer asylum applications in 2013. Even though the public expenses increased from year 2012 to 2013 and thus a larger deficit should have resulted, there were 10% less asylum applications in 2013 compared to 2012 which caused less costs for RPC and social security payments and improved the fiscal deficit by 9 Million CHF. The graph on the right hand side of Figure 8 depicts the fiscal deficit for which AS are responsible divided by the amount of people with an AS status (in blue) and the identically calculated number for TAR (in red). Also at the per capita level it is remarkable to notice that the fiscal deficit per person increased generally over the 7 years period. Furthermore, an AS affects the exchequer more adversely compared to a TAR since the blue line is stricly above the red line, a likely outcome of the low employment rates of AS and the associated missing contributions.
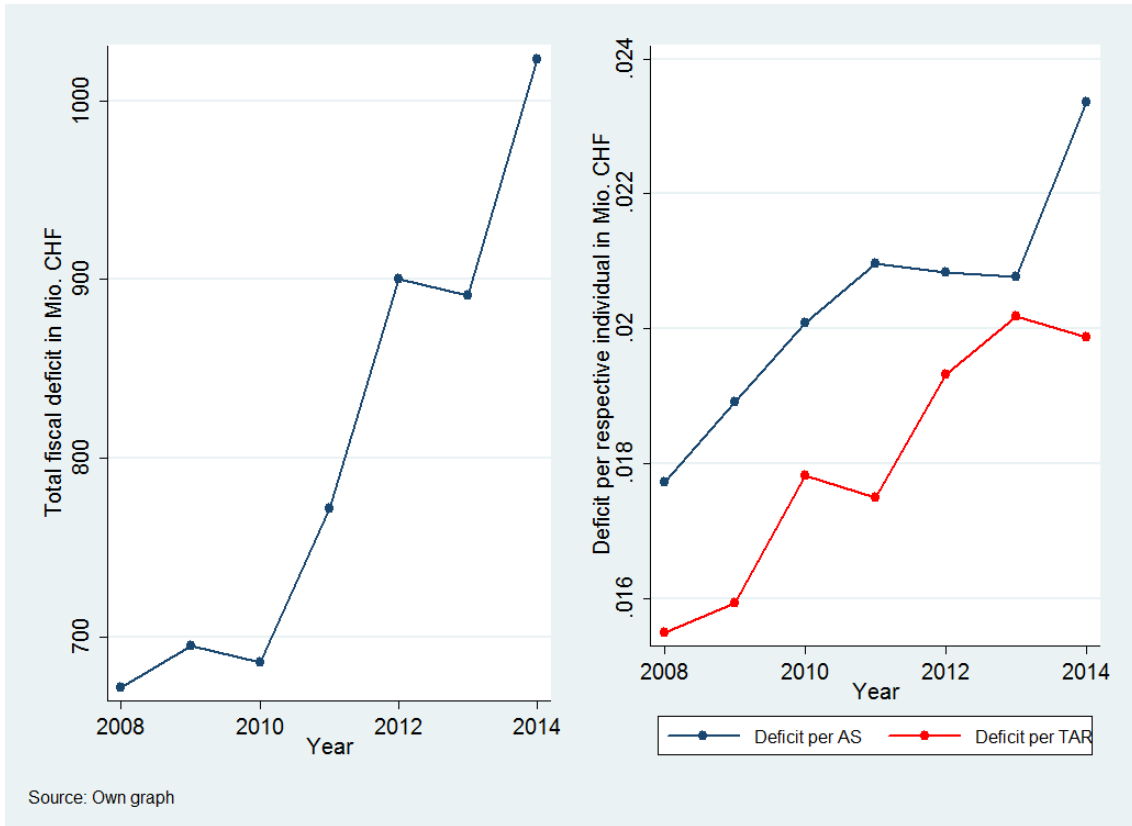
Figure 8: Fiscal deficit of AS and TAR

4.3.2 Trend of Employment Rates and Wages

The two major elements in the present model in terms of contributions of the two groups of interest are their employment rates and average wages. Figure 9 depicts the development of the wages (in blue) and employment rates (in red) over time. It can be noticed that for both groups of interest the development of the two key measures follow a similar course. The employment rates of AS exhibit a decreasing trend while this is only partially true for TAR since their employment rates increased steadily from the year 2010 until 2013. However, close attention needs to be put on the magnitude. While the average employment rate of AS is rather low at roughly 8% during the period of consideration, the average employment rate of TAR is with 38% remarkably larger. Together with Table 1 which depicts a snapshot of the employment rates in 2015 of AS (1.1%) and TAR (29.7%) a further decrease of the two lines in Figure 9 is expected.

