
Hélio Adelino Manhiça

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Multi-disciplinary Master’s Program in Demography
Demography Unit, Department of Sociology, Stockholm University
Supervisor: Sara Ström and John Öst

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Abstract

This study examines the pattern of unemployment duration of African immigrants in Sweden as well as the effect of emigration origin, age, gender, level of education and family characteristics on the probability of getting a job upon arrival. The study is based on PLACE-database; the dataset is restricted to individuals born in Africa who immigrated to Sweden during the period of 1994-2008. Results from the Kaplan–Meier estimators and Proportional Hazard Models indicate that unemployment duration and the relative risk of getting a job upon arrival vary according to emigration origin and gender differences. In fact, immigrants from Somalia experience longer unemployment duration than Sub Saharan and North African immigrants. Additionally, African women are more likely to experience longer unemployment duration in comparison to men. Women from Sub Saharan Africa experience shorter unemployment duration in comparison to Somalis and North African ones. On the contrary, there are North African men who experience shorter unemployment duration than men from Sub-Saharan African and Somalia. The results also indicate that the relative risk of leaving unemployment upon arrival also differ by gender and region of emigration. In fact, men experience higher relative risk of leaving unemployment in comparison to women. In addition, the gender gap is found to be much more remarkable among the North African immigrants in comparison to Somalis and Sub Saharan ones. Furthermore, the possibility of leaving unemployment upon arrival decreases with age and childbearing, moreover holding university education increases the relative risk of leaving unemployment upon arrival.

Key words: Immigrant, labor market, Africa, human capital, ethnicity, survival analysis. Kaplan Meier, proportional Hazard model.
1. Introduction
Apart from several other central factors, labor market participation and working life are crucial areas of human participation in a society. Actually, the labor force participation determines the level of social integration of immigrants in the host counties. However, a vast majority of the migrant ethnic minority groups, particularly from less developed countries, living in many developed countries still find economic and social integration in their new homelands a major challenge to achieve.

Previous research on labor market performance of immigrants highlights that gaps in the wages and labor market participation are related to cultural background and gender differences of immigrants (Chiswick and Adsera 2006; Chiswick 1979; Antecol 2000). In fact, immigrants and ethnic minorities, compared to natives, usually experience higher unemployment rates, inferior occupational attainment, lower income, and find it very difficult to obtain and hold healthy jobs. Due to gender inequalities, disparities in wages and labor force participation are also evident among migrant women compared to their male counterparts. There are various indicators which depict that female migrants usually suffer double disadvantage in the labor market because of ethnic background and gender bias.

As in several other European countries, a great majority of immigrants of different ethnic minorities have experienced economic exclusion and consequential long-term marginalization in Sweden. However, the extent of labor market disadvantages differs across different immigrants and ethnic minorities. Therefore, there are some members of the disadvantage group which succeed better than others.

The human capital approach (Becker 1964), has been used in different studies as the main framework to explain the disparities in labor market participation, wages and occupational position. However, according to the labor market discrimination approach (Sullivan 2003), gender and ethnic inequalities which are evident when measuring transition to working life and differences in occupational attainment and earnings, could not be exclusively explained by differences in human capital. In this regard, discrimination might be a more plausible explanation for the disadvantage of certain groups of immigrants in the labor market (Dodoo and Takyi 2010). Besides, Kalter and Kogan (2006) argue that various unquantifiable migrant’s characteristics, as well as grounds for migration, lack of social networks and social and cultural distances may explain why some immigrants succeed better than others.
The literature concerning labor market participation of immigrants in Sweden highlights that, during the last twenty years, African migrants have become over-represented with definite labor market disadvantage. Along with the Asians, African migrants are more likely to experience long term unemployment than other migrant’s group. In addition, African immigrants in Sweden earn the lowest wages and receive more social assistance compared to other groups (Åslund 2000; 02:129 2001; Schröder 2007).

The African migrants in Sweden, however, have been treated in different scholarly and public debate as a single group. The effects of gender and ethnic heterogeneity have not been exploited in these debates as important factors which may affect one’s labor market participation. This traditional approach that treats African migrants as a homogeneous group was early questioned by Sawyer et al (2001) who states that Africa is an enormous continent with different ethnic groups and different cultural backgrounds. It has also been convincingly argued that gender and ethnic background have a significant effect on labor market participation and outcomes (Chiswick and Adsera 2006; Nekby 2002; Schröder 2007; de los Reyes, 2001); thus, one could argue that labor market participation of African immigrants may also differ according to gender differences as well as cultural characteristics of African immigrants.

This study uses a duration model framework to provide a comprehensive understanding of the effect of gender and cultural background on transition from unemployment to employment among African migrants who moved to Sweden during the period 1994 to 2008.

The paper is organized as follows: (i) A general overview of immigration pattern to Sweden after the Second World War; (ii) the literature background relating to the theories of labor market assimilation as well as the previous studies; (iii) a general description of the main objectives of the study; (iv) main characteristics of the study population; (v) main results; and (vi) the conclusion.
2. Migration to Sweden during the post War period

As in many European countries, immigration has become an integral part of the present Swedish society. In the year 2005, Sweden had more than 12% of the total population born abroad; on the other hand, 15% of the total working age populations (16-64) were immigrants (Nekby et al 2010). A great body of the migration literature highlights that economic reasons have been determinant for migration patterns from the Post-War period toward the global economic downturn of the 1970s. However, from the middle of 1970s and onwards, migrations of refugees and family reunification have become the main drivers of the latest immigration flows (Selvi 2006; Lamaître 2007; Schröder 2007).

When the Second World War ended, the Swedish industry received the majority of foreign labor force from the neighboring Nordic countries, in particular from Finland (Rydgren 2004). Later in the 1960s and beginning of the 1970s, Sweden recruited massive labor force from different countries, such as, Germany, Austria, Italy, Yugoslavia, Greece and Turkey. Given the characteristics of the required labor force, the selection criteria was mainly based on the motivation and physical capacity of immigrants instead of initial qualification; therefore, the majority of these labor immigrants arrived as certified guest workers and were proposed to be temporary rather than permanent (Lamaître 2007).

The 1970s’ global oil crisis contributed to changes of immigration patterns as the fall in demand of labor force and increasing of unemployment led to more restrictive migration policies (Rydgren 2004). On the other hand, there was an increase of immigration flows from the non-European countries, mainly consisted by refugees and family reunification (Wadensjö 2009; Lamaître 2007).