The opposite picture appears when considering the average wages of the two groups of interest. For AS as well as for TAR the average wages are generally rising with some volatility. Over the period of consideration, the average monthly wages are 694 CHF for AS and 621 CHF for TAR. One needs to remember that the eAsyl dataset only includes individuals who receive social assistance and is therefore not representative of the whole AS- and TAR-population but considered as the best available estimate. Furthermore, questions arise from the volatility of the wage evolution of both groups of interest. Unlike the expectations of a stable wage evolution, the wages jump for instance from 2009 to

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2010 by 152 CHF for AS and 114 CHF for TAR. Figure 9 presents two counteracting effects in terms of fiscal contributions of the two groups of interest. On the one hand, employment rates are decreasing and therefore relatively fewer individuals are paying taxes. On the other hand, wages increase slightly and hence larger contributions are made from individuals who are employed.

Note: ERAS and ERTAR are defined as in subsection 3.2.1. Wage AS and Wage TAR are the average monthly wages of the respective group.
Source: Own graph

Figure 9: Employment rates and average wages of AS and TAR

4.3.3 International Comparison

In order to classify the fiscal impact in an international framework, the work of Aiyar et al. (2016) from the International Monetary Fund is used. They report the fiscal costs of AS for the year 2014 and calculate estimates for the years 2015 and 2016 for several selected EU-countries and Serbia but not Switzerland. In order to make their results comparable to the results of this thesis, the impact of *only* AS on the Swiss exchequer in 2014 is considered. A detailed description of the applied methodologies of the single countries is not reported. In Switzerland and the year 2014, AS strained the Swiss state with 376 Million CHF or 0.06% of the respective GDP. From Table 5 in the context of an international perspective it becomes apparent that the impact in Switzerland was similar to countries such as Luxemburg (0.05%), Belgium (0.07%) and France (0.05%). Northern European countries such as Sweden, Denmark, the Netherlands and Finland are, together with Italy which is often the first European country reached, the most affected. Least affected by AS in 2014 were the East European countries of the Czech Republic, Croatia, Hungary and Serbia.

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	2014	**2015**	**2016**
Austria	0.08	0.16	0.31
Belgium	0.07	0.09	0.11
Croatia	0.002	0.09	0.11
Cyprus	0.003	0.012	0.012
Czech Republic	0.0	0.0	0.02
Denmark	0.24	0.47	0.57
Finland	0.09	0.13	0.37
France	0.05	0.05	0.06
Germany	0.08	0.20	0.35
Greece	n.a.	0.17	n.a.
Hungary	0.0	0.1	0.0
Ireland	0.03	0.04	0.05
Italy	0.17	0.20	0.24
Luxemburg	0.05	0.09	0.09
Netherlands	0.10	0.18	0.23
Serbia	0.00	0.06	0.1
Spain	0.006	0.006	0.03
Sweden	0.3	0.5	1.0
Switzerland	**0.06**	**n.a.**	**n.a.**
United Kingdom	0.015	0.016	n.a.

Numbers represent percentages from GDP, respectively.
Source: Aiyar et al. (2016), for Switzerland own calculations

Table 5: International comparison of the fiscal impact of AS

4.4 Cantonal Impact

"The fiscal impact may also differ between levels of government" (OECD 2013, p. 130). In the present model, the cantons represent the building blocks in order to calculate the federal fiscal impact of AS and TAR, the main number of interest. It therefore makes sense to look closer at the origin of the federal deficit. Hence, Figure 10 illustrates the fiscal deficits of AS and TAR at the cantonal level in absolute numbers. It becomes apparent that large cantons in terms of AS and TAR numbers such as Zurich and Bern but also Lucerne, Vaud and Geneva are the cantons with the largest deficits. On the other hand, the cantons of central Switzerland, i.e. Obwalden, Nidwalden, Glarus and Uri are the least affected.
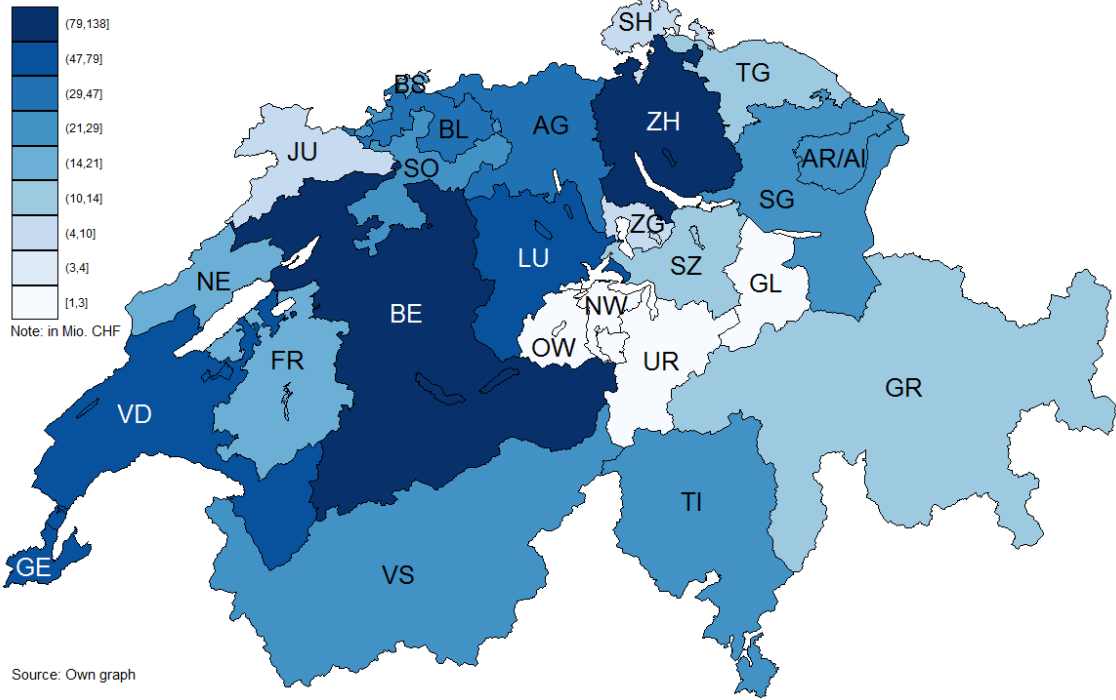
Figure 10: Fiscal deficits at the cantonal level

4.4.1 Cantonal Deficits and Economic Performance
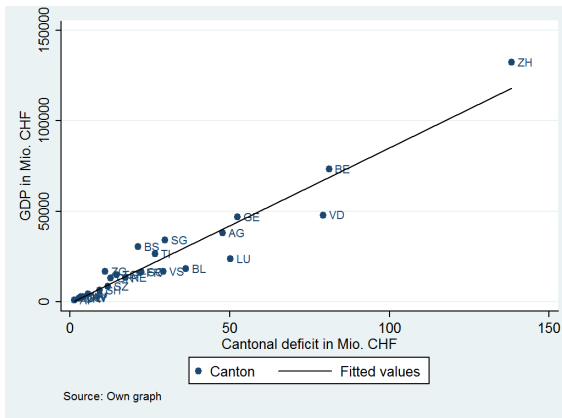
Figure 11: GDP and cantonal impact

Due to the applied methodology and the allocation of CPG on a per capita basis, the amount of AS and TAR in a respective canton is the main driver of the fiscal impact in absolute terms, similar to the findings of Nasser and Symansky (2014). At the same time, cantons with higher GDP's receive larger numbers of AS and TAR. Appendix D provides graphical prove of these two statements.

Alternatively formulated, cantons which perform economically well receive a large amount of AS and TAR and are more adversely impacted in terms of public finances. Figure 11 illustrates this situation in a scatter plot. The cantons of Zurich, Bern, Vaud and Geneva perform economically the strongest, host the most AS and TAR and face the largest cantonal deficits. On the other hand, the cantons of central Switzerland exhibit weaker economic performance, smaller numbers of AS and TAR and a smaller deficit. Even though this is not directly visible in Figure 11, Figure 10 depicts in light colours the weak impact on the cantons of Obwalden, Nidwalden, Uri and Glarus.