During the 1980s in particular, more than fifty per cent of the total immigrants in Sweden came from Iran and Iraq (Ekberg1995).Throughout the 1990s, Sweden received significant immigration flows from the former Yugoslavia and Northern Africa (Gustafsson et al. 2004) along with the Middle East and Baltic countries in the 2000s (The Swedish Migration board 2010).

According to Nilsson (2004), migration flows from Africa are a recent phenomenon in Sweden. The number of African immigrants had increased notably from approximately 15 thousands in 1985 to almost 65 thousands in 2003. According to Sawyer et al. (2001), the majority of African immigrants during the 1990s were refugees coming from the Horn of
Africa. Throughout the 2000s however, family migration have become the main driver of the recent immigration patterns (Nilsson 2004).

The stage of labor force participation of African immigrants in the Swedish labor market has been somewhat addressed in different studies; see for example (Åslund et al. 2000; Lamaître 2007; Ekberg and Rooth 2000). These studies highlight that, along with Asians, the African immigrants are most likely to have the highest unemployment rate and the lowest incomes compared to other immigrant groups in Sweden.

3. Theoretical consideration and literature review

3.1. Theoretical considerations

Labor market theories have been used to understand the level of economic achievement of immigrants and ethnic minorities. In this section the commonly used theories of economic integration of immigrants in a new country are discussed.

The most common approach used when explaining the level of labor force participation of immigrants in the host countries has been the human capital theory, pioneered by Becker (1964). According to this approach, labor market outcomes are determined by what an individual - migrant for this purpose - brings to the labor market. This refers to a combination of level of education, qualification and abilities. Thus, the price of a person’s labor market results from investments in one’s human capital. This theory, however, does not address the issues related to “devaluation” of migrant’s human capital, as many immigrants arrive with a high level of education, skills and other qualifications which are not recognized (Bauder 2005). In addition, Hanson and Pratt (1991), argue that the human capital approach does not address the effect of negative stereotypes based on gender differences and ethnicity on employment attainment.

The labor market segmentation approach challenges the human capital theory on the grounds that employment achievement is not associated with the universal mechanism of employment addressed by the human capital hypothesis. The labor market segmentation theory explains the economic marginalization of certain ethnic groups of immigrants and women. According to Reich, Gordon, and Edwards (1973), the labor market is segmented; these segments would have different rates of pay, working condition, job opportunities, and possibilities for promotion and so on. Workers are embedded into certain segments on the basis of their skills,
education and other qualifications, as well as supposition regarding one’s suitability for work and productivity based on the color of one’s skin, nationality, gender and other unquantifiable personal characteristics. According to Bauder (2005), segmentation may take place because some immigrants may lack cultural competence. Hence, immigrants who lack cultural competence, risk long term unemployment or less desirable jobs. The cultural judgment on the part of employers is rooted in notions of class, ethnicity, gender and citizenship which serve to separate or distinguish employers.

The discrimination theory has been pointed out by Rydgren (2004) as the main approach to explain the level of economic integration of certain groups of immigrants in the Swedish labor market. The central idea of the discrimination approach is that there are three different mechanisms of exclusion of immigrants or certain groups of immigrants in the Swedish labor market: Statistical discrimination, which is based on stereotypical thinking, whereby employers discriminate certain groups of immigrants by making decision about recruitment based on stereotypical and prejudices. Network effect, which is due to separate homogeneous networks; hence, individuals who are in position to employ or promoting people, are likely to choose someone belonging to the same network or ethnic background. In addition information regarding vacancies tends to spread through networks. Institutional discrimination, this sort of discrimination takes place when apparently neutral requirement for jobs affect certain groups of ethnic groups more than others.

3.2. Literature review

Different researches regarding economic integration of immigrants in Sweden, see for example, (Nekby 2002; Berggren and Omarsson 2001; de los Rey 2008, Ekberg and Rooth 2000; Nilsson 2004), acknowledge that immigrants are more likely to have higher unemployment rates than natives. In addition, employment and unemployment rates differ considerably according to gender and background of immigrants. As a result, the non-European immigrants, particularly those coming from Africa and Asia suffer multiple

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1 Economic integration: Researchers measure integration of immigrants in the host society through four dimensions: cultural, social, economic and political. In this regard, economic integration refers the access to labor market or employment (Journal of Identity and Migration Studies 2009, Vol. 3, number 2)
disadvantages in the labor market. For instance, they have the lowest employment rate and lowest wages.

According to Chiswick (1978) and Borjas (1985), migrants generally suffer from disadvantages in the labor market because they may lack appropriate human capital needed to succeed in the host countries. The human capital approach (Becker 1964), has become the common framework used to explain labor market and earnings inequality. This approach claims that labor market outcome is determined by what individual brings to the labor market. This refers to a combination of level of education, qualification and abilities. On the other hand, Chiswick (1978), argues that knowledge of the native language, the rules and regulations of the educational system, as well as the welfare state are important factors which may affect migrant’s likelihood to succeed in the host countries.

In a recent study, Cristina (2009) shows that the weaker economic assimilation of immigrants may be explained by the lack of appropriate educational qualification. However, immigrants also suffer for devaluation of their previous human capital. In Germany, for instance, Basilio and Bauer (2010) found that devaluation of human capital differs according to where this has been acquired. Therefore, transferability of human capital depends on how closely the country of origin is compared to the host country. This refers to similarities in terms of economic condition, educational system and institutional settings. The greater the similarity between the countries, the greater is the transferability of human capital.

In the Swedish case, Arai and Vilhelmsson (2004) argue that work experience and other qualifications do not play a major role in labor market participation of immigrants from Africa and the Middle East. In fact, in a comparative study conducted by Guo and Andersson (2005), concerning to recognition of foreign credentials in Sweden and Canada, the authors found that immigrants have experienced devaluation and rejection of their prior learning and work experiences after arrival in these countries. Hence, knowledge and working skills, particularly for immigrants from the developing countries have been considered as incompatible and inferior and, consequently unacceptable.

Although the literature has been somewhat confusing concerning the effect of human capital, Chiswick (2005) argues that transferability of human capital may depend on the reason of immigration. Accordingly, higher transferability is occurring among economic migrants rather than the noneconomic ones. This may occur because economic migrants are driven by transferability of their skills, whereas for the case of refugees for instance, the migration
decision is often driven by the wish for protection and freedom. For the family movers however, the author argues that these are also expected to have lower transferability of skills given that the migration decision is not driven by economic motives.