4.4.2 Cantonal Deficits per Capita and Tax Rates

Figure 12: Cantonal deficits per capita and tax rates

As highlighted in the previous subsection, the amount of AS and TAR pins down quite strongly the size of the deficits in the cantons. Therefore, the aim of this subsection is to clear out this 'size-effect' by looking at per capita numbers. On a per capita basis Glarus, Grisons, Appenzell I. Rh. and Bern are the cantons with the smallest negative impact. On the other side of this scale rank Basel-Stadt, Ticino, Lucerne and Geneva.
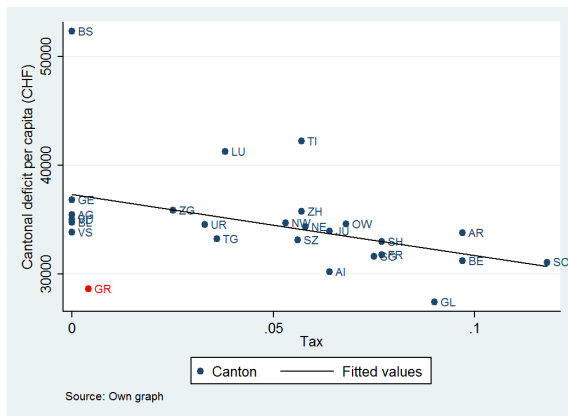
After clearing out the 'size-effect', the question of what drives the cantonal deficits on a per capita basis arises. From Figure 12 it becomes clear that cantonal tax regimes impact the cantonal deficits per capita. In other words: The higher the applicable tax rates are, the smaller is the cantonal deficit on a per capita basis. A few words need to be said about the canton of Grisons (marked in red in Figure 12). As already pointed out in Table 1, the canton of Grisons acts as a role model canton in terms of labour market integration of AS and TAR. The high employment rates in Grisons stem from individual assistance, language courses for several levels and job-coaches who support the search for work.[46] These high employment rates and the relatively high wages bias the position of Grisons in Figure 12: The fiscal deficit per capita is low even though the tax rates are very low.

4.5 Scenario Analysis

In this last section, a credible scenario is built and the consequences for the Swiss exchequer is calculated using the present model. Subsections 4.3 and 4.4 pointed out that the employment rates, wages and applicable tax rates are the main forces of the fiscal contributions of AS and TAR and largely pin down their fiscal impact on the Swiss exchequer. The following subsections hence modify theses key forces.

4.5.1 Employment Rates

As seen in the top row of Figure 9, the employment rates of AS are decreasing while TAR exhibit two years of decreasing rates, followed by three years of increasing and a drop of employment rates in 2014. However, since TAR reside on average 6.8 years in Switzerland, it can be argued that, with positive motivation, their labour market characteristics converge to become the same as low-skilled Swiss natives experience. Therefore,

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[46]http://www.srf.ch/news/schweiz/fluechtlinge-was-graubuenden-richtig-macht; date of last access: 2016/07/25

the average standardised employment rate[47] of Swiss natives over the period from 2008 until 2014 is considered. The scenario therefore assumes that TAR exhibit with 66.3% the same employment rates as Swiss natives. Indeed, this assumption is not far from reality, since humanitarian migrants reach an employment rate of roughly 60% after 6 years of residence in European countries (Konle-Seidl and Bolits 2016). On the other hand, since AS are classified as such on average for 1.3 years, face an uncertain asylum outcome, are banned from working for the first 3 month upon arrival and lack language skills, higher employment rates are hard to justify. Furthermore, the question of whether it is desirable to integrate AS into the labour market arises mostly because of their pending asylum procedure. The protection rate of the year 2015 amounted to 53.1%[48], hence roughly every second AS received asylum or temporal protection. Nevertheless, "the right to access the labour market already during the processing of an asylum claim might be crucial for speeding up the integration process as inactivity usually deteriorates the integration prospects" (Konle-Seidl and Bolits 2016, p. 32). No matter how desirable it would be for the Swiss exchequer to assume higher employment rates of AS, the most reliable scenario features unchanged employment rates for this refugee group.

4.5.2 Wages

From Lindenmeyer et al. (2008) it is known that TAR most likely work in the gastronomic sector. Figure 9's bottom row showed that AS and TAR exhibit on average low wages on which they pay taxes. Again, it is assumed the TAR should be capable of earning comparable wages as Swiss natives earn in the same sector. Therefore, the median wage[49] of people employed in the accommodation and food service activities sector that lies at 4'333 CHF per month is applied as the monthly wage TAR draw. A higher monthly wage not only reduces the dependance on social assistance but also drags TAR into a higher income class and thus higher tax rates apply. Due to the higher wage received, it is simplistically assumed that payments made to guarantee basic needs which are covered under position *Other Services* (j=3) and expenses on *Medical Services* (j=2) are reduced proportionately. For instance, if the new wage at 4'333 CHF is 6.4 times higher compared to the actual wage of 681 CHF, the payments for *Other Services* and *Medical Services* are reduced by 6.4. The payments for all other positions are assumed to remain constant. More money will not be spent on *Public Goods, Education, Social Protection, Public Safety and Order, Integration Measures* or *Reception and Procedure Centres* just because more TAR are employed and draw higher wages. For instance expenses on *Social Protection* (j=5) do not change because on the one side retired TAR receive more payments from the OASI due to higher employment rates but less money is spent on, for instance, unemployment insurance.

Under this reasonable scenario the fiscal deficit that AS and TAR bestow annually on

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[47]Individuals aged between 15 and 65 years of age, available from `http://www.bfs.admin.ch/bfs/portal/de/index/themen/03/02/blank/key/erwerbsquote.html`; date of last access: 2016/07/25

[48]`https://www.sem.admin.ch/dam/data/sem/publiservice/statistik/asylstatistik/2015/stat-jahr-2015-kommentar-d.pdf`; date of last access: 2016/07/25

[49]`http://www.bfs.admin.ch/bfs/portal/en/index/themen/03/04/blank/key/lohnstruktur/nach_branche.html`; date of last access: 2016/07/26

the Swiss exchequer can be reduced by 501 Million CHF to 304 Million CHF or 0.05% of GDP. This is a reduction of 62%. Due to higher employment rates and wages earned, TAR contribute slightly more to the state compared to what they cause in terms of expenditures and a fiscal surplus of 71 Million CHF results. The total deficit therefore results almost exclusively from AS for whom the employment rates and wages have remained unchanged.

5 Conclusion

"Employment is the single most important determinant of migrant's net fiscal balance, particularly in countries with comprehensive social protection systems" (OECD 2013, p. 125). However, if refugees face barriers in finding gainful employment or are employed under discriminatory conditions, their fiscal contributions are low. Up to date, AS and TAR negatively impact the Swiss exchequer annually with 805 Million CHF or 0.13% of the Swiss GDP. From an European perspective, these numbers represent a middle position. However, this master thesis has shown that, while partially remedying this dilemma, the fiscal strain of AS and TAR in Switzerland can be considerably improved. With similar labour market characteristics between TAR and comparable natives, the fiscal deficit can be halved. In order to reach such a result, more refugees need to be gainfully employed. According to this master thesis, the determinants that pin down whether a refugee is successfully integrated in the Swiss labour market are dictated by the individual and his/her characteristics such as the gender, age, length of stay, his/her social network, education, language skills, cultural origin and previous exposure to war. Characteristics of the place where the person is looking for work such as cantonal economic conditions, labour market competition, absorptive capacity and political institutions play practically no role.

These findings have important policy implications. Since AS are exogenously allocated to the cantons, it is deemed to be wise that the country of origin is taken into account in the allocation process in such a way that refugees can benefit from the language effect. The allocation process features that economically strong cantons receive the largest amount of refugees and redistribute the most from the native- to the refugee population, i.e. exhibit large deficits. From a budget perceptive, this is advisable. On an individual level, young TAR and RR should be able to profit from education in order to achieve a human capital level that allows them to be competitive in the Swiss labour market in the long run. Therefore, for young TAR and RR education should be prioritised to labour market integration. At the same time, TAR and RR should gain a foothold in the labour market as early as possible since the older they get, the harder their integration becomes. Since female refugees are disadvantaged in finding employment, specific instruments such as for instance child compatible jobs or job coaching should be put in place. While fostering the individual's employability, it is also of utmost importance to prepare potential employers for the engagement of refugees. It has been shown that TAR and RR from culturally different countries and AS from war-intensive countries are faced with difficulties in terms of labour market integration. Potential employers should be informed and assisted when employing 'exotic and fragile' refugees. Lastly, the intercultural mixing between refugees and especially natives should be promoted in order to reduce fear, facilitate the cultural exchange and generate a Swiss unity.

While arguing for the labour market integration of refugees in Switzerland, potential side effects need to be taken into account. Especially, the crowding-out of natives from the labour market by refugees is of great interest. Future research should therefore focus

on the consequences for native's labour market outcomes that is induced by the presence of refugees. It has been mentioned that the lack of data is the biggest challenge when studying economic effects of refugees on the host economy. Gathering accurate and more detailed data by the governmental authorities on the refugee population and providing this data to researchers is therefore highly recommended. For instance, while conducting the second interview during the asylum process, more information about the individual such as his/her amount of schooling years, language proficiency and work experience should be identified since the interviewed are asked about their stories in great detail in order to assess the eligibility for asylum. With such information at hand, future research should also look at the impact of education on one's chances in the labour market at an individual level. While this master thesis represents a starting point for future research, the success of refugees in the Swiss labour market from a social network and health perspective should be taken further and assessed at a more detailed level. For instance, a refugee's network should be defined in an extended manner and include refugees from different origins and also natives. Since this master thesis has been unable to capture the entire refugee population to calculate their fiscal impact in Switzerland, accurate data on RR should be gathered and used to asses the fiscal impact thoroughly.