Nevertheless, when analyzing the effect of marriage migration and labor force integration, Meng and Gregory (2005) acknowledge that intermarriage affects economic adjustment of both male and female immigrants. This is because marriage migrants can quickly learn and understand the host country’s system, the language skills, and the knowledge of the labor market from their native spouses. In addition, these can easily develop social networks that may improve their job prospects and increase the likelihood of employment.

The link between marriage migration and economic integration among Northern African immigrants in Europe was explored by Haas (2007), who concludes that Northern African marriage migrants in France, Belgium, Netherlands and Germany adapt easily to the labor market and easily find unskilled and semi-skilled jobs in the informal service sector. In contrast to the Swedish case, for instance, the majority of the Northern African immigration have been motivated by humanitarian reasons rather than family or employment-related ones and they have had great problems on establishing themselves in the labor market. Moreover, these immigrants commonly earn temporary job contracts, representing a minor rooted in the labor market (SOU 2004:19, 2004).

According to Chiswick (2005), the gap in the labor market participation between natives in comparison to economic migrants, refugees and family migrants may decrease with duration of residence. Hence, with continued residence in the destination country, immigrant’s skills will gradually be improved and the transferability of previous investments will increase. Still, according to Cristina (2009), the effects of duration of residence on employment participation diverge according to the cultural background of immigrants. This assumption was early measured by Nekby (2002), who studied employment convergence of immigrants and native in the Swedish labor market. The author concludes that cultural background has a negative effect on employment probabilities when non-European immigrants search for jobs in Sweden. In addition, duration of residence was found to be less significant when Nordic and West European immigrants search for jobs. After twenty years of residence, Nordic and West European immigrants show 15 to 30 percent lower probability of being regularly employed compared to natives. On the other hand, after twenty years of residence, East and Non-Europeans show 55 to 70 percent lower probability of getting employed.
Immigrants from the developing countries may still suffer from disadvantages even after controlling differences in human capital. According to Segendorf (2005) and Cristina (2009), this is because immigrants have to deal with different forms of discrimination which hinder their economic assimilation. Nekby and Rödin (2007) and Arai et al (2006) state that the Swedish labor market is likely to be selective because immigrants are treated differently according to one’s cultural background and gender differences.

As name and surname of persons may suggest ones cultural background and affinity; some immigrants from the non-European countries, are likely to change their original names to new names which may sound more European or neutral. This is made in order to persuade the Swedish employers whenever they are sending their job application. These findings were demonstrated by Carlsson and Rooth (2007), who showed that employment application with a Swedish and/or Western sounding name has more opportunities to be accepted for an interview than an application with an Arabic name. For that reason, immigrants from the Arabic countries with Arabic sounding names generally switch their foreign name to Swedish or neutral sounding names. The immigrants now recognize that the labor market of host society is largely unresponsive to their job applications due to their original names.

The human capital approach has been addressed in different literature as the main explanation of the gap in terms of wages and labor force participation between migrants and/or different groups of immigrants in relation to natives in the Swedish labor market. A number of studies, for example, Arai et al 1999; Arai et al 2006; Le Grand and Szulkin 2000; Rydgren 2004; De los Rey 2008, point out that a large gap remains unexplained by the human capital assumption. For that reason, the authors call into question the generalization conclusions drawn from the human capital approach. For this reason, stereotypes and discrimination based on ethnic identity have been considered as an important factor which may explain the worst labor market performance faced by certain groups of immigrants in the labor market.

Studies addressing simultaneously ethnic and gender divisions of labor force participation stress that gender often precedes ethnicity as a dimension of segregation in the labor market (King, 1992; Reskin and Cassirer, 1996). In addition, this understanding is also reinforced by Parks (2010), who states that bringing gender issues into the ethnic segregation debate challenges the hypothesis that ethnicity may operate as the main social dimension of the gender labor market segregation.
The migration literature has convincingly identified the processes generating the gender differences in the labor market. Stereotypes and discrimination against women have been pointed out as the roots for the remaining gender gap (Smith et al 2002). There are, however, empirical arguments which reinforce the assumption that discrimination in the labor market is related to gender and ethnic identity. Therefore, Shamsuddin (1998), states that migrant women are subjected to both ethnic and gender discrimination. For this reason, female migrants face double-negative disadvantage in the labor market.

Evidences of double-negative effect was found in the Danish labor market, whereby, Brodmann and Polavieja (2010) show indication of employment gaps between migrant women from the EU-15 in relation to immigrants from the refugee sending countries such as Somalia, Iran, Afghanistan, and Lebanon. In addition, Galloway (2006) found that in Norway women from the non-OECD countries generally have very low employment levels shortly after arrival, but this gap decreases with length of residence. Still, the convergence is much slower for women from countries with traditional division of gender roles. Similarly to Sweden, Nekby (2002) finds evidences of double-negative effect of women employment participation. Hence, East and non-European women were found to have considerably lower likelihood of being regularly employed compared to Nordic and West European women. With short duration of residence, 1 to 5 years, the Nordic women have about 35 percent chance of being regularly employed compared to native. For the Non European women with 1 to 5 years of residence in Sweden, the gap is over 90 percent, representing low chances of being regularly employed. However, with duration of residence in Sweden, Nordic women have only 15 percent lower chances of being regularly employed compared to native women during their 11 to 15 years of residence. On the other hand, the Non European women show, at the most, 70 percent chance of getting regularly employed after 20 years of residence in Sweden.

There is some indication, for example, that immigrant women from the developing countries face traditional norms concerning their position in the household. They are considered to give more relevance to setting up the new household in the new country rather than job searching. On the other hand, there is evidence which support the idea that the reduced female labor force participation may also be explained by the fact that some women face more traditional norms concerning their position in the households (Schröder 2007). However, De los Reye (2008) states that stereotypes about women’s role in the household might be a more plausible explanation for the disadvantage of migrant women in the Swedish labor market.
4. Aim and research questions

In the last two decades Sweden has, along with other European countries, experienced an increase in number of migrants from different states in Africa. Nevertheless, African migrants have been treated in different literature and public debate as a homogeneous group. This paper goes against this traditional approach that treats African immigrants as an identical group in the labor market.