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Appendix

A Classification of Cantons

CH: Switzerland	SH: Schaffhausen
ZH: Zurich	AR: Appenzell A. Rh.
BE: Bern	AI: Appenzell I. Rh.
LU: Lucerne	SG: St. Gallen
UR: Uri	GR: Grisons
SZ: Schwyz	AG: Aargau
OW: Obwalden	TG: Thurgau
NW: Nidwalden	TI: Ticino
GL: Glarus	VD: Vaud
ZG: Zug	VS: Valais
FR: Fribourg	NE: Neuchâtel
SO: Solothurn	GE: Geneva
BS: Basel-Stadt	JU: Jura
BL: Basel-Land	

B Classification of Countries

GRL: Greenland	MOZ: Mozambique
CAN: Canada	MDG: Madagascar
USA: United States of America	ZMB: Zambia
MEX: Mexico	AGO: Angola
COL: Colombia	TZA: Tanzania
VEN: Venezuela	COD: Democratic Republic of the Congo
BOL: Boliva	COG: Republic of the Congo
PER: Peru	GAB: Gabon
BRA: Brazil	CMR: Cameroon
PRY: Paraguay	CAF: Central African Republic
CHL: Chile	SSD: South Sudan
ARG: Argentina	KEN: Kenya
URY: Uruguay	SOM: Somalia
ZAF: South Africa	ETH: Ethiopia
NAM: Namibia	CIF: Ivory Coast
BWA: Botswana	NGA: Nigeria
ZWE: Zimbabwe	TCD: Chad

SDN: Sudan

NER: Niger

MLI: Mali

MRT: Mauritania

MAR: Morocco

DZA: Algeria

LBY: Libya

EGY: Egypt

ESP: Spain

FRA: France

GBR: Great Britain

GER: Germany

NOR: Norway

SWE: Sweden

FIN: Finland

ITA: Italy

POL: Poland

BLR: Belarus

UKR: Ukraine

ROM: Romania

TUR: Turkey

SYR: Syria

IRQ: Iraq

SAU: Saudi Arabia

YEM: Yemen

OMN: Oman

IRN: Iran

RUS: Russia

KAZ: Kazakhstan

UZB: Uzbekistan

TKM: Turkmenistan

AFG: Afghanistan

PAK: Pakistan

IND: India

LKA: Sri Lanka

MNG: Mongolia

CHN: China

MMF: Myanmar

VNM: Vietnam

IDN: Indonesia

KOR: South Korea

PRK: North Korea

JPN: Japan

AUS: Australia

NZL: New Zealand

C Classification of Swiss Parties
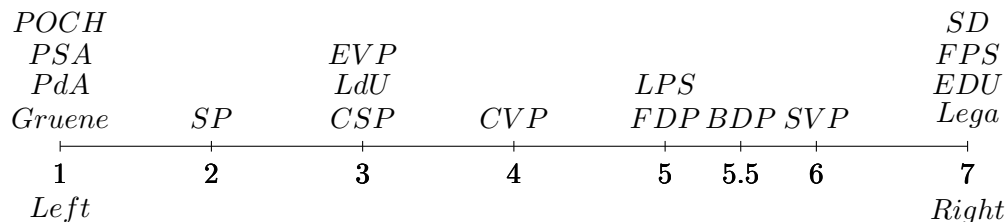
Figure 13: Classification of Swiss political parties