This assumption was early questioned by Sawyer et al. (2001), who argued that Africa is a vast continent where cultural background differ between nations and regions. Northern African migrants have, for instance, different cultural background from immigrants from different regions of sub-Saharan Africa. Taking for granted that economic integration of immigrants is related to cultural background and differences in human capital (Bauer and Basilio 2010; Becker 1964), reason of immigration (Chiswick 1982) and gender differences (Smith et al. 2000), one could therefore argue that labor market participation of African immigrants also follow the same pattern.

This study aims to compare and analyze and compare the pattern of the labor market participation of African immigrants from: (i) North Africa; (ii) Somalia - the largest African immigrant group in Sweden; and (iii) Sub-Saharan Africa. This study will be based on Survival analysis tools. By means of Kaplan-Meier estimation, I will measure unemployment duration by gender among the defined migration groups. Furthermore, using the proportional hazard model, I will examine the relationship between the explanatory covariates and the probabilities of leaving unemployment.

4.1. Research questions

(a) Are there any differences and similarities concerning unemployment duration between the defined groups of African migrants in the Swedish labor market?

(b) Are there any gender differences regarding the unemployment duration?

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2 The World Bank (2011) classifies: Egypt, Libya, Tunisia, Morocco, Algeria, and Mauritania as Arabic countries belonging to North Africa.

3 Sub Saharan Africa: Refers to all African countries excluding the North African ones and Somalia
(c) How do the probabilities of leaving unemployment differ among the defined groups of immigrants?

(d) What are the effects of age, gender, education and family characteristics on the probability of leaving unemployment?


Table 1: African population who immigrated to Sweden during 1994-2008

<table>
<thead>
<tr>
<th>Region of origin</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Somalia</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>6482</td>
<td>6760</td>
<td>13242</td>
</tr>
<tr>
<td>% of Total</td>
<td>11,50%</td>
<td>12,00%</td>
<td>23,60%</td>
</tr>
<tr>
<td><strong>Sub-Saharan Africa</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>17763</td>
<td>17073</td>
<td>34836</td>
</tr>
<tr>
<td>% of Total</td>
<td>31,60%</td>
<td>30,40%</td>
<td>62,00%</td>
</tr>
<tr>
<td><strong>North Africa</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>4181</td>
<td>3960</td>
<td>8141</td>
</tr>
<tr>
<td>% of Total</td>
<td>7,40%</td>
<td>7,00%</td>
<td>14,50%</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td>28426</td>
<td>27793</td>
<td>56219</td>
</tr>
<tr>
<td>% of Total</td>
<td>50,60%</td>
<td>49,40%</td>
<td>100,00%</td>
</tr>
</tbody>
</table>

Source: PLACE dataset

Migration flows from Africa are a more recent phenomenon and it has only given attention on the statistics from the late 1980s. Family and humanitarian motives have been the most important basis for settlement among Africans in Sweden (Nilsson 2004).

The table above reports the most recent pattern of African migration in Sweden. Sub-Saharan Africa is the largest emigration region, counting for 62 percent of the total Africans who immigrated to Sweden during the period described above. Somalia, as a single country, counts for 23.6 percent of the sum of African migrants. Finally, North Africa represents approximately 14 percent of the African migrants.

Nevertheless, it is important to notice that there is no considerable gender difference between countries. However, the total number of women is somewhat more under-represented (1 percent) than men.
Table 2: Education by gender and emigration region

<table>
<thead>
<tr>
<th>Education</th>
<th>Primary</th>
<th>Secondary</th>
<th>University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somalia Women</td>
<td>32.3%</td>
<td>54.0%</td>
<td>13.7%</td>
</tr>
<tr>
<td>Sub Saharan</td>
<td>18.3%</td>
<td>44.4%</td>
<td>37.4%</td>
</tr>
<tr>
<td>North Africa</td>
<td>18.7%</td>
<td>37.4%</td>
<td>43.9%</td>
</tr>
<tr>
<td>Total</td>
<td>20.6%</td>
<td>44.4%</td>
<td>35.0%</td>
</tr>
<tr>
<td>Somalia Men</td>
<td>24.1%</td>
<td>52.5%</td>
<td>23.4%</td>
</tr>
<tr>
<td>Sub Saharan</td>
<td>15.5%</td>
<td>34.6%</td>
<td>50.0%</td>
</tr>
<tr>
<td>North Africa</td>
<td>18.0%</td>
<td>35.0%</td>
<td>47.0%</td>
</tr>
<tr>
<td>Total</td>
<td>17.8%</td>
<td>38.6%</td>
<td>43.5%</td>
</tr>
</tbody>
</table>

Source: PLACE dataset

The table above shows that the level of education of African immigrants in Sweden varies considerably according to gender and emigration origin. In fact, Somali’s immigrants in Sweden have lower level of education than Sub Saharan and North Africans. The percentage of North African women holding university degree is higher in comparison to Somalis and Sub Saharan African ones. On the other hand, Sub Saharan male immigrants in Sweden are more represented among those holding university degrees. The table also shows that there are notable gender differences concerning the level of education. In fact, African immigrant women in Sweden have somewhat a lower level of education than immigrant men.

6. Data and methodology

6.1. Data description

To address the main study purpose, this study is based on the PLACE-database, which originally stems from LOUISE dataset. The data contains longitudinal information on individual’s characteristics and covers the total population living in Sweden during the period from 1990 to 2008. The dataset was created by Statistic Sweden with the purpose to better utilize existing registry data on individuals situation, concerning the labor force participation and health (SCB 2009).
The dataset contains information on a large number of demographic and labor market characteristics of the individuals and their families. Notice that people who died or emigrated during the current year are reported on the 31 of December of the current year.

Since the aim of the study is to focus on the labor force participation of African migrants in Sweden, the dataset is restricted to individuals born in Africa, who have immigrated to Sweden during the period between 1994 and 2008. The data consists of 56 219 individuals and it counts for 28 426 men and 27 793 women respectively.

The dataset is separated based on the country of origin. The grouping is meant to reflect cultural and geographical proximity; namely (i) North Africa, (ii) Sub-Saharan Africa and (iii) Somalia - the largest African migrant group in Sweden. Sub-Saharan Africa is understood here to be all Africa apart from the six countries of what is geopolitically known as North or Arab Africa, which are Egypt, Libya, Tunisia, Morocco, Algeria, and Mauritania. Notice that although Sudan is the only majority Arabic-speaking country in Africa it is considered in almost all geopolitical maps as being part of Sub-Saharan Africa and not North Africa (Souaré, 2008). On the other hand, although Somalia is a part of Sub-Saharan Africa, this study will analyze Somalia`s immigrants separately since the majority of the Somali migrants are associated with humanitarian reasons.

The defined dataset reports information of African immigrants on their personal characteristics in terms of year of immigration, age, gender, country of birth, educational level, social assistance and family characteristics. The sample also consists of unemployment spells and the subsequent employment spells which are observed on a yearly basis.

The sample is thereafter organized in terms of survival-time data, where each year the unemployed immigrant has a chance of being employed the next years. Then, when individuals get employed they are automatically excluded from further observations. Notice that the defined sample consists of persons, aged 18 to 65, who had at least one unemployment spell during the study period (all the immigrants who were unemployed at the year of immigration and those who were unemployed when completed 18 years old). On the other hand, unemployment cells are completed only if it ends up with a transition from

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4 According to the Swedish pension system, one can retire from the age of 61. However, no guarantee pensions received before age 65. [http://www.pensionssystemet.se](http://www.pensionssystemet.se) [Accessed 11th September 2011]
unemployment to employment. If not, unemployment cells are hereby considered as right
censored. Notice that individuals who arrived with a previous working contract and those
without any unemployment spell (less than 1 percent of the total immigrants per year) are not
included in the analysis.

One deficiency with PLACE dataset is that it does not distinguish migration patterns based on
the reasons of emigration. As result, grouping Sub Saharan immigrants as a restrict group may
ignores the fact that Sub-Saharan African immigrants in Sweden have been motivated due to
different reasons, however, family reasons have become the main drive of the recent
emigration patterns. Another important limitation of the Dataset is the lack of information
regarding the Swedish language instruction (Swedish for Immigrants, SFI), as it has been
argued as an important determinant of the transition to the labor market (Lamaître 2007).

6.2. The variables

The dependent variable is unemployment duration. It is calculated by means of the
observation of the unemployment duration spells. Notice that it is measured by means of two
components, i.e. the event indicator and a measure of time at risk of the event which are
explained by the independent covariates.

A person is classified as employed or economically active if she or he has carried out an
income-generating job at least one hour during a reference period. Since such data is not
available in RAMS (CSB 2009), instead it must be inferred from data on income. Statistic
Sweden has access to supervisory records which contain data on wage income for each person
who was employed during the year. Notice that classification of employed essentially follows
the ILO definition of employment with a short measurement period, which in RAMS has been
selected as the month of November.

In this study, some independent covariates will be fixed, maintaining the same value during
the study period. Gender and region of immigration are hereby treated as fixed covariates. On
the other hand, the independent variables such as age, level of education and type of family
could change over time. These variables are treated as time-varying covariates.
Independent covariates

**Age**: This variable was calculated by subtracting the year of immigration by the year of birth. This variable was subsequently divided into three categories, namely 18-30; 31-44 and 45-65 years old.

**Education**: The education variable is categorized following the International Standard Classification of Education which is used in Sweden for the registration of staff training for personnel management information system. The education variable is hereby recoded into three categories: (i) primary education, (ii) secondary education and, (iii) university.

**Employment status**: This variable means that anyone who performed a gainful employment at least one hour during one week is considered employed. This variable is based on Statistics Sweden and refers to the situation in November each year. In order to measure unemployment duration, a dummy variable=0 was created in order to report if a person was unemployed in each year. However, when the person gets employed, the variable gets the value, dummy variable=1.

**Family type and childbearing**: This is a derived variable which reports the characteristics of the household. This variable is divided into four categories namely: (i) married/cohabiting with children, (ii) married/cohabiting without any children in the household, (iii) single parents, and (iv) single without any children.

**Gender**: Indicates whether the person is a man or a woman

---

5 Notice that individual arrived at age under 18 only enter to the study when they complete 18 years. On the other hand, individuals who complete 65 years under study period are right censored.


7 With at least one child living in the household less than 18 years and with the youngest child in the household aged 18 or older.

8 Also include cohabiting couples without common children. With at least one child living in the household less than 18 years and with the youngest child in the household aged 18 or older.

9 Include cohabiting adults without children and with children without relation to any other person in the household
**Country of origin:** This consists of three groups reflecting the cultural and geographical proximity. (i) The Arabic countries from the North Africa are hereby considered as a distinct group and this is composed of Libya, Algeria, Morocco, Tunisia and Egypt. (ii) Somalia which represents the biggest group of African migrants and (iii) Sub-Saharan Africa represents the last group and it includes all countries not mentioned above.

6.3. **Methodology**

The current study is based on Survival analysis method. Survival analysis is a statistical method used to study the duration until the occurrence of the event of interest, where the duration is measured from the time at which an individual becomes exposed to the ‘risk’ of experiencing the event. This method was originally designed for the purpose of the study of death. However, these techniques are also widely used in the social sciences for the analysis of different social events, such as birth, marriage, divorces, employment etc. (Allison 1995).

All models of survival data are concerned with the timing of event. An *event* is defined as transition from one discrete state to another at an instantaneous moment in time (Steele 2005). In regard to this study, the main event of interest is employment. Thus, by means of proportional Hazard models, the probability that an individual will leave unemployment during the next period, given that he or she has been unemployed for T years will be estimated.

There are two special advantages in using *survival analysis* for the purpose of this study. The first is that this method makes it possible to deal with censored observation. On the other hand, because some covariates change during the observation period (which may also influence employment likelihood), this method makes it possible to rightly perform the dynamic of such covariates (Allison 1995).

The first measurement of the labor market performance of African migrants is based on the observation of the unemployment duration spells by means of *Kaplan-Meir estimation* (Kaplan and Meier 1958). The study puts emphasis on gender differentiation in terms of unemployment duration between the defined groups of immigrants. The *Kaplan-Meir* estimation is the most widely used technique for estimating survival function (Allison 1995). This method allows an examination of survival time (remaining unemployed during the time T) without taking into account observable heterogeneity between the defined study groups.
By means of survival curves, the relationship between the probability of survival and time will be described. For this purpose, it is necessary to create a survival curves which is defined as the population probability of surviving beyond T. Because the survival function is a probability, it has positive values and lies between zero and one (Allison 1995). Notice that the survival curves are given by a series of horizontal steps of declining magnitude.

The Proportional Hazard (PH) model is a regression model in which the “risk” of experiencing an event is predicted with a set of covariates (Collett 2003). In this study, I will examine the relationship between the distribution of covariates and the probabilities of leaving unemployment at certain point in time given that the individuals have been unemployed for T periods.