E   OLS Estimates

	(1) WDAS	(2) WDAS	(3) WDAS	(4) WDTAR	(5) WDTAR	(6) WDTAR	(7) WDRR	(8) WDRR	(9) WDRR
α	-0.0309***	-0.0292***	-0.0184**	0.369***	0.407***	0.428***	0.166***	0.248***	0.171***
	(0.00770)	(0.00737)	(0.00615)	(0.0248)	(0.0247)	(0.0369)	(0.0145)	(0.0155)	(0.0145)
Female	-0.00661***	-0.00645***	-0.00655***	-0.156***	-0.152***	-0.157***	-0.0719***	-0.0737***	-0.0719***
	(0.00154)	(0.00153)	(0.00153)	(0.0138)	(0.0130)	(0.0140)	(0.00504)	(0.00519)	(0.00504)
Age	-0.000271**	-0.000241**	-0.000272**	-0.00185***	-0.00168***	-0.00183***	-0.00112***	-0.00108***	-0.00111***
	(0.0000830)	(0.0000776)	(0.0000839)	(0.000356)	(0.000364)	(0.000358)	(0.000209)	(0.000216)	(0.000212)
Duration	0.0165***	0.0165***	0.0163***	0.0149***	0.0146***	0.0148***	-0.00701***	-0.00806***	-0.00699***
	(0.00396)	(0.00394)	(0.00392)	(0.00152)	(0.00147)	(0.00151)	(0.000559)	(0.000598)	(0.000568)
Social Network	0.00129	0.00107	0.000999	-0.00360**	-0.00681***	-0.00653***	-0.00117	-0.000345	-0.00114
	(0.000695)	(0.000713)	(0.000765)	(0.00127)	(0.00151)	(0.00112)	(0.000670)	(0.000661)	(0.000664)
Education	0.0552***	0.0575***	0.0427***	0.0335	0.0407	0.0889**	0.189***	0.120***	0.215***
	(0.0134)	(0.0139)	(0.00929)	(0.0221)	(0.0224)	(0.0317)	(0.0255)	(0.0243)	(0.0295)
French	0.0401*	0.0400*	0.0399*	0.0493	0.0524	0.0512	0.0361*	0.0597***	0.0282
	(0.0169)	(0.0165)	(0.0168)	(0.0346)	(0.0350)	(0.0341)	(0.0142)	(0.0146)	(0.0140)
Italian	0.0298*	0.0297*	0.0296*	-0.00485	-0.00522	-0.00993	0.000289	0.00224	0.000419
	(0.0139)	(0.0134)	(0.0137)	(0.0274)	(0.0231)	(0.0254)	(0.0245)	(0.0217)	(0.0242)
dHCD50		-0.00778*			-0.0764***			-0.0757***	
		(0.00305)			(0.00985)			(0.00596)	
GPI50			-0.00762			-0.0390			-0.0232*
			(0.00447)			(0.0191)			(0.00912)
N	26721	26721	26721	23043	23043	23043	27451	27451	27451
pseudo R^2									
French country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
French canton FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Italian country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Italian canton FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Note: Coefficients obtained from an ordinary least squares regression. Standard errors clustered at the cantonal level in parenthesis.
$* \ p < 0.05$, $** \ p < 0.01$, $*** \ p < 0.001$, α represents the intercept.
Data source: SEM dataset

Table 6: OLS estimates for individual characteristics

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F Probit Estimates

	(1) WDAS	(2) WDAS	(3) WDAS	(4) WDTAR	(5) WDTAR	(6) WDTAR	(7) WDRR	(8) WDRR	(9) WDRR
Female	-0.00572*** (0.00164)	-0.00569*** (0.00164)	-0.00577*** (0.00159)	-0.158*** (0.0114)	-0.154*** (0.0107)	-0.159*** (0.0119)	-0.0729*** (0.00463)	-0.0734*** (0.00461)	-0.0728*** (0.00462)
Age	-0.000125 (0.0000653)	-0.000113 (0.0000623)	-0.000123 (0.0000654)	-0.00190*** (0.000393)	-0.00174*** (0.000398)	-0.00190*** (0.000396)	-0.00138*** (0.000244)	-0.00133*** (0.000248)	-0.00137*** (0.000249)
Duration	0.00346*** (0.000782)	0.00346*** (0.000778)	0.00336*** (0.000751)	0.0144*** (0.00108)	0.0142*** (0.00105)	0.0142*** (0.00107)	-0.0124*** (0.000642)	-0.0129*** (0.000647)	-0.0124*** (0.000646)
Social Network	0.000530*** (0.000160)	0.000540*** (0.000159)	0.000582*** (0.000156)	-0.00338** (0.00123)	-0.00647*** (0.00145)	-0.00629*** (0.00107)	-0.000234 (0.00100)	0.000533 (0.000989)	-0.000152 (0.00100)
Education	0.0411*** (0.00748)	0.0390*** (0.00748)	0.0274*** (0.00544)	0.0408 (0.0211)	0.0494* (0.0210)	0.0966** (0.0313)	0.228*** (0.0340)	0.126*** (0.0317)	0.246*** (0.0323)
French	0.0974*** (0.0171)	0.0743*** (0.0155)	0.0837*** (0.0183)	0.0566 (0.0337)	0.0591 (0.0339)	0.0588 (0.0331)	0.0819*** (0.0246)	0.0896*** (0.0246)	0.0770** (0.0235)
Italian	0.0164*** (0.00470)	0.0163*** (0.00455)	0.0163*** (0.00457)	-0.00143 (0.0152)	-0.00133 (0.0126)	-0.00655 (0.0146)	0.00550 (0.0175)	0.00640 (0.0156)	0.00603 (0.0169)
dHCD50		-0.00292 (0.00174)			-0.0757*** (0.00900)			-0.0634*** (0.00668)	
GPI50			-0.00697*** (0.00196)			-0.0397* (0.0190)			-0.0251 (0.0155)
N	26721	26721	26721	23043	23043	23043	27451	27451	27451
pseudo R^2									
French country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
French canton FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Italian country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Italian canton FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Note: Coefficients represent average marginal effects (AME) from a probit regression. Standard errors clustered at the cantonal level in parenthesis.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Data source: SEM dataset