The Proportional Hazard coefficients, relative to risk for exit unemployment, are presented by means of different models. The model (1) includes the effect of region of origin as the explanatory variable. In the model (2) it is included the effect of age and gender in the probability of exiting unemployment. In the model (3), gender, age, education and region of origin are incorporated as explanatory variables. In the model (4), the main effect of age, gender education, family type and region of origin is measured. Finally, the model (5) simultaneously estimates the effect of interaction of gender and region of origin, age, family type and education.

7. Empirical results

7.1. Unemployment duration
In order to get an idea of how the distribution of unemployment duration among African immigrants in Sweden is shaped, the evolution over time of the probability of leaving unemployment upon arrival by gender and emigration origin is presented by using Kaplan Meier’s product limit estimation, see figure 1 and figure 2.

The figure1, plots the empirical survival period of unemployment duration among African women in Sweden, the survival curves show that the probability of remaining unemployed decrease with time. Sub Saharan African women are more likely to exit unemployment than North African and Somali ones. In fact, the probability of remaining unemployed after 5 years is about 50 percent for Sub Saharan Africans, 60 percent for North Africans and 80 percent
for Somali women. Notice that after 10 years the probability of continuing unemployed is reduced to about 25 percent for Sub Saharan African women, 30 percent for North Africans and about 55 percent for Somali women. One can also see that the differences in survival time one remain unemployed is very pronounced between Somalis in relation to Sub Saharan and North African women.

The overall survival curves suggest that unemployment duration of African men decreases remarkably during the first years. Notice however that, as shown in figure 1, women from Sub Saharan Africa succeed better that Somalis and North African women. Controversy, there are North African men who are more likely to leave unemployment than Somalis and Sub Saharan African men. In fact, as displayed in figure 2, the probabilities of North African men remaining unemployed after 5 years is about 30 percent, 40 percent for Sub Saharan men and approximately 70 percent for Somali men. However, after 10 years, the probability of remaining unemployed reduces to approximately 20 percent for North African men, 25 percent for Sub Saharan and about 40 percent for Somali men.

Fig.1: Kaplan-Meir estimation of survival time (years) of women immigrants, 1995-2008
The plotted survival curves presented above suggest that the survival time African immigrants remain unemployed upon arrival differ by gender and emigration origin. These differences might also be linked to differences in personal characteristics between the studied groups. In order to take into account the effects of such characteristics I will in the following estimate the piece-wise model with age, education, gender, family characteristics as explanatory variables of the probability of leaving unemployment among African immigrants in Sweden.

7.2. Modeling the probability of leaving unemployment by means of Cox regression

In this section, I analyze the influence of exogenous covariates: country of origin, gender, age, family type and level of education on duration of unemployment among African migrants in Sweden. The estimated results are shown by means of five different models presented in table 4. The five models are presented using the step-wise approach, whereby different covariates are included successively in the models.

Model1, estimates the effect of region of origin on risk of leaving unemployment. Subsequently, in model2, I estimate, simultaneously, the effect of region of origin, gender and age on propensity of leaving unemployment. In model3, the effect of level of education, age,
gender and country of origin are analyzed all together. Model 4, controls the main effects of education, age, gender, family type and country of origin. Finally, model 5 measures the effect of interaction of gender and country of origin simultaneously with age, education and family type. Notice that inclusion of a new covariate might alter the previously estimated factors.

In Table 4, the relative risks of leaving unemployment for both men and women are estimated simultaneously. In general, the estimation results show that the relative risk of leaving unemployment varies according to the emigration origin as seen in model 1. After arrival in Sweden, Sub-Saharan and North African immigrants experience respectively, 60 and 61 percent higher risk of getting their first job in comparison to Somali migrants.

When controlling for the effect of age, gender and region of origin simultaneously in model 2; the results suggest that in relation to Somali immigrants, the relative risk for North African immigrants to leave unemployment increases from 61 percent in the previous model, to 77 percent higher propensity of leaving unemployment. In addition, Sub Saharan immigrants experience 73 percent higher risk of getting employed than Somali migrants.

The model also demonstrates that the relative risk of leaving unemployment after arrival decrease gradually with age. Thus, immigrants aged 46 years above, experience almost 50 percent less relative risk of leaving unemployment compared to immigrants aged 18 to 30 years old.

In addition, after controlling for age and region of origin, the model shows a large gender gap. Immigrant men experience about 42 percent higher risk of leaving unemployment than female immigrants.

When including successively the covariate education into the estimation, as shown in model 3, the effects of education on propensity of leaving unemployment increase up to 4 percent. As a result, North African migrants experience 81 percent more possibilities of leaving unemployment and Sub-Saharan Africans hold an increase of 77 percent more chances of getting a job in comparison to Somali migrants.

Nevertheless, when the effect of other covariates is controlled, the inclusion of education variable in the model reduces the gender gap to approximately 37 percent. Further, the results also indicate that immigrants who hold a university education succeed better than those who do not. Thus, in comparison to immigrants holding primary and secondary education, having a university education increases the risk of leaving unemployment in about 21 percent.
Notice, however, that immigrants with a secondary and primary education show almost the same possibility of leaving unemployment. However, the model shows that there is no statistical significance concerning secondary level of education with the probability of leaving unemployment.

With inclusion of the covariates age, gender, family type, education and region of origin in to the estimation, as can be seen in model 4, the results suggest that Sub-Saharan African immigrants in Sweden are 74 percent more likely to leave unemployment than Somali immigrants. In contrast to the previous models, North African immigrants experience slightly lower risk of leaving unemployment than the Sub Saharan ones. However, North African immigrants have 73 percent more chances of leaving unemployment than Somali immigrants.

Further, the model also shows that, when all covariates are estimated simultaneously, the gender gap is likely to decrease to 32 percent. Nevertheless, men are in general more likely to have higher risk of leaving unemployment than women. On the other hand, with inclusion of family type covariate in the model, the effect of university education reduces marginally. In fact, immigrants with university education experience 18 percent more possibility of leaving unemployment than those with primary and secondary education. However, as in the previous model, there is no statistical significance between the risk of leaving unemployment and secondary education.

The estimation also indicates that childbearing reduces the risk of leaving unemployment. In fact, being single with at least one child reduces the risk of getting a job with at least 23 percent. Further, being married and childless, the risk of leaving unemployment is more than 50 percent higher than being married with at least one child.

The effects of the fitted interaction between gender and country of origin are outlined in model 5. As can be seen, the model also controls for the effect of age, family type and level of education simultaneously. The estimated results indicate that there is a large gender gap in terms of risk of leaving unemployment. However, the gap varies according to emigration country.

Thus, Sub-Saharan African females experience the highest risk of leaving unemployment after arrival compared to North African and Somalis. In fact, females from Sub-Saharan Africa have approximately 58 percent more propensity of leaving unemployment than Somali
females. On the other hand, in relation to Somali females, North African females experience 36 percent more chances of getting employed.

Contrary to female immigrants, the pattern of employment propensity for men show that the North African men have the highest risk of leaving unemployment compared to the Sub-Saharan African and Somalis. In fact, North African migrants experience more than twice higher propensity of leaving unemployment than Somali migrants. On the other hand, the gap between Sub-Saharan African migrants and North African migrants is about 23 percent and the gap between Somalis and Sub Sahara African migrants is about 90 percent.

Note, however, that the gender gap is much more noticeable among the North African immigrants than Somalis and Sub Saharan ones.

When the effect interaction of gender and region of origin and other covariates are controlled, the results also show that the relative risk of leaving unemployment decrease gradually with age. In addition, the main effect of education is the same in the previous model without interaction. In fact, African immigrants holding a primary and secondary education degree experience almost the same risk of getting job. However, as in the previous models, there is no statistical significance between risk of leaving unemployment and holding a secondary degree.

The results also show that, when age, education and interaction factor of gender and region of origin are controlled at the same time with family type, the estimated results do not differ significantly from the previous model with only main effects. Thus, childbearing for single immigrants reduces the propensity of getting a job in about 24 percent. On the other hand, for married migrants without children the risk of getting a job is approximately 46 percent higher than for single migrants who also are childless.

The results also indicate that for married migrants with at least one child, the risk of getting a job decreases with about 4 percent in relation to single migrants who are childless.
Table 4: Relative risk of leaving unemployment among African migrants in Sweden, 1995-2008; by age, gender, ethnicity, education and family type. 

*B stands for the estimation vector of the regression coefficient; *SE is the standard error and *Exp (B)* is the hazard for each unit of the covariate.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
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<td>S.E</td>
<td>exp(B)</td>
<td>B.</td>
<td>S.E</td>
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<td></td>
<td></td>
<td>1.00</td>
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<td>.572**</td>
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<td>.595**</td>
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<td>-.309**</td>
<td>.73</td>
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<td></td>
</tr>
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<td></td>
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<tr>
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<td>.99</td>
<td>-.019*</td>
<td>.99</td>
<td>-.015*</td>
</tr>
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<td>.162**</td>
<td>.118</td>
<td>.168**</td>
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<td><strong>Type of family</strong></td>
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<td></td>
</tr>
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<td>Single (Reference category)</td>
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<td>1.00</td>
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</tr>
<tr>
<td>Married/cohabiting childlessness</td>
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<td>.151</td>
<td>.402**</td>
<td>.149</td>
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<td>Married/cohabiting with child</td>
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<td>.96</td>
<td>-.040**</td>
<td>.96</td>
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<td>Single parents</td>
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<td>.77</td>
<td>-.279**</td>
<td>.76</td>
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<td><strong>Gender * Countries</strong></td>
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</tr>
<tr>
<td>Female * Somalia (Reference category)</td>
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<td></td>
</tr>
<tr>
<td>Female * Sub Saharan Africa</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Female * North Africa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male * Somalia</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Male * Sub Saharan Africa</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Male * North Africa</td>
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<td></td>
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</table>

Source: PLAC dataset, *p<.10 and **p<.001
8. Discussion and conclusions
This study has analyzed the pattern of unemployment duration as well as the effect of independent covariates on probability of leaving unemployment upon arrival, among African immigrants in Sweden, during the period 1995 to 2008.

Duration of unemployment of African immigrants in Sweden is significantly linked to gender and origin of emigration. In this way, Somali immigrants in Sweden, experience longer unemployment duration than Sub-Saharan and North African immigrants. In addition, this study also shows that women immigrants are more likely to experience longer unemployment duration than men. However, the pattern of gender gap varies according to the emigration origin.

As mentioned by Chiswick (2005), economic integration of immigrants is influenced by class of entry. In this context, refugees and asylum seekers are expected to experience longer unemployment duration than other category of immigrants. The reason why Somali immigrants in Sweden experience longer unemployment duration upon arrival may be explained by the fact that immigration flows from Somalis are mainly refugees and asylum seekers, and as a result, they are expected to experience low employment likelihood.

Additionally, immigrants from Somalia may start with a disadvantage in the labor market because their social and economic integration may be affected by the fact that, as refugees, they generally might be dealing with mental and emotional wounds. However, it seems possible to argue that Somali immigrants in Sweden experience long term unemployment duration due to the deficit of human capital needed in the labor market, as less than twenty percent of Somali immigrants in Sweden hold a university degree. Notice, however, that Somali immigrants in Sweden might also experience prejudices and stereotypes related to their cultural background and that might influence the extent of their labor market participation.

This study also demonstrates that duration of unemployment differs according to gender differences. As a result, African men are more likely to experience shorter unemployment duration than African women. The patterns of labor force participation of African female migrants in Sweden have, to a great extent, followed the traditional gender division of the labor market participation. In fact, it seems possible to suggest that the gender discrimination that has functioned to locate women in particular positions in the labor market, may explain the extent of gender gap in terms of unemployment duration of African immigrants in
Sweden. One could argue that, the extensive gender gap could be explained by a difference in the level of education, whereby men are somewhat higher educated than women. However, the remaining gender gap which is very evident among North African immigrants could not be exclusively explained by differences in the level of education. Therefore, while the gap in terms of level of education is much more pronounced among Somalis and Sub Saharan Africans; there are the North African immigrants who experience extensive gender gap in terms of unemployment duration. In this way, it seems to be clear that differences in unemployment duration between men and women, especially for those coming from North Africa, might be rooted in other no-quantifiable factors rather than these related to differences in human capital.

The relationship between the probability of leaving unemployment and the independent covariates is an important part of this study. This study shows that trends in relative risk of leaving unemployment upon arrival differ by region of emigration. In this way, the relative risk for Somali immigrants to get their first job upon arrival is 60 and 61 percent lower in comparison to Sub-Saharan and North African respectively.