Table 7: Probit estimates for individual characteristics

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G   Random- and Fixed-Effect Estimates

	(1) ESAS	(2) ESAS	(3) ESAS	(4) ESAS	(5) ESTAR	(6) ESTAR	(7) ESTAR	(8) ESTAR	(9) ESRR	(10) ESRR	(11) ESRR	(12) ESRR
α	0.274*	0.358*	0.350***	0.290*	0.828***	0.807***	0.693***	0.798***	7.021	7.079	8.668	6.377
	(0.117)	(0.166)	(0.103)	(0.146)	(0.155)	(0.179)	(0.167)	(0.200)	(6.348)	(6.716)	(5.689)	(6.690)
Unemployment	3.962***	3.636***	2.945***	2.303**	-3.247*	-4.235***	-3.264***	-4.619***	-0.0889	0.256	0.404	0.0402
	(0.959)	(0.875)	(0.712)	(0.786)	(1.265)	(1.321)	(0.866)	(1.002)	(1.639)	(1.432)	(1.701)	(1.547)
GDPpC	-0.304	-0.771*	-0.478	-0.435	0.488	-0.0942	0.184	-0.0336	2.666	1.603	6.712*	1.693
	(0.543)	(0.318)	(0.462)	(0.339)	(1.166)	(0.382)	(0.374)	(0.420)	(4.557)	(4.385)	(2.864)	(4.529)
Population	-0.0403	-0.0405	-0.0576**	-0.0397	-0.0658*	-0.0567*	-0.0625	-0.0598	-1.317	-1.306	-1.678	-1.176
	(0.0235)	(0.0291)	(0.0203)	(0.0243)	(0.0298)	(0.0274)	(0.0326)	(0.0317)	(1.249)	(1.320)	(1.104)	(1.334)
Low-skilled Foreigners	-16.31***	-19.11**	-15.53**	-14.43**	1.289	1.991	2.393	2.363	-18.25	-21.16	-2.683	-20.80
	(4.629)	(5.996)	(5.004)	(4.401)	(8.406)	(9.467)	(10.32)	(7.018)	(23.80)	(17.95)	(14.49)	(18.14)
Cross-border Workers	-0.472*				-0.665				-1.061			
	(0.190)				(0.453)				(3.090)			
Government		-0.199		-0.0963		0.0802		0.111		-0.329		-0.280
		(0.162)		(0.183)		(0.208)		(0.238)		(0.683)		(0.568)
Parliament			0.0300				0.421**				-0.516	
			(0.103)				(0.154)				(0.501)	
Open positions in Gastronomy			0.0276***	0.0360***			0.0138	0.0219*			0.0145	0.00797
			(0.00641)	(0.00942)			(0.0113)	(0.0100)			(0.0123)	(0.0123)
N	130	130	120	130	130	130	120	130	130	130	120	130
R²									0.053	0.054	0.118	0.057

Note: Bootstrapped standard errors with 100 replications at the cantonal level in parentheses, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
In columns 3, 7 and 11 the cantons of Grisons and Appenzell I. Rh. are excluded due to non-existent data due to different voting procedures.
α represents the intercept.
Data source: Own dataset

Table 8: Random- and fixed-effect estimates for cantonal characteristics

D GDP, Cantonal Deficits and Amount of AS and TAR

Figure 14: GDP, cantonal deficits and amount of AS and TAR