Nevertheless, when testing for the effect of age, gender and level of education on probability of getting a job upon arrival, a considerable change in relative risks between North Africans and Sub Saharan Africans is about to increase from the Somali migrants’ risk. Notice, however, that North African immigrants are somewhat more likely to leave unemployment earlier than Sub Saharan Africans.

When successively including the covariate family type into the estimations, the relative risk of leaving unemployment upon arrival is likely to decrease somewhat. On the other hand, the results show that Sub Saharan African immigrants slightly increase their probability of leaving unemployment than North African immigrants. Thus, one could therefore suggest that the influence of family type is somewhat more negative for North African than Sub Saharan immigrants.

The results also indicate that gender gap in terms of relative risk of leaving unemployment is not constant. In fact, when testing for the effect of education and family type successively, the gender gap is likely to decrease slightly to 5 percent respectively. In this way, one could argue that education and family type might not be a factor of particular importance when explaining
the remaining large gender gap between African immigrants in Sweden. One possible explanation for the remaining gender gap might be the fact that some groups of African women in Sweden might be subjected to discrimination and stereotypes in the labor markets. On the other hand, following Duleep & Sanders (1993), who treat immigrants as heterogeneous groups, one could argue that different groups of African immigrants in Sweden might behave differently according to their homeland’s culture and ways of living, and as a consequence, wives in newly arrived immigrant families might prefer to invest in household work, whereas their husbands participate in the labor market.

When the effect of education on probability of leaving unemployment is controlled, the results show that, when holding a primary or secondary education degree, the relative risk of getting a job upon arrival show similar patterns. It might happen because many unqualified jobs in Sweden might require special human capital. Notice, however that, African immigrants holding university education, experience about twenty percent higher possibility of leaving unemployment than those with primary and secondary education.

After controlling the effect of family type on probability of leaving unemployment, the results clearly show that childbearing decreases the relative risk of leaving unemployment, especially for single parent immigrants.

As previously mentioned, the relative risk of leaving unemployment differs by gender and emigration origin. However, when gender is analyzed separately according to emigration country, the results show that Sub Saharan African women are more likely to experience higher probability of leaving unemployment than North African and Somali ones. On the other hand, there are North African men who experience higher probability of leaving unemployment than Somali and Sub Saharan African immigrants.

In addition, when looking at the variation of gender gaps by region of emigration, the results show that the gender gap is very remarkable among North African compared to other groups of African immigrants. Notice, however that, the gender gap among North African immigrants might not be explained by differences in human capital, as shown in table 2. Thus, the possibility of both ethnic and gender discrimination might be one of the possible explanations for such pattern. On the other hand, it might be important to consider the effect of one’s homeland behavior and costumes among North African families. Further, it is also important to note that the gender gap between Somali immigrants is about 10 percent in favor
of men. This might occur because, as Somali immigrants are dominated of refugees, they generally experience low employment attachment.

Overall, this study indicates that employment probability of African immigrants in Sweden is linked to gender differences as well as emigration origin. In addition, this study also indicates an expressive gender gap in terms of employment likelihood. However, an interesting question to further study is whether the pronounced gender gap among African immigrants is rooted to gender and ethnic stereotypes by Swedish employers or because traditional gendered backgrounds may affect the level of women’s labor market participation. Additionally, it could also be interesting to examine the link between employment category with the level of education, gender and emigration origin.

This study can be used as an important opportunity for future debate as well as research regarding the socio and economic situation of African immigrants in Sweden; on the other hand, this study can also help to develop critical perspective about the integration process of immigrants in Sweden.

9. Acknowledgements

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Appendix A: Additional results from the Kaplan Meier estimation of survival time

Fig.3. Survival function (remaining unemployment duration) of Somalis, 1995-2008.

Fig.4. Survival function (remaining unemployment duration) of Sub Saharan Africans, 1995 - 2008
Fig. 5. Survival function (remaining unemployment duration) of North Africans, 1995-2008.

Appendix B: Additional results from the Kaplan Meier estimation of survival time (Summary statistics)

Table 5. Summary statistics (exposure and occurrence tables)

<table>
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<th>Gender</th>
<th>Total N</th>
<th>N of Events</th>
<th>Censored</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Somalia</td>
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<td></td>
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</tr>
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<td>953</td>
<td>4220</td>
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<tr>
<td>Sub Saharan Africa</td>
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<tr>
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<td>6556</td>
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<tr>
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<td>16283</td>
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Table 6. Summary statistics (Mean and medians survival time)

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<th>Upper Bound</th>
<th>95% Confidence Interval</th>
<th>Std. Error</th>
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<td>Woman</td>
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<td>.060</td>
<td>6.473</td>
<td>6.709</td>
<td>5.000</td>
<td>.081</td>
<td>4.842</td>
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<td>Man</td>
<td>5.375</td>
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<td>5.255</td>
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<td>.043</td>
<td>5.919</td>
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<td>.103</td>
<td>4.271</td>
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<td>5.817</td>
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<tr>
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<td>.034</td>
<td>6.607</td>
<td>6.742</td>
<td>5.000</td>
<td>.048</td>
<td>4.906</td>
<td>5.094</td>
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</table>

a. Estimation is limited to the largest survival time if it is censored.
Source: PLACE dataset. Own calculations

Table 7. Summary statistics (exposure and occurrence tables)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Total N</th>
<th>N of Events</th>
<th>Censored</th>
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<td></td>
<td></td>
<td>Censored</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Woman Somalia</td>
<td>5173</td>
<td>953</td>
<td>4220</td>
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<tr>
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<td>12585</td>
<td>5071</td>
<td>7514</td>
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<tr>
<td>North Africa</td>
<td>3361</td>
<td>1245</td>
<td>2116</td>
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<td>13850</td>
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<tr>
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<td>5625</td>
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<td>1829</td>
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<tr>
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<td>9014</td>
<td>11257</td>
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### Table 8. (Summary statistics) Means and Medians for Survival Time

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<th>Gender</th>
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<th>Std. Error</th>
<th>95% Confidence Interval</th>
<th>Median</th>
<th>Std. Error</th>
<th>95% Confidence Interval</th>
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<td>Upper Bound</td>
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<td>Lower Bound</td>
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<td>6.709</td>
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<td>.081</td>
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<tr>
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<td>6.675</td>
<td>.034</td>
<td>6.607</td>
<td>6.742</td>
<td>5.000</td>
<td>.048</td>
</tr>
</tbody>
</table>

### Notes

- **a.** Estimation is limited to the largest survival time if it is censored.
- **Source:** PLACE dataset. Own calculations